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**Exam Code: VCP-510**

**Exam Name: Vmware VMware Certified Professional on vSphere 5**



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## Exam A

### QUESTION 1

Users are experiencing performance issues when updating their database hosted on a virtual machine. The administrator determines that disk I/O is high across one of the HBAs on the ESXi host containing the virtual machine. What is the action will most likely correct the issue without significantly impacting other users or datastores?

- A. Manually configure the disk multipathing policy to Round Robin for the datastore
- B. Migrate the virtual machine to an NFS datastore using Storage vMotion
- C. Use Storage vMotion to migrate the virtual machine to a new VMFS5 datastore
- D. Map additional LUNs to the ESXi host and extend the datastores

**Correct Answer:** A

**Section:** Troubleshoot Storage

**Explanation**

**Explanation/Reference:**

### QUESTION 2

An administrator has created a virtual machine that will be accessed from a public kiosk. Management has requested that the virtual machine be reset to a known state once a week or on demand if requested. Which method is the simplest way to meet this requirement?

- A. Configure the storage array to be vSphere aware and script routine array snapshot restores of the datastore.
- B. Implement a 3rd party imaging server and PXE boot the virtual machine off a static image.
- C. Set the VMDKs of the virtual machine to be Independent-Nonpersistent and schedule restarts of the virtual machine.
- D. Create Nonpersistent disks for the virtual machine and set the guest OS to reboot once a week.

**Correct Answer:** C

**Section:** Security

**Explanation**

**Explanation/Reference:**

### QUESTION 3

What are three true statements about quiescing virtual machine snapshots? (Choose three.)

- A. vSphere snapshot quiescing only occurs on Windows guest OSes.
- B. The quiescing operation is automatic with any snapshot.
- C. The quiescing operation varies by guest OS.
- D. Quiescing should occur before array-based snapshots to ensure consistency.
- E. VMware Tools is required for quiescing to be successful.

**Correct Answer:** CDE

**Section:** Backup VMs

**Explanation**

**Explanation/Reference:**

#### QUESTION 4

An administrator has deployed vCenter Data Recovery and wants the largest possible deduplication store. Which three storage options can be used? (Choose three.)



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- A. Two CIFS shares
- B. Two RDMS on a FCP array
- C. One NFS mount on the ESXi host and one RDMS on an iSCSI array
- D. One CIFS share and one FCP RDM
- E. Two NFS mounts on the ESXi host

**Correct Answer:** BCE

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

VDR supports deduplication stores that are up to one terabyte in size and each backup appliance is limited to using two deduplication stores per appliance (1 TB on VMDKs and RDMS and 500 GB on CIFS network shares). To get the largest possible dedupe store we must not use CIFS

**QUESTION 5**

An administrator has recently upgraded their Update Manager infrastructure to vSphere 5.x. Several hosts and virtual machines have not been upgraded yet. Which vSphere component when upgraded will have the least impact to the existing environment?

- A. Virtual Machine Hardware
- B. ESX Hosts
- C. VMFS datastores
- D. VMware Tools

**Correct Answer:** D

**Section:** VMs

**Explanation**

**Explanation/Reference:**

**QUESTION 6**

An administrator is using Update Manager 5.x to update virtual appliances in a vSphere environment. The environment is using the vCenter Server Virtual Appliance (vCSA). What would cause the remediation to fail?

- A. Updating of the appliance can only be done if the vCenter Server Virtual Appliance (vCSA) has been put into Maintenance Mode.
- B. Remediation must be configured on the Appliance Administration page before use.
- C. Remediation of the vCenter Server Virtual Appliance (vCSA) with Update Manager is not supported.
- D. Remediation requires the hosts to be connected to vCenter using an IPv4 address.

**Correct Answer:** D

**Section:** Update VMs and ESXi

**Explanation**

**Explanation/Reference:**

[http://pubs.vmware.com/vsphere-51/index.jsp?topic=%2Fcom.vmware.vsphere.update\\_manager.doc%2FGUID-46B7F8AE-BFDC-4C42-9E75-B80D71423B6D.html](http://pubs.vmware.com/vsphere-51/index.jsp?topic=%2Fcom.vmware.vsphere.update_manager.doc%2FGUID-46B7F8AE-BFDC-4C42-9E75-B80D71423B6D.html)

“If a host is connected to vCenter Server by using an IPv6 address, you cannot scan and remediate virtual machines and virtual appliances that run on the host”

**QUESTION 7**

An administrator is working to update the hosts and virtual machines in a vSphere 5.x deployment using Update Manager Baselines. Other than host patches, which three items require a separate procedure or process to update? (Choose three.)

- A. Operating system patches
- B. Virtual Appliance updates
- C. Virtual Machine Virtual Hardware upgrades
- D. VMware Tools on machines without VMware Tools already installed
- E. Application patches within the virtual machine

**Correct Answer:** ADE

**Section:** Update VMs and ESXi

**Explanation**

**Explanation/Reference:**

VM Tools can be updated, but not installed in the same process

"Operating system patches" and "Application patches within the virtual machine" are not supported by VUM

#### **QUESTION 8**

An administrator selects the Profile Compliance tab of an vSphere cluster, then selects Check Compliance Now. Which features requirements are not checked by this?

- A. vMotion
- B. Fault Tolerance
- C. DRS
- D. Host Profiles

**Correct Answer:** D

**Section:** ESXi

**Explanation**

**Explanation/Reference:**

#### **QUESTION 9**

An administrator is troubleshooting an ESXi 5.x host and needs to export diagnostic information. The host is currently managed by a vCenter Server instance. Which two ways can the information be gathered using the vSphere Client? (Choose two.)

- A. Select Home. Under Administration, click System Logs and click the Export System Logs button. Select the affected ESXi host. Select Select All. Select a location and click Finish.
- B. In the vSphere Client, select the affected ESXi host. Right-click the host and select Export Diagnostic Data. Select a location and click OK.
- C. Log in to the ESXi host locally, Select Export System Logs.

- D. In the vSphere Client, select the affected ESXi host. Select File, Export and Export System Logs. Select Select All. Select a location and click Finish.

**Correct Answer:** AD

**Section:** Troubleshoot Hosts

**Explanation**

**Explanation/Reference:**

#### **QUESTION 10**

An ESXi 5.x host displays a warning icon in the vSphere console and its summary page lists a configuration issue "SSH for the host has been enabled." What are two ways to clear this warning? (Choose two.)

- A. Using the Security Profile pane of the Configuration tab in the vSphere Client
- B. Using the Direct Console User Interface (DCUI)
- C. Using the Advanced Settings pane of the Configuration tab in the vSphere Client
- D. Using the Networking pane of the Configuration tab in the vSphere Client

**Correct Answer:** AB

**Section:** Security

**Explanation**

**Explanation/Reference:**

#### **QUESTION 11**

vCenter reports a connectivity problem with a ESXi 5.x host that is not a member of a cluster.

An administrator attempts to connect directly to the host using the vSphere Client but fails with the message "An unknown connection error occurred."

Virtual machines running on the host appear to be running and report no problem.

What two methods would likely resolve the issue without affecting the virtual machines? (Choose two.)

- A. Enter the service mgmt-vmware restart command from either SSH or local CLI
- B. Select Restart Management Agents in the Direct Console User Interface (DCUI)
- C. Select Reboot Host in the Direct Console User Interface (DCUI)
- D. Enter the services.sh restart command from either SSH or the local CLI

**Correct Answer:** BD

**Section:** Security

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 12**

An administrator notices that log files kept on an ESXi 5.x host are being rotated very quickly, inhibiting the troubleshooting of an issue. Which two configuration changes will resolve the issue? (Choose two.)

- A. Configure syslog to send the logs a syslog server
- B. Increase the number of logs kept
- C. Increase the logging level
- D. Increase the size of the partition where log files are stored

**Correct Answer:** AB

**Section:** Troubleshoot Hosts

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 13**

A series of Auto Deploy ESXi 5.x hosts which utilize vSphere Standard Switches are unable to boot. In prior testing, all of the hosts were able to boot successfully. Which two conditions might cause this issue? (Choose two.)

- A. The Hosts are unable to connect to the SAN.
- B. The TFTP server is down.
- C. The DNS server is down.
- D. The DHCP server is down.

**Correct Answer:** BD

**Section:** Standard Switches

## **Explanation**

### **Explanation/Reference:**

Auto Deploy needs a TFTP server to store the images and a DHCP server to hand out IP addresses

#### **QUESTION 14**

An administrator has determined that storage performance to a group of virtual machines is reduced during peak activity. The virtual machines are located in a VMFS datastore called Production1 on an active-active storage array.



The ESXi 5.x host running the virtual machines is configured with an MRU multipathing policy.  
Which two actions can be taken to improve the storage performance of these virtual machines? (Choose two.)

- A. Add virtual storage, create a VMFS datastore called Production2 on the new storage, and then migrate some of the virtual machines from Production1 to Production2.
- B. Change the storage multipathing policy to Round Robin.
- C. Add physical storage, create a VMFS datastore called Production2 on the new storage, and then migrate some of the virtual machines from Production1 to Production2.
- D. Change the storage multipathing policy to Fixed with default settings.

**Correct Answer:** BC

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1011340](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1011340)

Round Robin (RR): Uses an automatic path selection rotating through all available paths, enabling the distribution of load across the configured paths.

- For Active/Passive storage arrays, only the paths to the active controller will be used in the Round Robin policy.
- For Active/Active storage arrays, all paths will be used in the Round Robin policy.

Storage performance refers to how to how efficiently, (typically how quickly), storage operates. By adding a new datastore, and migrate a portion of the virtual machines from Production1 to Production2 is likely to reduce the load on the original datastore. It will improve responsiveness and hence performance.

#### **QUESTION 15**

Which of these factors indicates a high likelihood that the performance of a virtual machine disk is being constrained by disk I/O?

- A. A large number of commands issued
- B. A high device latency value
- C. A high disk used value
- D. A large number of kilobytes read and written

**Correct Answer:** B

**Section:** Troubleshoot Storage

**Explanation**

**Explanation/Reference:**

Disk performance bottlenecks are usually due to either Disk queue length or Disk Latency

#### **QUESTION 16**

Which two circumstances might cause a DRS cluster to become invalid? (Choose two.)

- A. DRS has been disabled on one or more ESXi hosts.
- B. An ESXi host has been removed from the cluster.
- C. A migration on a virtual machine is attempted while the virtual machine is failing over.
- D. Virtual machines have been powered on from a vSphere Client connected directly to an ESXi host.

**Correct Answer:** BD

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

The DRS becomes invalid if:

1. A cluster might become overcommitted if a host fails.
2. A cluster becomes invalid if vCenter Server is unavailable and you power on virtual machines using a vSphere Client connected directly to a host.
3. A cluster becomes invalid if the user reduces the reservation on a parent resource pool while a virtual machine is in the process of failing over.
4. If changes are made to hosts or virtual machines using a vSphere Client connected to a host while vCenter Server is unavailable, those changes take effect. When vCenter Server becomes available again, you might find that clusters have turned red or yellow because cluster requirements are no longer met.

#### **QUESTION 17**

An administrator is configuring Storage DRS in their environment. The Datastore cluster is composed of 4 VMFS3 volumes and 9 VMFS5 volumes. Storage DRS has been enabled, but is showing as disabled on several virtual machine disks in the datastore cluster.

Which two conditions would cause this error to occur? (Choose two.)

- A. The virtual machine is stored on a VMFS 3 volume.
- B. One or more virtual machines have Persistent disks.
- C. The virtual machine is stored on a NFS datastore.
- D. The virtual machine is stored on a datastore with a 2mb block size.

**Correct Answer:** AB

**Section:** Troubleshoot HA/DRS

**Explanation**

**Explanation/Reference:**

I couldn't verify these answers so I'm going with the standard answers.

<http://blogs.vmware.com/vsphere/2011/07/vsphere-50-storage-features-part-5-storage-drs-initial-placement.html> states that you can place VMFS 3 and 5 in the same datastore cluster, but it is not recommended. So A might be correct. The key word is **might**. Nowhere does vSphere state that mixed VMFS versions will cause storage DRS issues.

B is not correct. Persistent mode disks are actually a requirement for Storage vMotion. So the fact the VMs have persistent disks is great.

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.vcenterhost.doc\\_50%2FGUID-A16BA123-403C-4D13-A581-DC4062E11165.html&resultof=%22%73%74%6f%72%61%67%65%22%20%22%73%74%6f%72%61%67%22%20%22%76%6d%6f%74%69%6f%6e%22%20DC4062E11165.html&resultof=%22%73%74%6f%72%61%67%65%22%20%22%73%74%6f%72%61%67%22%20%22%76%6d%6f%74%69%6f%6e%22%20](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.vcenterhost.doc_50%2FGUID-A16BA123-403C-4D13-A581-DC4062E11165.html&resultof=%22%73%74%6f%72%61%67%65%22%20%22%73%74%6f%72%61%67%22%20%22%76%6d%6f%74%69%6f%6e%22%20DC4062E11165.html&resultof=%22%73%74%6f%72%61%67%65%22%20%22%73%74%6f%72%61%67%22%20%22%76%6d%6f%74%69%6f%6e%22%20)

The above blog also states that VMFS and NFS datastores cannot be mixed in the same datastore cluster. Which is confirmed here:

<http://pubs.vmware.com/vsphere-51/index.jsp?topic=%2Fcom.vmware.vsphere.resmgmt.doc%2FGUID-34A10B42-C79E-491C-A5AA-99E3B5FA2278.html>

In other words, you cannot create a datastore cluster with mixed VMFS and NFS datastores. vSphere won't let you. Since the question specifically states that there are only VMFS datastores in the cluster, it would be impossible for a VM to be on a NFS datastore so C cannot be correct.

The fact that the datastore has a 2mb block size is meaningless. neither storage vMotion, storage DRS, or datastore clustering have any block size requirements. You might be able to infer that this is VMFS 3, but then again, if the datastore had been upgraded to 5, the old block size is retained. So the datastore could be either VMFS 3 or 5. D is not correct.

#### QUESTION 18

An administrator finds that vMotion and Storage vMotion operations do not succeed on a virtual machine.

The virtual machine has been configured with N\_Port ID Virtualization. The virtual machine has two data RDMs, one using a RAID5 LUN and one using a RAID0+1 LUN.

The mapping file for the RAID5 LUN was created on the same datastore as the virtual machine, and the mapping file for the RAID0+1 LUN was placed in a datastore used for production data virtual disks.

Which two statements are true about this configuration? (Choose two.)

- A. Storage vMotion cannot be used unless both mapping files are placed on the same datastore.
- B. vMotion cannot be used unless both mapping files are placed on the same datastore.
- C. vMotion cannot be used with RDMs.
- D. Storage vMotion cannot be used with NPIV.

**Correct Answer:** BD

**Section:** Migrate VMs

**Explanation**

**Explanation/Reference:**

#### QUESTION 19

A company has converted several physical machines to virtual machines but are seeing significant performance issues on the converted machines.

The host is configured with sufficient memory and storage does not appear to be a bottleneck.

Which metric can be checked to determine if CPU contention exists on an ESXi 5.x host?

- A. %RUN
- B. %WAIT
- C. %USED
- D. %RDY

**Correct Answer: D**

**Section: Troubleshoot Hosts**

**Explanation**

**Explanation/Reference:**

**%WAIT**

The percentage of time the world spent in wait state.

This %WAIT is the total wait time. I.e., the world is waiting for some VMKernel resource. This wait time includes I/O wait time, idle time and among other resources. Idle time is presented as %IDLE.

**%RDY**

The percentage of time the world is ready to run.

A world in a run queue is waiting for CPU scheduler to let it run on a PCPU. %RDY accounts the percentage of this time. So, it is always smaller than 100%.

Q: How do I know CPU resource is under contention?

A: %RDY is a main indicator. But, it is not sufficient by itself.

#### **QUESTION 20**

Which three statements regarding Network I/O Control (NIOC) are accurate? (Choose three.)



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- A. NIOC enforces traffic bandwidth limits on the overall vDS set of dvUplinks.
- B. NIOC limits maximum throughput control on connected virtual machines.
- C. Load based teaming efficiently uses a vDS set of dvUplinks for network capacity.
- D. Isolation provides priority to any one traffic flow.
- E. Relative shares fairly allocates available bandwidth among multiple flows.

**Correct Answer:** ACE

**Section:** Networking

**Explanation**

**Explanation/Reference:**

NIOC provides users with the following features

**Isolation:** Ensure traffic isolation so that a given flow will never be allowed to dominate over others, preventing drops and undesired jitter

**Shares:** Allow flexible networking capacity partitioning to help users to deal with over commitment when flows compete aggressively for the same resources

**Limits:** Enforce traffic bandwidth limit on the overall VDS set of dvUplinks

**Load-Based Teaming:** Efficiently use a VDS set of dvUplinks for networking capacity

IEEE 802.1p tagging: Tag packets going out of the vSphere host for proper handling by physical network resources.

<http://www.vmware.com/eu/products/datacenter-virtualization/vsphere/network-io-control.html>

#### **QUESTION 21**

What number of IOPS should be used with Storage I/O Control to limit disk throughput to roughly 10 MBps if the guest application writes 64KB blocks?

- A. 320
- B. 160
- C. 240
- D. 64

**Correct Answer:** B

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

**Kbps divided by Block Size**

There are 1024 Kb in a Mb so you would convert the 10 Mbps to Kbps. Then divide the result by the block size being used: 64.

$1024 \times 10 = 10240$  Kbps

$10240 / 64 = 160$  IOPS

There's a variation on this:

What number of IOPS should be used with Storage I/O Control to limit disk throughput to roughly 15 MBps if the guest application writes 64KB blocks?

$1024 \times 15 = 15360$

15360 / 64 = 240

**QUESTION 22**

It appears that a single vCPU virtual machine in a resource pool called Production is having performance problems because it does not have enough CPU resources available.

Which two methods can be used to improve performance and reduce CPU contention of this virtual machine while maintaining compatibility with DRS? (Choose two.)

- A. Configure a CPU reservation for this virtual machine.
- B. Increase the CPU shares for the resource pool.
- C. Increase the CPU shares for the virtual machine.
- D. Increase the share priority setting for the Production resource pool.

**Correct Answer:** AC

**Section:** Troubleshoot HA/DRS

**Explanation**

**Explanation/Reference:**

**QUESTION 23**

An administrator is performing maintenance on a storage array used by an ESXi 5.x host.

The administrator wants to disable alarm actions for the host while the maintenance is taking place.

What procedure will accomplish this task?

- A. Go to the Alarms tab for each ESXi host in the DRS cluster. Locate storage-related alarms. Right-click and disable each alarm.
- B. Right-click the DRS cluster and select Alarm and Disable Alarm Actions.
- C. Right-click the ESXi host and select Alarm and Disable Alarm Actions.
- D. Go to the Alarms tab for the Datacenter containing the DRS cluster. Locate the storage-related alarms. Right-click and disable each alarm.

**Correct Answer:** C

**Section:** Alarms

**Explanation**

**Explanation/Reference:**

**QUESTION 24**

An administrator would like to have vCenter take action any time a virtual machine is using over 90% of its available resources for five minutes or longer. Which three actions can be taken by vCenter Server in response to the trigger without running a script? (Choose three.)

- A. Power on a VM
- B. Reboot Guest on VM
- C. Increase Virtual Machine Memory
- D. Migrate a VM
- E. Increase Virtual Machine CPU Shares

**Correct Answer:** ABD

**Section:** Alarms

**Explanation**

**Explanation/Reference:**

#### **QUESTION 25**

A group of virtual machines has been deployed using thin disks because of limited storage space availability. The storage team has expressed concern about extensive use of this type of provisioning. At which level can the administrator set an alarm to notify the storage team?

- A. Datastore
- B. Virtual Machine
- C. Host
- D. Resource Pool

**Correct Answer:** A

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

#### **QUESTION 26**

An administrator has purchased a new 10GB Converged Network Adapter (CNA) for installation in a system that is running ESXi 5.x. The administrator has downloaded the latest driver from the hardware vendor and wants to include the driver in an image. The image profile acceptance level is set to VMwareAccepted. The acceptance level of the driver is VMWareAccepted. Which two statements are true about the inclusion of this driver in the image? (Choose two.)

- A. Support calls for the driver will be directed to the partner.
- B. The image can be built, but the driver will not be included in the image.
- C. The image can be built and the driver will be included.
- D. Support calls for the driver will be handled by VMware.

**Correct Answer:** AC

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Each VIB is released with an acceptance level that cannot be changed. The host acceptance level determines which VIBs can be installed to a host. You can change the host acceptance levels with esxcli commands.

VMware supports the following acceptance levels.

#### **VMwareCertified**

The VMwareCertified acceptance level has the most stringent requirements. VIBs with this level go through thorough testing fully equivalent to VMware in-house Quality Assurance testing for the same technology. Today, only IOVP drivers are published at this level. VMware takes support calls for VIBs with this acceptance level.

#### **VMwareAccepted**

VIBs with this acceptance level go through verification testing, but the tests do not fully test every function of the software. The partner runs the tests and VMware verifies the result. Today, CIM providers and PSA plugins are among the VIBs published at this level. VMware directs support calls for VIBs with this acceptance level to the partner's support organization.

#### **PartnerSupported**

VIBs with the PartnerSupported acceptance level are published by a partner that VMware trusts. The partner performs all testing. VMware does not verify the results. This level is used for a new or nonmainstream technology that partners want to enable for VMware systems. Today, driver VIB technologies such as Infiniband, ATAoE, and SSD are at this level with nonstandard hardware drivers. VMware directs support calls for VIBs with this acceptance level to the partner's support organization.

#### **CommunitySupported**

The Community Supported acceptance level is for VIBs created by individuals or companies outside of VMware partner programs. VIBs at this level have not gone through any VMware-approved testing program and are not supported by VMware Technical Support or by a VMware partner.

[http://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.install.doc\\_50/GUID-0410FAFA-A007-4BD5-A0CC-B1D7303853A3.html?resultof=%2522%2561%2563%2563%2565%2570%2574%2561%256e%2563%2565%2522%2520%2522%2561%2563%2563%2565%2570%2574%2522%2520%2522%256c%2565%2576%2565%256c%2573%2522%2520%2522%256c%2565%2576%2565%256c%2522%2520](http://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.install.doc_50/GUID-0410FAFA-A007-4BD5-A0CC-B1D7303853A3.html?resultof=%2522%2561%2563%2563%2565%2570%2574%2561%256e%2563%2565%2522%2520%2522%2561%2563%2563%2565%2570%2574%2522%2520%2522%256c%2565%2576%2565%256c%2573%2522%2520%2522%256c%2565%2576%2565%256c%2522%2520)

**QUESTION 27**



What are the three service offerings provided by a VMware-powered public cloud? (Choose three.)

- A. Committed
- B. Transient
- C. Dedicated
- D. Highly Elastic
- E. Basic

**Correct Answer:** ACE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 28**

An administrator has been tasked with upgrading an existing host from ESX 4.1 to ESXi 5.x. The existing host has only vSwitch0 with all the default settings. The upgraded host will have the following new requirements.

1. 116 virtual machines will be connected.
2. Four uplinks configured for port-based load balancing.
3. The switch will include a secondary heartbeat network for HA.

Which two statements are true about this configuration? (Choose two.)

- A. The Service Console Port will be removed during the upgrade
- B. The configuration requires only one VMkernel Port
- C. The default vSwitch0 is sufficient for this configuration
- D. A change to vSwitch0 Properties is required

**Correct Answer:** AC

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

Because ESXi 5.0 has no Service Console, migrating from ESX 4.x to ESXi 5.0 removes the Service Console port group. After the migration to ESXi 5.0 a new port group is created: the Management Network port group.

By default a standard vSwitch has 120 ports for VM and vKernel NICs, and 8 reserved ports for the uplinks.

So a standard vSwitch would be enough: 116 for the VM's and 2 (dual HA) for the vKernel NICs = 118 ports (less than 120) and 4 uplinks (less than 8) so everything fits on a standard vSwitch without any modification

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1008040](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1008040) (article updated to include 5.0 and 5.1)  
To account for overheads such as physical NIC ports (uplinks), CDP traffic, and network discovery, ESX 3.x, ESX/ESXi3.5.x, and ESX/ESXi 4.x allocate and reserve an additional eight ports per virtual switch beyond what is available for virtual machine use. This additional overhead is allocated regardless of the number of ports on the virtual switch, and accounts for the most common product deployment scenarios.

#### QUESTION 29

Virtual machine VM1 is unable to communicate with virtual machine VM2. Both virtual machines are connected to a portgroup named Production on vSwitch1 on host ESXi01. Which statement could explain why?



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- A. The only vmnic connected to vSwitch1 on ESXi01 is set to unused
- B. The only vmnic connected to vSwitch1 on ESXi01 is set to standby
- C. Load balancing settings on Production do not match vSwitch1
- D. VM1 is configured for VGT, VM2 is configured for VST

**Correct Answer:** D

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

<http://pubs.vmware.com/vsphere-51/index.jsp?topic=%2Fcom.vmware.vsphere.networking.doc%2FGUID-7225A28C-DAAB-4E90-AE8C-795A755FBE27.html>

VLAN Configuration

Virtual LANs (VLANs) enable a single physical LAN segment to be further segmented so that groups of ports are isolated from one another as if they were on physically different segments.

Configuring ESXi with VLANs is recommended for the following reasons.

- It integrates the host into a pre-existing environment
- It secures network traffic.
- It reduces network traffic congestion.
- iSCSI traffic requires an isolated network.

You can configure VLANs in ESXi using three methods: External Switch Tagging (EST), Virtual Switch Tagging (VST), and Virtual Guest Tagging (VGT).

**With VST**, all VLAN tagging of packets is performed by the virtual switch before leaving the host. Host network adapters must be connected to trunk ports on the physical switch. Port groups that are connected to the virtual switch must have an appropriate VLAN ID specified.

**With VGT**, all VLAN tagging is performed by the virtual machine. VLAN tags are preserved between the virtual machine networking stack and external switch when frames are passed to and from virtual switches. Physical switch ports are set to trunk port.

With EST, all VLAN tagging of packets is performed on the physical switch. Host network adapters are connected to access ports on the physical switch. Port groups that are connected to the virtual switch must have their VLAN ID set to 0.

### QUESTION 30

An administrator is creating a new virtual machine using the New Virtual Machine wizard in custom mode on an ESXi 5.x host with two quad-core CPUs. What would limit the maximum number of virtual sockets for the virtual machine to 8? (Choose three.)

- A. Windows 2008 32-bit is configured as the guest operating system.
- B. Virtual machine hardware version 8 is configured for the VM.
- C. Hyperthreading is disabled on the ESXi host.
- D. The ESXi host is configured with a Standard license.
- E. The number of cores per virtual socket is set to 4.

**Correct Answer:** CDE

**Section:** VMs

**Explanation**

**Explanation/Reference:**

### QUESTION 31

What are two methods of maximizing VMFS performance for virtual machines across all the hosts in a cluster? (Choose two.)

- A. Use disk shares to prioritize virtual machine disk I/O
- B. Enable Storage I/O control
- C. Enable Storage DRS with I/O load balancing
- D. Enable Host Cache using local SSD drives

**Correct Answer:** BC  
**Section:** Datastores  
**Explanation**

**Explanation/Reference:**

## Exam B

### QUESTION 1

Which two statements are true regarding vSphere standard switches? (Choose two.)

- A. Beaconing requires at least three uplinks to be considered useful.
- B. Virtual machines on different vSwitches require the vSwitches to share an uplink to communicate.
- C. vSphere virtual switches require at least one uplink adapter.
- D. Setting the number of ports to the maximum on a vSwitch will exhaust the total ports on a host.

**Correct Answer:** AD

**Section:** Standard Switches

**Explanation**

#### **Explanation/Reference:**

**Beaconing** is most useful with three or more uplinks in a team because ESX/ESXi can detect failures of a single uplink. When there are only two NICs in service and one of them loses connectivity, it is unclear which NIC needs to be taken out of service because both do not receive beacons and as a result all packets sent to both uplinks. Using at least three NICs in such a team allows for n-2 failures where n is the number of NICs in the team before reaching an ambiguous situation. These uplink NICs should be in an active/active or active/standby configuration because the NICs in an Unused state do not participate in the beacon probing process.

**Maximum** virtual network switch ports per host (vDS and vSS ports) = 4096. The host uses 8 ports for uplinks so the Virtual network switch creation ports per standard switch = 4088  
 $4096 - 4088 = 8$  ports available for the host. The host uses 8 ports for internal (uplinks) usage.

#### **Maximums**

Number of vSwitches: 248

Ports per vSwitch: 4088 (8 reserved by ESXi = 4096)

Maximum ports per host: 4096 (1 vSwitch maxed out would be the max per host)

Port groups / vSwitch: 256

Uplinks / vSwitch: 32

VMkernel NICs: 16

Maximum active ports per host: 1016

vDS per vCenter: 32

Maximum vDS ports per host: 4096

vDS ports per vCenter instance: 30,000

ESXi Hosts per vDS: 350

**QUESTION 2**

Which types of traffic can a VMkernel port be enabled to carry on a ESXi 5.x host? (Choose three.)

- A. NFS
- B. Fault Tolerant
- C. Management
- D. iSCSI
- E. vMotion

**Correct Answer:** BCE

**Section:** Networking

**Explanation**

**Explanation/Reference:**

Add Network wizard, on connection settings there are three check boxes:

1. Use this port group for vMotion
2. Use this port group for Fault Tolerance logging
3. Use this port group for Management Traffic

**QUESTION 3**

Networking policies for a vSphere Standard Switch, such as traffic shaping and security, can be overridden on which vSphere elements?

- A. On the virtual machine
- B. On the physical switch
- C. On the physical network interface
- D. On the port group

**Correct Answer:** D

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:****QUESTION 4**

When would a license server be configured for vCenter Server 5.x?

- A. When managing ESX 3.x servers

- B. When the vCenter Server Virtual Appliance (vCSA) is used
- C. Within the first 60 days
- D. A standalone license server is installed by default

**Correct Answer:** A

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

#### **QUESTION 5**

What are two valid Resource settings that can be set at the vApp level? (Chose two.)

- A. Network
- B. CPU
- C. Memory
- D. Disk

**Correct Answer:** BC

**Section:** vApps

**Explanation**

**Explanation/Reference:**

#### **QUESTION 6**

An administrator is investigating a report of slow disk performance. Where is the most efficient place for the administrator to check?

- A. The performance tab of the vApp.
- B. The performance tab of the virtual machine.
- C. The performance tab of the vApp resource pool.
- D. The performance tab of the cluster.

**Correct Answer:** B

**Section:** Troubleshoot Storage

**Explanation**

**Explanation/Reference:**

### QUESTION 7

An administrator creates a new Role of "Virtual Machine Creator" for members of the helpdesk and server teams. Privileges include.



<http://www.gratisexam.com/>

Datastore > Allocate space  
Network > Assign network  
Resource > Assign virtual machine to resource pool  
Virtual machine > Configuration - all  
Virtual machine > Interaction all

The new role is granted to the teams at the appropriate VMs and Templates folder, Cluster and Datastore objects. After applying the role, users report they are unable to create new Virtual Machines. What should be changed to allow new virtual machines to be created?

- A. Add a privilege to the role Virtual machine > Inventory - Create new
- B. Grant the teams the role at the Datacenter level
- C. Ensure Propagate to Child Objects is selected on the objects.
- D. Grant the teams the role on the Production network object.

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

### QUESTION 8

A mid-size company with a vSphere 5 cluster wants to enable their helpdesk staff to be able to acknowledge alarms on the hosts. Currently the group "HelpDesk" has the Read-only role assigned to the Cluster object. Which action should the administrator perform?

- A. Enable Propagate to Child Objects on the current permission.
- B. Move the current permission to the Datacenter object.
- C. Add the Alarms - Acknowledge Alarm privilege to the current role and enable "Propagate to Child Objects"



D. Clone the role, add the Alarms - Acknowledge Alarm privilege, replace the current role.

**Correct Answer:** D

**Section:** Security

**Explanation**

**Explanation/Reference:**

Best Practice: Clone roles then modify and apply.

### QUESTION 9

A company is planning an upgrade from vSphere 4.x to vSphere 5. They currently have three dual CPU servers licensed for ESXi 4.1 Advanced. Each server has 256GB of RAM installed. Their virtual machines are sized three ways.

Light. 1v CPU, 4GB RAM

Medium. 2v CPU, 8GB RAM

Heavy. 4 vCPU, 12GB RAM

The Production workload consists of.

20 Light servers

20 Medium servers

2 Heavy servers

The Development workload consists of.

10 Light servers

10 Medium servers

How will vSphere 5 licensing impact their upgrade? (Choose two.)

- A. They will need to purchase additional ESXi licenses.
- B. They will be able to reduce their power consumption.
- C. They will be restricted from powering on additional virtual machines.
- D. A license upgrade will be needed to add vCPUs to the Heavy servers.

**Correct Answer:** BC

**Section:** Architecture

**Explanation**

**Explanation/Reference:**

4.1 Advanced -> 5.x Enterprise

5.x Enterprise = 64GB vRAM per socket

6 sockets \* 64GB vRAM per socket = 384 GB vRAM entitlement

30 light \* 4GB + 30 medium \* 8GB + 2 heavy \* 12GB = 384 GB used

Reduced power using DPM (distributed power management) in version 5.x

The VMware Distributed Power Management (DPM) feature allows a DRS cluster to reduce its power consumption by powering hosts on and off based on cluster resource utilization.

#### **QUESTION 10**

What is a benefit of vCenter Linked-Mode?

- A. Allows the vCenter Server Virtual Appliance (vCSA) to manage multiple sites
- B. Pools vRAM entitlement
- C. Increases vCenter security
- D. Increases vCenter reliability

**Correct Answer: B**

**Section: Architecture**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 11**

What virtual machine action listed below can be performed on a template?

- A. Power on
- B. Clone
- C. Edit Settings
- D. Migrate

**Correct Answer: B**

**Section: Clones and Templates**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 12**

An administrator is attempting to clone a running virtual machine, but receives an error that prevents that the virtual machine is using a device that prevents the operation. What two device types listed below could be causing this error? (Choose two.)

- A. An independent mode virtual disk
- B. A physical compatibility mode RDM
- C. An LSI logic SAS adapter
- D. A BusLogic Parallel adapter

**Correct Answer:** AB

**Section:** Troubleshoot Storage

**Explanation**

**Explanation/Reference:**

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1010396](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1010396)

Cloning of powered on virtual machines with independent disk(s) attached is not possible.

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc\\_50%2FGUID-4B2479B1-541D-4FF4-865E-2EE711294478.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc_50%2FGUID-4B2479B1-541D-4FF4-865E-2EE711294478.html)

You cannot convert larger than 2TB RDMs to virtual disks, or perform other operations that involve RDM to virtual disk conversion. Such operations include cloning.

#### **QUESTION 13**

What tool can an administrator use to determine if an existing environment is ready for Fault Tolerance?

- A. Fault Tolerance Map
- B. VMware SiteSurvey Tool
- C. VMware Cluster Analyzer
- D. VMware Capacity Planner

**Correct Answer:** B

**Section:** Fault Tolerance

**Explanation**

**Explanation/Reference:**

[http://www.vmware.com/support/sitesurvey/help\\_2\\_5\\_2.html](http://www.vmware.com/support/sitesurvey/help_2_5_2.html)

VMware SiteSurvey is a plugin for the vSphere Client which analyzes ESX hosts managed by vSphere Server and reports on whether the configuration of both software and hardware is suitable for use with the VMware Fault Tolerance (FT) feature.

#### **QUESTION 14**

What two methods can be used to reduce the vMotion migration time of a virtual machine? (Choose two.)

- A. Enable High priority on the virtual machine before starting the Migrate wizard.
- B. Select High priority during the Migrate wizard.

- C. Lower the memory reservation for the virtual machine.
- D. Ensure the cluster has the default Swapfile policy set.

**Correct Answer:** BD

**Section:** Migrate VMs

**Explanation**

**Explanation/Reference:**

When migrating a live VM, the wizard will ask you what priority level you want. It states “high priority vMotions are favored over standard priority vMotions and are expected to perform better”

Open the cluster settings and goto Swapfile Location. You can change the default setting to store it in the datastore specified by the host. But it warns: “A host specified datastore may degrade vMotion performance for the affected virtual machines”

#### **QUESTION 15**

Which types of devices can be connected to a virtual machine during a vMotion migration? (Choose two.)

- A. SCSI pass-through devices connected to the ESXi 5 host.
- B. NFS mounts inside of the guest.
- C. USB pass-through devices connected to the ESXi 5 host.
- D. ISO images connected using the vSphere 5 client.

**Correct Answer:** BC

**Section:** Migrate VMs

**Explanation**

**Explanation/Reference:**

#### **QUESTION 16**

An administrator notices that the database virtual machines fail to backup within the backup window. Each database virtual machine has 4 vCPUs, 16GB RAM and 12 virtual disks. There are 16 database virtual machines to backup using 8 backup jobs. Which is the simplest way to improve the backup performance for these virtual machines?

- A. Add a backup job for each virtual machine.
- B. Set a 16GB reservation for each virtual machine.
- C. Add 1MB VMDK drives at 1.0, 2.0 and 3.0 on the vDR appliance.
- D. Upgrade the array to 8GB FCP and ensure multipathing is configured properly.

**Correct Answer: C**  
**Section: Backup VMs**  
**Explanation**

**Explanation/Reference:**

When adding hard disks to the backup appliance, consider how many disks most virtual machines to be backed up have. Each backup appliance can back up 100 virtual machines, but a maximum of 8 virtual machines can be backed up simultaneously. Each disk on each virtual machine may be hot-added for the backup to occur. In the default configuration, the backup appliance has a SCSI adapter #0 and a SCSI disk #0 attached to the SCSI adapter. Since the first SCSI adapter has a system disk at SCSI 0:0, only 14 SCSI disks can be hot-added. As the backup of a virtual machine completes, that virtual machines disks are removed and subsequent backups can begin. In the default configuration, if the total number of disks for the virtual machines being backed up reaches 15, the disks are backed up over the network instead of through hot-add. If you are working with virtual machines with a greater number of disks, consider adding additional disks to the appliance. For example, if each virtual machine in your environment has 3 disks, some of the virtual machine disks are backed up over the network, and performance may be negatively affected. By adding a dummy disk of 1 MB to another SCSI bus adapter, the total available SCSI bus locations for hot-adding increases to 30, so all 8 virtual machines in the example given here can be backed up simultaneously using hot-add. **Additional disks should be added in the sequence SCSI 1:0, SCSI 2:0, SCSI 3:0**, and so on for as many or as few instances as are required. A virtual machine, such as the backup appliance may have up to 4 SCSI adapters, enabling a maximum of 60 available SCSI bus locations for hot-adding disks, which is sufficient for most environments.

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.datarecovery.admin.doc\\_20%2FGUID-9550127D-95CF-4302-AEA4-7DAC93DB4BA1.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.datarecovery.admin.doc_20%2FGUID-9550127D-95CF-4302-AEA4-7DAC93DB4BA1.html)

**QUESTION 17**

What are three of the steps recalled patches automatically go through in vSphere Update Manager? (Choose three.)

- A. Hosts with recalled patches are placed maintenance mode.
- B. Hosts with recalled patches are remediated.
- C. The recalled patch binary is deleted from the repository.
- D. The recalled patch is flagged in the database.
- E. A notification is generated in the notification tab.

**Correct Answer: CDE**  
**Section: Update VMs and ESXi**  
**Explanation**

**Explanation/Reference:**

<http://www.vmware.com/files/pdf/techpaper/VMW-Whats-New-vSphere41-vCenter41.pdf>

page 7

Update Manager 4.1 includes improved support to immediately send critical notifications about recalled ESX and related patches.

In addition, Update Manager deletes the recalled patches from its own repository to prevent any future installation.

[http://www.vmware.com/pdf/vsp\\_vum\\_41\\_admin\\_guide.pdf](http://www.vmware.com/pdf/vsp_vum_41_admin_guide.pdf)

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The recalled patches are marked with a flag icon.

### QUESTION 18

Select three of the steps for configuring iSCSI Software Initiator multipathing when load balancing with a single vSphere standard switch. (Choose three.)

- A. Change the Path Selection Policy to Round Robin (VMware)
- B. Enable Override switch failover order
- C. Enable Route based on IP Hash
- D. Enable iSCSI port binding on the VMkernel object or objects
- E. Add VMkernel adapters to the iSCSI Network Configuration

**Correct Answer:** ABE

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

**Change the Path Selection Policy to Round Robin (VMware)**

Correct. Possible choices: RR, MRU, and Fixed.

**Enable Override switch failover order**

Correct. Definitely required for multipathing here.

*Enable Route based on IP Hash*

*False. Not an option*

*Enable iSCSI port binding on the VMkernel object or objects*

*False. Tricky wording here. The VMkernel port is being bound to the iSCSI software initiator, not the actual iSCSI port.*

**Add VMkernel adapters to the iSCSI Network Configuration**

Correct. Need to add VMkernel adapters.

### QUESTION 19

An administrator wants to adjust disk resource allocation to ensure proper storage performance.

Which two mechanisms are available? (Choose two.)

- A. Shares
- B. Guarantee IOPs
- C. Limit IOPs
- D. Reservation

**Correct Answer:** AC

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

Use Disk Shares to Prioritize Virtual Machines

You can change the disk resources for a virtual machine. If multiple virtual machines access the same VMFS datastore and the same logical unit number (LUN), use disk shares to prioritize the disk accesses from the virtual machines. Disk shares distinguish high-priority from low-priority virtual machines.

You can allocate the host disk's I/O bandwidth to the virtual hard disks of a virtual machine. Disk I/O is a host-centric resource so you cannot pool it across a cluster.

Shares is a value that represents the relative metric for controlling disk bandwidth to all virtual machines. The values are compared to the sum of all shares of all virtual machines on the server and, on an ESX host, the service console.

Disk shares are relevant only within a given ESX/ESXi host. The shares assigned to virtual machines on one host have no effect on virtual machines on other hosts.

You can select an IOP limit, which sets an upper bound for storage resources that are allocated to a virtual machine. IOPs are the number of I/O operations per second.

[http://pubs.vmware.com/vsphere-4-esx-vcenter/index.jsp?topic=/com.vmware.vsphere.vmadm.doc\\_41/vsp\\_vm\\_guide/configuring\\_virtual\\_machines/t\\_use\\_disk\\_shares\\_for\\_vms.html](http://pubs.vmware.com/vsphere-4-esx-vcenter/index.jsp?topic=/com.vmware.vsphere.vmadm.doc_41/vsp_vm_guide/configuring_virtual_machines/t_use_disk_shares_for_vms.html)

#### **QUESTION 20**

Assuming that ballooning is possible, under which three circumstances might the VMkernel use a swap file for a running virtual machine? (Choose three.)

- A. The Mem.CtlMaxPercent value is between 10 and 25 percent.
- B. Memory cannot be reclaimed quickly enough.
- C. The virtual machine is starting up.
- D. VMware Tools is not installed.
- E. 50% of the configured memory has already been ballooned.

**Correct Answer:** ABE

**Section:** (none)

**Explanation**

**Explanation/Reference:**

"The virtual machine is starting up." Wrong: If the machine is starting up the Ballooning driver has not loaded yet.

"VMware Tools is not installed." Wrong: If VMware tools is not installed Ballooning isn't possible

**QUESTION 21**

Which functions can be performed with the Plug-in Manager? (Choose two.)

- A. Enable an installed plug-in
- B. Remove permissions for a plug-in
- C. View the status of installed plug-ins
- D. Uninstall a plug-in

**Correct Answer:** AC

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

**QUESTION 22**

What are two requirements for successful vMotion migration? (Choose two.)

- A. CPUs with matching SpeedStep settings must exist on both the source and destination hosts.
- B. Virtual machines must not utilize hardware local to the host such as SCSI pass-through.
- C. Virtual machines must not have a CDROM connected via the vSphere client.
- D. Dedicated Gigabit Ethernet Networking must exist between the source and destination hosts.

**Correct Answer:** BC

**Section:** Migrate VMs

**Explanation**

**Explanation/Reference:**

Disconnect any peripheral devices connected to the virtual machine. If the virtual machine is using a physical device on the source host, that device will not be accessible on the destination host. This is an incompatibility that will prevent use of vMotion. For example, if the virtual machine is reading from a CD-ROM drive on the source host, it cannot access that drive from the destination host

**QUESTION 23**

Which two options will be presented during the Migrate wizard for a powered on virtual machine? (Choose two.)

- A. Change Host
- B. Change Host and Datastore



- C. Change Network
- D. Change Datastore

**Correct Answer:** AD  
**Section:** Migrate VMs  
**Explanation**

**Explanation/Reference:**

#### QUESTION 24

What are two requirements for a fully functional vSphere HA cluster? (Choose two.)

- A. vCenter installed or a vCenter Server Virtual Appliance (vCSA) deployed.
- B. Access to local storage for each host in the cluster.
- C. Static IP addresses entered in each hosts file in the cluster.
- D. A minimum of one VMkernel port per host.

**Correct Answer:** AD  
**Section:** Clusters  
**Explanation**

**Explanation/Reference:**

#### QUESTION 25

An administrator plans to deploy ESXi 5.x, but does not want to use CD or DVD media. What are two alternate ways to provide the ESXi 5.x installation script to the host? (Choose two.)



<http://www.gratisexam.com/>

- A. PXE
- B. FTP

- C. HTTP
- D. IPMI

**Correct Answer:** BC

**Section:** Install & Upgrades

**Explanation**

**Explanation/Reference:**

The installation script ( ks.cfg) can reside in any of these locations:

FTP  
HTTP/HTTPS  
NFS Share  
USB flash drive  
CD/DVD device

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=2004582](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2004582)

#### **QUESTION 26**

An administrator uses VMware Data Recovery to make backups of virtual machines. Checking on the backup jobs that were run the previous evening, the administrator notices that some jobs completed but that other jobs did not. What are two possible causes for the failure? (Choose two.)

- A. The deduplication store had 400GB of available space before the start of the affected jobs.
- B. Eight backup jobs were running simultaneously, causing new jobs to fail to start.
- C. The backup window was not open long enough to retrieve all of the changed blocks.
- D. CPU utilization on the VDR appliance exceeded 90% before one or more jobs executed.

**Correct Answer:** BD

**Section:** Backup VMs

**Explanation**

**Explanation/Reference:**

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=/com.vmware.datarecovery.admin.doc\\_20/GUID-A1A9D274-44EA-4237-A8DE-46D01CCE673E.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=/com.vmware.datarecovery.admin.doc_20/GUID-A1A9D274-44EA-4237-A8DE-46D01CCE673E.html)

Backup and restore operations are not completing as expected.

An integrity check may have discovered a problem with the integrity of the deduplication store.

The integrity of new backups is checked each day, and the entire deduplication store is checked once a week. If problems are found during the integrity check, the deduplication store is locked. As a result, no backups or restores can be performed until the issues reported by the integrity check are fixed. To resolve this issue, select the problematic restore points on the restore tab, and click Mark for Delete. These restore points are deleted during the next integrity check, after which the deduplication store is unlocked.

If no integrity check problem has been identified, the issue may be due to an excess of jobs. Data Recovery limits the number of jobs that can run to help prevent systems from becoming overloaded and failing to make progress. Some of the limits include:

**Maximum of eight backup jobs can run at the same time.**

Maximum of eight restore jobs can run at the same time.

**Processor utilization must not exceed 90% to start single backups** or 80% to start multiple backups.

The datastore where virtual machines are located must have at least 10 GB of space for indexing and processing restore points and 5 GB of storage space available for each virtual machine to be backed up. For example, to simultaneously back up eight virtual machines that reside on one datastore, 50 GB of storage space should be available with 10 GB for indexing and processing and 40 GB for the virtual machines.

If any of these limits are exceeded, new jobs do not start.

#### **QUESTION 27**

An administrator is responsible for enabling file access for desktop users. Many users have complained that they cannot access their files. An alert in the vSphere Client states that the storage connectivity alarm for all hosts has been triggered. The storage screen indicates that everything is connected, but the triggered alert has not been acknowledged. Which action will correct the user access problem?

- A. Rescan the storage on the file-sharing virtual machine on which the users are seeing the problem.
- B. Reconnect the storage containing the user files to all hosts in the cluster, then Refresh datastores on all hosts in the cluster.
- C. Tell each user to reboot their computer.
- D. Reconnect the storage containing the user files to all hosts in the cluster, then Rescan datastores on all hosts in the cluster.

**Correct Answer: D**

**Section: Troubleshoot Storage**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 28**

While performing a security check the vSphere administrator finds unassigned AD accounts with vSphere permissions. If the accounts are removed from Active Directory what will happen to any user logged into vCenter with those accounts?

- A. The vSphere client warns the user they will be logged out in 1 hour.
- B. The user can remain logged in indefinitely.
- C. The user is immediately disconnected from vCenter Server and cannot log back in.
- D. The user can remain logged into vCenter for up to 24 hours.

**Correct Answer: D**

**Section: Security**

**Explanation**

**Explanation/Reference:**

The default Active Directory validation period in vCenter is 1440 minutes. You can change it by going into Center Server Settings -- Active Directory and changing the validation period to something other than 1440 minutes.

If you wanted to kick them out sooner you could terminate the user session in the vCenter server.

**QUESTION 29**

Where are IP addresses for a vSphere Storage Appliance (VSA) cluster managed?

- A. On each VSA appliance using a web-based portal
- B. On the VSA Manager tab for the cluster hosting VSA
- C. On the VSA Manager appliance using a web-based portal
- D. On the vCenter server installed on a VSA host

**Correct Answer:** B

**Section:** VSA

**Explanation**

**Explanation/Reference:**

**VSA Cluster Properties** [Repair VSA Cluster Service...](#) [Enter Maintenance Mode...](#) [Enter Shutdown Mode...](#) [Refresh Page...](#) [Export VSA Logs...](#) [Properties...](#)

<b>VSA Cluster Status</b>		<b>VSA Cluster Network</b>		<b>Capacity</b>	
Name:	vStorage Cluster	IP Address:	10.14.253.10	Physical Capacity:	1.62 GB
Status:	✔ Online	Netmask:	255.255.0.0	Storage Capacity:	832.00 MB
VSA Cluster Service IP Address:	10.14.253.11	Gateway:	10.14.1.10	<b>Time since last data update:</b>	03:32
VSA Cluster Service Status:	✔ Online				

View:

Name	Status	Capacity	Free	Used	Exported By	NFS Address	NFS Netmask
VSADs-0	✔ Online	415.91 MB	399.60 MB	16.31 MB	VSA-1	10.14.253.13	255.255.0.0
VSADs-1	✔ Online	415.91 MB	399.60 MB	16.31 MB	VSA-0	10.14.253.15	255.255.0.0

**Datastore Properties** [Properties...](#)

Name:	VSADs-0	<b>NFS Network</b>	<b>Capacity</b>
Status:	✔ Online	IP Address: 10.14.253.13	Total: 415.91 MB
Exported By:	VSA-1	Netmask: 255.255.0.0	Used: 16.31 MB
NFS Path:	//10.14.253.13/exports/ff47efbc-2966-4d86-8ec4-b8c82b60304c	Gateway: 10.14.1.10	Free: 399.60 MB
		VLAN ID: 0	

- ▼ VSADs-0
  - ▼ VSA-1
    - Replica ✔ Online
  - ▼ VSA-0
    - Replica ✔ Online

PREPKING

**QUESTION 30**

An administrator is configuring a stretched HA configuration and has HA errors on all of the hosts at the remote site. What can be done to ensure virtual machines at one site can be restarted at the remote site?

- A. Ensure any firewalls between the hosts are allowing port 8182
- B. Create separate HA clusters at each site and enable Stretch Cluster on each
- C. Ensure the latency between the sites is less than 5 milliseconds
- D. Ensure each site has no more than 4 primary hosts

**Correct Answer:** A

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

### QUESTION 31

What is a valid example of a vSphere Update Manager upgrade?

- A. A VMware Tools upgrade on a Fault Tolerant machine with automatic snapshots.
- B. Upgrading and patching multiple ESXi hosts simultaneously in a selected cluster.
- C. Upgrading an ESX 4.1 host to ESXi 5.x with a sufficient boot partition.
- D. An ESXi 5.x host update with automatically deleted snapshots.

**Correct Answer:** C

**Section:** Install & Upgrades

**Explanation**

**Explanation/Reference:**

ESX 4.1 hosts sometimes do not have sufficient free space in the /boot partition to support the Update Manager upgrade process. **Hosts must have more than 350MB of free space in the /boot partition to support the Update Manager upgrade process.**

If the host that you are upgrading does not have more than 350MB of free space in the /boot partition, use a scripted or interactive upgrade instead.

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.upgrade.doc\\_50%2FGUID-AA106086-E10D-456E-B0B9-340D3D1462C3.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.upgrade.doc_50%2FGUID-AA106086-E10D-456E-B0B9-340D3D1462C3.html)

### QUESTION 32

Which is an important benefit provided by VLANs?

- A. Reduced hardware requirements
- B. Increased broadcast traffic
- C. Fault tolerance

D. Increased security on a network segment

**Correct Answer:** A

**Section:** Networking

**Explanation**

**Explanation/Reference:**

### **QUESTION 33**

Before upgrading an ESXi host to vSphere 5.x from vSphere 4.x, which three actions should be taken? (Choose three.)

- A. Update vCenter from 4.x to 5.x
- B. Convert any Service Console port to Management.
- C. Add an updated license to the host
- D. Update vSphere 4.x licenses using the VMware License Portal
- E. Verify the intended host is compatible with vSphere 5.x

**Correct Answer:** ADE

**Section:** Install & Upgrades

**Explanation**

**Explanation/Reference:**

### **QUESTION 34**

Recently, a storage interface card in an ESXi 5.x host has been experiencing inconsistent connectivity states. Which two methods can be used to quickly identify the issue and immediately notify an administrator so that the issue can be resolved? (Choose two.)

- A. Set up an alarm with the Lost Storage Path trigger to send an email for notification when the connection is lost.
- B. Set up an alarm with the Lost Storage Connectivity trigger to send an email for notification when the connection is lost.
- C. Set up an alarm with the Storage Redundancy Degraded trigger and configure an SNMP trap for notification when the connection is lost.
- D. Set up an alarm with the Lost Storage Connectivity trigger and configure an SNMP trap for notification when the connection is lost.

**Correct Answer:** BD

**Section:** Alarms

**Explanation**

**Explanation/Reference:**

## 2 Events

Lost Storage Connectivity  
Lost Storage Redundancy

## 2 Actions

SMTP (mail)  
SNMP trap

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=2021948](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2021948)

### QUESTION 35

The VMware vCenter Server Virtual Appliance (vCSA) offers many features of the Windows application version. Which of the following features is only available on the Windows application version of vCenter?

- A. Host Profiles
- B. Template and clone customization
- C. Active Directory authentication
- D. IPv6

**Correct Answer:** D

**Section:** vCSA

**Explanation**

**Explanation/Reference:**

[http://www.vmware.com/support/vsphere5/doc/vsp\\_vc50\\_u1a\\_rel\\_notes.html](http://www.vmware.com/support/vsphere5/doc/vsp_vc50_u1a_rel_notes.html)

vCenter Server Virtual Appliance does not support IPv6 Although the vCenter Server Virtual Appliance Web console has an option to configure IPv6, vCenter Server Virtual Appliance does not support IPv6 configuration.

Workaround: Do not set or change IPv6 configuration on the vCenter Server Virtual Appliance Web console.

### QUESTION 36

What are three valid subprofile configurations that can be edited with the Host Profile editor? (Choose three.)

- A. Cluster
- B. Date and Time
- C. Networking
- D. Security
- E. Licensing



**Correct Answer:** BCD

**Section:** ESXi

**Explanation**

**Explanation/Reference:**

Subprofile Configurations

Storage

Memory reservation

**Networking**

**Date and Time**

Firewall

**Security**

Service

Advanced

**QUESTION 37**

An administrator finds that an ESXi 5.x host cannot be managed by vCenter Server. Which three logs can be reviewed using the DCUI? (Choose three.)

- A. Syslog
- B. Config log
- C. Virtual Center Agent
- D. ESXi shell logs
- E. VMware HA log

**Correct Answer:** ABC

**Section:** ESXi

**Explanation**

**Explanation/Reference:**

Log view options:

1. Syslog
2. vmKernel
3. Config
4. Management Agent (hostd)
5. VirtualCenter Agent (VPXA)
6. VMware ESXi Observation log (vobd)

**QUESTION 38**

Which two steps are required before VMware Data Recovery can be used? (Choose two.)

- A. The Data Recovery Appliance Module must be installed on vCenter Server.
- B. A private network must be created for the backup appliance.
- C. The vSphere Client plug-in must be installed on any machine VDR will be managed from.
- D. The Data Recovery backup appliance must have additional storage added to it.

**Correct Answer:** CD

**Section:** Backup VMs

**Explanation**

**Explanation/Reference:**

VMware Data Recovery 1.0 Evaluator's Guide, page 9.

You have to ensure the VMware Data Recovery Plug-In has been properly installed, and the backup appliance has been properly imported and configured before proceeding.

### **QUESTION 39**

Which three tasks can be selected from the home page of an ESXi 5.x host? (Choose three.)

- A. Browse objects managed by the host
- B. Browse NFS mounts for this host
- C. Download VMware vCenter or the vSphere client from vmware.com
- D. Shutdown or restart the host
- E. Download the PowerCLI installer

**Correct Answer:** ABC

**Section:** ESXi

**Explanation**

**Explanation/Reference:**

All the parts from a 5.1 homepage..

VMware ESXi 5.1

Welcome

Getting Started

If you need to access this host remotely, use the following program to install vSphere Client software. After running the installer, start the client and log in to this host.

*Download vSphere Client*

*Download VMware vCenter*

## *vSphere Documentation*

### vSphere Remote Command Line

The Remote Command Line allows you to use command line tools to manage vSphere from a client machine. These tools can be used in shell scripts to automate day-to-day operations.

*Download the Virtual Appliance*

*Download the Windows Installer (exe)*

*Download the Linux Installer (tar.gz)*

### Web-Based Datastore Browser

Use your web browser to find and download files (for example, virtual machine and virtual disk files).

*Browse datastores in this host's inventory*

The only reason that browse NFS mounts is correct, is that when you browse for datastores, your NFS mounts get mounted as datastores, and thus show up as a browseable datastores, so yes, you can browse NFS mounts by using the "browse datastores" link in the home page.

There's also a section for Developers

### **QUESTION 40**

When deploying an OVF template, the resulting virtual disk is created in what file format?

- A. OVF
- B. VMDK
- C. VMX
- D. VSWP

**Correct Answer: B**

**Section: Clones and Templates**

**Explanation**

**Explanation/Reference:**

### **QUESTION 41**

A new LUN has been provisioned to all hosts in a vSphere 5.x cluster. On one host a new VMFS datastore has been created. How will the new datastore be discovered by the other ESXi 5.x hosts?



<http://www.gratisexam.com/>

- A. A rescan of all host bus adapters is periodically performed by ESXi hosts to detect new VMFS datastores.
- B. New VMFS volumes are automatically added to members of a cluster by vCenter 5.
- C. A manual refresh is required on each ESXi 5.x hosts to discover new VMFS datastores.
- D. A refresh of all host bus adapters is periodically performed by ESXi hosts to detect new VMFS datastores.

**Correct Answer:** B  
**Section:** Datastores  
**Explanation**

**Explanation/Reference:**  
Rescan is not required, if the VMFS is newly created as vSphere 5 presents it to all host automatically.

#### **QUESTION 42**

Assuming that the appropriate HA configuration options have been selected, in which two situations would vSphere HA be unable to restart virtual machines?  
(Choose two.)

- A. A storage error has occurred on the fiber channel storage array.
- B. An ESXi host in the cluster becomes isolated from the network
- C. An ESXi host was automatically put into Standby Mode
- D. Licensing was not updated after an upgrade from vSphere 4.x

**Correct Answer:** AD  
**Section:** Troubleshoot HA/DRS  
**Explanation**

**Explanation/Reference:**

**QUESTION 43**

How can virtual machines be moved between datacenters?

- A. High-Availability failover
- B. Cold migration
- C. vMotion migration
- D. Storage vMotion migration

**Correct Answer:** B

**Section:** Migrate VMs

**Explanation**

**Explanation/Reference:**

Because of the namespace property, vMotion is only permitted between any two compatible hosts within a datacenter and even powered off virtual machines cannot be moved between hosts in different datacenters. Cold Migration is the only method.

**QUESTION 44**

Before you upgrade an ESXi host:

- A. update the ESXi restore CD with the current ESXi image
- B. save the current ESXi image to another ESXi server
- C. copy the embedded ESXi image to a USB flash drive
- D. save the ESXi configuration using vicfg-cfgbackup s from the vCLI

**Correct Answer:** D

**Section:** Install & Upgrades

**Explanation**

**Explanation/Reference:**

## Exam C

### QUESTION 1

An administrator decides to use Data Recovery to back up some key virtual machines. What is the process to install Data Recovery?

- A. Download the executable from VMware.com and run from a machine with the vSphere Client installed.
- B. Use the vCenter Installer from the original vCenter media and select VMware Data Recovery
- C. Download the current OVF package from VMware.com onto a machine with the vSphere Client installed and use the Deploy OVF from Template option.
- D. Download the vmdk and vmx files from VMware.com and copy to a datastore. Right-click the vmx file and select Add to Inventory.

**Correct Answer:** C

**Section:** Backup VMs

**Explanation**

**Explanation/Reference:**

### QUESTION 2

Which two statements are true about the share value for a virtual machine after it has been added to a resource pool? (Choose two.)

- A. If a previously defined custom share value exists, the total shares in the pool should be evaluated to maintain the expected performance.
- B. If a previously defined custom share value exists, the %Shares value will automatically be adjusted relative to the total number of shares in the pool.
- C. If a previously defined share level (high, medium, low) exists, the %Shares value is changed to Custom and the previous value is retained.
- D. If there are no other objects in the pool the share value is irrelevant.

**Correct Answer:** BD

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

*When you move a virtual machine to a new resource pool:*

- *The virtual machine's reservation and limit do not change.*
- *If the virtual machine's shares are high, medium, or low, %Shares adjusts to reflect the total number of shares in use in the new resource pool.*
- *If the virtual machine has custom shares assigned, the share value is maintained.*

<http://pubs.vmware.com/vsphere-51/index.jsp?topic=%2Fcom.vmware.vsphere.resmgmt.doc%2FGUID-0A910DD0-C75B-46BA-AEC4-7C4B1641C93F.html&resultof=%22share%22%20%22value%22%20%22valu%22%20%22add%22>

### QUESTION 3

The storage administrator has recommended testing the performance benefits of jumbo frames and enabled jumbo frames on the storage array. The VMware administrator has enabled jumbo frames on the VMkernel port used for the software iSCSI initiator. What other two components must be modified to enable jumbo frames support for the software iSCSI initiator? (Choose two.)

- A. The physical switch
- B. The port group
- C. The software initiator
- D. The virtual switch

**Correct Answer:** AD

**Section:** Networking

**Explanation**

**Explanation/Reference:**

Jumbo frames have to be enabled on all connected devices both physical and virtual.

#### **QUESTION 4**

If you create a custom role and do not assign privileges what system-defined privileges are added? (Choose two.)

- A. System.Anonymous
- B. System.Read
- C. System.Write
- D. System.Administrator

**Correct Answer:** AB

**Section:** Security

**Explanation**

**Explanation/Reference:**

#### **QUESTION 5**

Assuming that VLANs are not configured, what is true about traffic from a virtual machine connected to a port group on a vSphere Standard Switch with no uplinks?

- A. The virtual switch will drop the packets if no uplink is present.
- B. Virtual machines on any vSphere Standard Switch on the same ESXi host can receive the traffic.
- C. Virtual machines in any port group on the virtual switch can monitor all of the traffic.
- D. vMotion will not migrate any Virtual machines connected to a port group on the virtual switch.

**Correct Answer:** D

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

Ref: Page 15 from vsphere-esxi-vcenter-server-50-networking-guide.pdf

You can create a new standard switch with or without Ethernet adapters.

If you create a standard switch without physical network adapters, all traffic on that switch is confined to that switch. No other hosts on the physical network or virtual machines on other standard switches can send or receive traffic over this standard switch.

### **QUESTION 6**

What function does Enhanced vMotion Compatibility (EVC) provide?

- A. The ability to enable Fault Tolerance on virtual machines that are not members of a cluster.
- B. The ability to use vMotion to migrate virtual machines between ESXi hosts with different CPU vendors.
- C. The ability to replace manual CPU identification masks with an automated process managed by the cluster.
- D. The ability to use vMotion to migrate virtual machines between hosts with identical CPUs but different vSphere versions.

**Correct Answer:** C

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

EVC is short for Enhanced vMotion Compatibility. EVC allows you to migrate virtual machines between different generations of CPUs.

Does EVC allow AMD and Intel CPUs to be vMotion compatible?

No. An EVC-enabled cluster only allows CPUs from a single vendor in the cluster. VirtualCenter and vCenter Server do not allow you to add a host from a different vendor into an EVC-enabled cluster.

The older masking feature involved applying manual masks to individual virtual machines. EVC takes effect on a whole cluster and all virtual machines in the cluster. More accurately, EVC affects the hosts themselves, making all the hosts in the cluster appear to be the same type of CPU hardware, even if they are different.

### **QUESTION 7**

What is the default VFAT scratch partition size for ESXi 5.x when installed on a USB drive?



- A. 600MB
- B. 544MB
- C. 4GB
- D. none

**Correct Answer:** D

**Section:** Install & Upgrades

**Explanation**

**Explanation/Reference:**

When booting from local disk or SAN/iSCSI LUN a 4 GB scratch partition is created.

Due to the I/O sensitivity of USB and SD devices the installer does not create a scratch partition on these devices.

#### **QUESTION 8**

What is one requirement when adding an extent to a VMFS datastore?

- A. A new unused NFS mount
- B. An RDM with sufficient space available
- C. An unused iSCSI or FCP LUN
- D. Free space on the LUN holding the VMFS datastore

**Correct Answer:** C

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=2000643](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2000643)

An extended VMFS volume may contain from two to 32 physical extents. Each extent is either a primary partition or a logical partition within an extended partition.

These extents can be on one LUN or on multiple LUNs. In the latter case, some of these LUNs can have multiple extents on the volume.

For a VMFS volume, there is a rule of one VMFS per LUN. SCSI-2 Reservation locking in ESXi locks the entire LUN and not a specific partition. **Therefore, the best practice is to have one LUN per VMFS only (exception being local storage).**

When using extents, gather multiple LUNs under one logical VMFS and not multiple partitions per LUN.

#### **QUESTION 9**

What is an accurate statement about the secondary virtual machine of a VM that has VMware Fault Tolerance enabled?

- A. The secondary virtual machine cannot be stored on an NFS datastore.
- B. The secondary virtual machine is created on the same host as the primary.
- C. The secondary virtual machine can prevent other virtual machines from powering up.
- D. The secondary virtual machine can be used for load balancing.

**Correct Answer: C**

**Section: Fault Tolerance**

**Explanation**

**Explanation/Reference:**

The secondary FT VM counts towards the vRAM allotment – if it tips the scales the other VMs will not be able to power up.

#### **QUESTION 10**

What is true about the HA agent on ESXi 5.x hosts?

- A. HA agent logs and entries use the prefix aam
- B. HA agents are set to start by default
- C. HA agents can store configuration information locally
- D. vSphere client cannot determine which HA agent is master

**Correct Answer: C**

**Section: Clusters**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 11**

An administrator is enabling Network I/O Control (NIOC) on a vSphere Distributed Switch. Which types of network traffic can be prioritized with NIOC by default?

(Choose three.)

- A. FCP Traffic
- B. NFS Traffic
- C. Virtual Machine Traffic By Virtual Machine
- D. iSCSI Traffic
- E. vSphere Replication (VR) Traffic

**Correct Answer:** BDE

**Section:** Distributed Switches

**Explanation**

**Explanation/Reference:**

NIOC classifies traffic into a number of predefined resource pools:

- vMotion
- **iSCSI**
- FT logging
- Management
- **NFS** (Network File System)
- Virtual machine traffic
- vSphere **Replication** traffic
- User Defined

NIOC provides users with the following features:

- Isolation: Ensure traffic isolation so that a given flow will never be allowed to dominate over others, preventing drops and undesired jitter
- Shares: Allow flexible networking capacity partitioning to help users to deal with over commitment when flows compete aggressively for the same resources
- Limits: Enforce traffic bandwidth limit on the overall VDS set of dvUplinks
- Load-Based Teaming: Efficiently use a VDS set of dvUplinks for networking capacity
- IEEE 802.1p tagging: Tag packets going out of the vSphere host for proper handling by physical network resources.

<http://www.vmware.com/products/datacenter-virtualization/vsphere/network-io-control.html>

## **QUESTION 12**

How can you verify that vStorage APIs for Array Integration (VAAI) functionality is enabled for a storage array in a vSphere 5.x implementation?

- A. VAAI will be reported on the Hard Disk properties page for any VMDK stored on a compliant array
- B. Hardware Acceleration will be reported on the Hard Disk properties page for any VMDK stored on a compliant array
- C. Supported will be listed in the VAAI column for any datastore created on a compliant array
- D. Supported will be listed in the Hardware Acceleration column for any datastore created on a compliant array

**Correct Answer: D**  
**Section: Datastores**  
**Explanation**

**Explanation/Reference:**



**QUESTION 13**

The RDP performance for a virtual machine on an ESXi 5.x host appears to be degraded. What are two possible causes of the problem? (Choose two.)

- A. The virtual machine has a high Ready value.
- B. The virtual machine's network adaptor is not configured to Connect at power on.
- C. The virtual machine's network adaptor is not configured as connected.
- D. The virtual machine is on a physical network that has become saturated.

**Correct Answer: AD**  
**Section: Monitor Hosts, Guests and vCentre**  
**Explanation**

**Explanation/Reference:**

The higher the ready time is, the slower the virtual machine is performing. The ready time should preferably be as low as possible. Virtual machines that are allocated multiple CPUs or have high timer interrupts are more frequently seen with high ready time values.

**QUESTION 14**

An administrator wants to configure a DRS Migration Threshold that allows automated migration only when a host is placed into maintenance or to satisfy cluster constraints. What setting should be utilized?

- A. Priority 2

- B. Priority 4
- C. The most conservative setting
- D. The default setting

**Correct Answer:** C

**Section:** Migrate VMs

**Explanation**

**Explanation/Reference:**

#### **QUESTION 15**

An administrator is using Update Manager 5.x to update virtual appliances in a vSphere environment. The environment is using the vCenter Server Virtual Appliance (vCSA). What would cause the remediation to fail?

- A. Updating of the appliance can only be done if the vCenter Server Virtual Appliance (vCSA) has been put into Maintenance Mode.
- B. Remediation must be configured on the Appliance Administration page before use.
- C. Remediation of the vCenter Server Virtual Appliance (vCSA) with Update Manager is not supported.
- D. Remediation requires the hosts to be connected to vCenter using an IPv4 address.

**Correct Answer:** D

**Section:** vCSA

**Explanation**

**Explanation/Reference:**

Page 131 of vsphere-update-manager-50-install-administration-guide.pdf

If a host is connected to vCenter Server by using an IPv6 address, you cannot scan and remediate virtual machines and virtual appliances that run on the host.

Remediation of VMware vCenter Server Appliance is not supported.

#### **QUESTION 16**

When designing a storage infrastructure to support ESXi 5.x hosts what limit will be reached first?

- A. Maximum number of NFS datastores
- B. Maximum number of iSCSI LUNs
- C. Maximum number of paths to an iSCSI RDM
- D. Maximum number of iSCSI paths on a host

**Correct Answer: C**

**Section: Shared Storage**

**Explanation**

**Explanation/Reference:**

**Maximums**

NFS Datastores: 256

iSCSI LUNs: 256

Paths to iSCSI RDM: 8

iSCSI paths per Host: 1024

### **QUESTION 17**

An administrator is performing upgrades to ESXi 5.x from ESX 3.x and ESX 4.x hosts. What is true about this procedure?

- A. A direct, in-place upgrade can be performed only on ESX 4.1 and later hosts.
- B. ESX 3.x hosts can be upgraded, but require an upgrade to 4.x before 5.x.
- C. A direct, in-place upgrade can be performed only on ESX 4.5 and later hosts.
- D. A direct, in-place upgrade can be performed only on ESX 3.5 and later hosts.

**Correct Answer: B**

**Section: Install & Upgrades**

**Explanation**

**Explanation/Reference:**

### **QUESTION 18**

What differentiates a private cloud from a vSphere Infrastructure?

- A. A private cloud requires pooled resources including storage and networking.
- B. vSphere Infrastructure assumes a secure location for the workloads.
- C. vSphere Infrastructure allows consumption of resources over open standards.
- D. A private cloud assumes the consumer will maintain their portion of the infrastructure.

**Correct Answer: A**

**Section: Architecture**

**Explanation**

**Explanation/Reference:**

**QUESTION 19**

Which is the most secure method of connecting to an iSCSI storage array using an independent hardware iSCSI adapter?

- A. One-way CHAP
- B. Mutual CHAP
- C. Per-target CHAP
- D. Per-subnet CHAP

**Correct Answer: A**

**Section: Shared Storage**

**Explanation**

**Explanation/Reference:**

**One-way CHAP**

In one-way CHAP authentication, also called unidirectional, the target authenticates the initiator, but the initiator does not authenticate the target.

**Mutual CHAP**

In mutual CHAP authentication, also called bidirectional, an additional level of security enables the initiator to authenticate the target. VMware supports this method for software and dependent hardware iSCSI adapters only.

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc\\_50%2FGUID-3F97FB05-3C92-4040-84E7-D928555B3808.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc_50%2FGUID-3F97FB05-3C92-4040-84E7-D928555B3808.html)

**QUESTION 20**

When an explicit failover order has been configured on a virtual switch with multiple uplinks, what determines which uplink is used when a failover event occurs?

- A. The first available uplink that reports a positive link state
- B. The reported uptime for the surviving uplinks
- C. The next available uplink on the list
- D. The uplink with the shortest route

**Correct Answer: C**

**Section: Standard Switches**

**Explanation**

**Explanation/Reference:**

Explicit failover order :: Uplinks in same Layer 2 domain on all trunked VLANs :: highest-order uplink from the list of active adapters that pass failover detection. If one link fails, the next link from the list of standby adapters is activated.

<http://sparrowangelstechnology.blogspot.ie/2013/06/white-paper-summary-deploying-10.html>

Note: If explicit failover had **NOT** been configured the answer would be "The reported uptime for the surviving uplinks"

#### **QUESTION 21**

Users are complaining that they cannot access their files on a file server virtual machine. The vSphere Client shows that a triggered alarm stating disk latency is beyond the default threshold for the datastore where the file server virtual machine is located. The path selection policy has been set by the ESXi host to Fixed with default path settings. Which two options could be used to increase performance of the file server virtual machine? (Choose two.)

- A. Use disk shares to increase the priority for the datastore housing the file server virtual machine.
- B. Use vMotion to relocate the VM to an ESXi host with lower HBA saturation.
- C. Change the path selection policy to Round Robin.
- D. Change the path selection policy to Most Recently Used (MRU).

**Correct Answer:** BC

**Section:** Troubleshoot Storage

**Explanation**

**Explanation/Reference:**

#### **QUESTION 22**

When PSA is coordinating the VMware NMP and any installed third-party MPPs, the MPPs perform which task?

- A. Implement logical device bandwidth sharing
- B. Handle I/O queuing to the logical devices
- C. Provide logical device and physical path I/O statistics
- D. Manage physical path claiming and unclaiming

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **Pluggable Storage Architecture (PSA)**

To manage storage multipathing, ESX/ESXi uses a special VMkernel layer, Pluggable Storage Architecture (PSA). The PSA is an open modular framework that coordinates the simultaneous operation of multiple multipathing plugins (MPPs). PSA is a collection of VMkernel APIs that allow third party hardware vendors to



insert code directly into the ESX storage I/O path. This allows 3rd party software developers to design their own load balancing techniques and failover mechanisms for particular storage array. The PSA coordinates the operation of the NMP and any additional 3rd party MPP.

### **Native Multipathing Plugin (NMP)**

The VMkernel multipathing plugin that ESX/ESXi provides, by default, is the VMware Native Multipathing Plugin (NMP). The NMP is an extensible module that manages subplugins. There are two types of NMP subplugins: Storage Array Type Plugins (SATPs), and Path Selection Plugins (PSPs). SATPs and PSPs can be built-in and provided by VMware, or can be provided by a third party.

If more multipathing functionality is required, a third party can also provide an MPP to run in addition to, or as a replacement for, the default NMP.

VMware provides a generic Multipathing Plugin (MPP) called Native Multipathing Plugin (NMP).

What does NMP do?

- **Manages physical path claiming and unclaiming.**
- Registers and de-registers logical devices.
- Associates physical paths with logical devices.
- Processes I/O requests to logical devices:
  - Selects an optimal physical path for the request (load balance)
  - Performs actions necessary to handle failures and request retries.
- Supports management tasks such as abort or reset of logical devices.

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1011375](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1011375)

### **QUESTION 23**

Which VMware solution uses the security of a vSphere implementation and provides linked-clone technology to virtual desktops?

- A. VMware ACE
- B. VMware View
- C. VMware Workstation
- D. VMware ThinApp

**Correct Answer:** B

**Section:** Architecture

**Explanation**

**Explanation/Reference:**

<http://www.vmware.com/files/pdf/VMware-View-4-Composer-DS-EN.pdf> (page 1, last paragraph)

### **QUESTION 24**

A new ESXi 5.x host is set up with two virtual machines. A memory limit is applied so that users will have predictable performance as virtual machines are added to

the host. What is the effect of applying a memory limit to these virtual machines?

- A. No physical memory will be granted above the limit, but VSWP can be used.
- B. No physical memory will be granted above the limit, unless expandableVM shares are set to high.
- C. Physical memory will be granted above the limit under normal conditions. Disk pages will be used if contention occurs.
- D. Physical memory will be granted above the limit under normal conditions, unless physical memory runs out.

**Correct Answer:** A

**Section:** VMs

**Explanation**

**Explanation/Reference:**

#### **QUESTION 25**

Which are the correct parameters to specify when adding an iSCSI target to an ESXi 5.x host using the Static Discovery tab?

- A. iSCSI server ip address, port 902
- B. iSCSI server ip address, port 3260
- C. iSCSI server ip address, port 902, iSCSI target name
- D. iSCSI server ip address, port 3260, iSCSI target name

**Correct Answer:** D

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

#### **QUESTION 26**

Which two options cannot be edited if vApp Options is disabled in the Options tab of a virtual machine that is part of a vApp? (Choose two.)

- A. Transient IP Addresses
- B. Configure OVF properties
- C. IPv6 Protocol
- D. IPv4 Protocol

**Correct Answer:** AB

**Section: vApps**

**Explanation**

**Explanation/Reference:**

**QUESTION 27**

An administrator decides to implement a Fixed multipathing policy for an ESXi 5.x host with four available paths to one VMFS datastore. After the policy has been enabled for the datastore, how many paths will have an active status by default?

- A. 4
- B. 3
- C. 1
- D. 2

**Correct Answer: A**

**Section: Datastores**

**Explanation**

**Explanation/Reference:**

**QUESTION 28**

An administrator is updating a program running on a virtual machine. The update file has been downloaded as an .iso file and placed on a shared NFS datastore. An attempt to mount the .iso file to the virtual machine fails, but subsequent testing shows that the .iso file can be mounted to a virtual machine running on another ESXi 5.x host. Which step can be taken to enable access to the .iso file for the affected virtual machine?

- A. Reboot all ESXi hosts in the cluster where the affected virtual machine is running.
- B. Refresh all datastores on the ESXi host running the affected VM.
- C. Rescan all datastores on the ESXi host running the affected VM.
- D. Unmount the volume from the ESXi host running the affected VM, and then add as a new datastore.

**Correct Answer: B**

**Section: Datastores**

**Explanation**

**Explanation/Reference:**

Refresh is correct because there wasn't any change to the actual storage, it just needed to update the contents of its datastore.

**QUESTION 29**

Which two migration techniques can be used together to move a running virtual machine to a local datastore on a different server? (Choose two.)

- A. Cold migration
- B. Storage vMotion
- C. vMotion
- D. vSphere Clone

**Correct Answer:** BC

**Section:** Migrate VMs

**Explanation**

**Explanation/Reference:**

vMotion to move the head (config files) to another host and SvMotion to move the body to the local datastore.

**QUESTION 30**

In vSphere, a bound physical NIC can be configured to transmit and receive jumbo frames. What is the default maximum transmission unit (MTU) in vSphere?

- A. 1500
- B. 5500
- C. 9000
- D. 9500

**Correct Answer:** A

**Section:** Networking

**Explanation**

**Explanation/Reference:**

The default is 1500. Jumbo frames require 9000.

**QUESTION 31**

On which two vSphere elements can traffic shaping be configured? (Choose two.)

- A. On a vSphere Distributed Switch dvPort for inbound and/or outbound traffic
- B. On a vSphere Distributed Switch for inbound and/or outbound traffic
- C. On a vSphere Standard Switch port group or the entire vSwitch for inbound traffic
- D. On a vSphere Standard Switch port group or the entire vSwitch for inbound and outbound traffic

**Correct Answer:** AB  
**Section:** Distributed Switches  
**Explanation**

**Explanation/Reference:**

<http://pubs.vmware.com/vsphere-50/topic/com.vmware.ICbase/PDF/vsphere-esxi-vcenter-server-50-networking-guide.pdf>

Page 56:

“ESXi shapes outbound network traffic on standard switches and inbound and outbound traffic on distributed switches.”

### **QUESTION 32**

In a vSphere HA cluster, what is the maximum number of point-to-point communication links to the slaves does each master maintain?

- A. 32
- B. 64
- C. 512
- D. 1024

**Correct Answer:** A  
**Section:** Clusters  
**Explanation**

**Explanation/Reference:**

<http://www.yellow-bricks.com/vmware-high-availability-deepdiv/>

### **QUESTION 33**

During peak operating hours, an administrator finds that a business-critical application running in a virtual machine is not performing as well as during normal hours. Which memory management method can be used to guarantee that the application performs well at all times?

- A. Set a reservation equal to the average memory utilization of the virtual machine running the application.
- B. Set the share level to high for the virtual machine running the application and set the share level for all other virtual machines to low.
- C. Check the Reserve all guest memory checkbox.
- D. Set a reservation equal to the installed memory of the ESXi host running the application.

**Correct Answer:** C  
**Section:** VMs  
**Explanation**

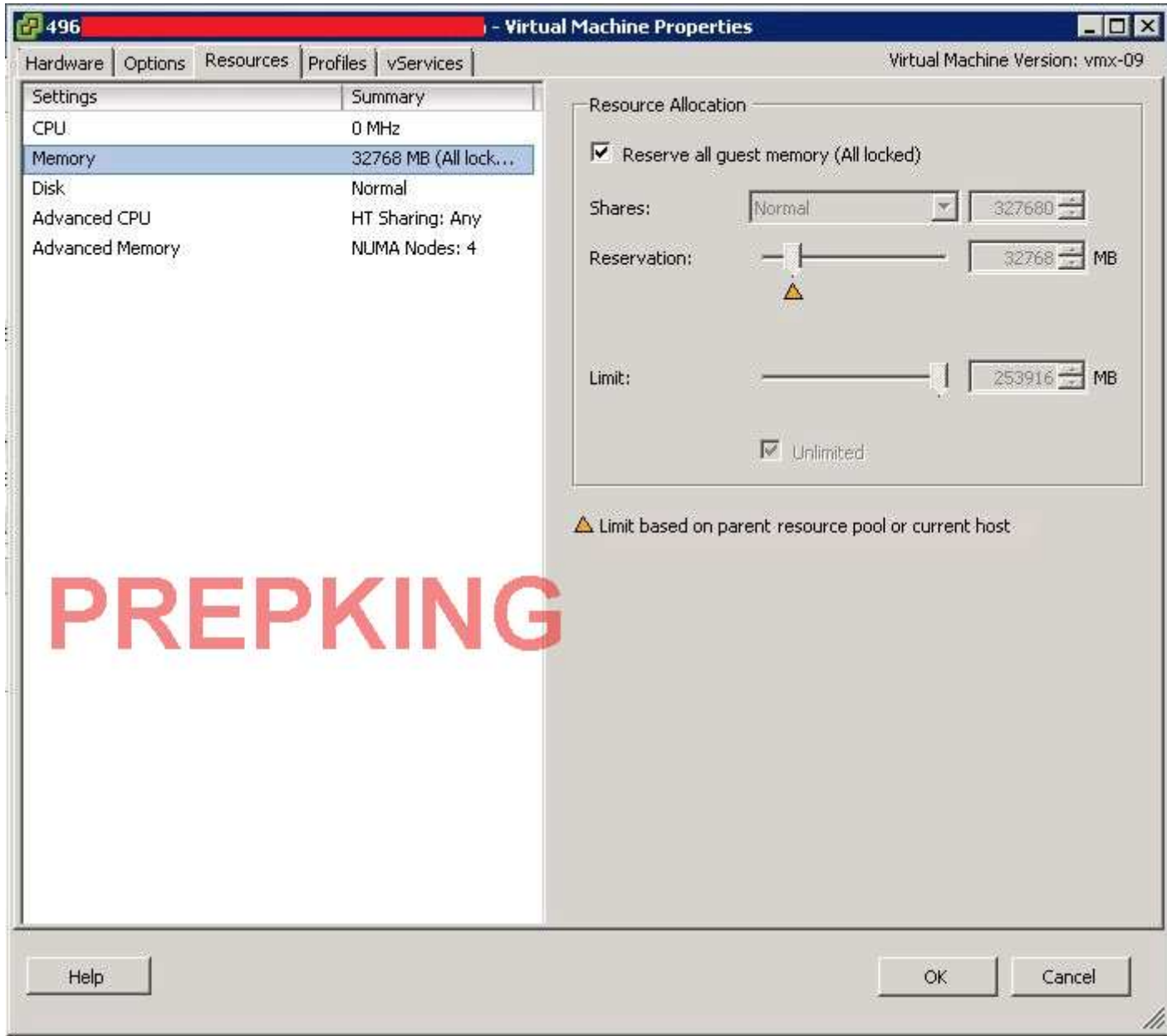
**Explanation/Reference:**

<http://www.vsysad.com/category/vmware-2/page/2/>

There may be specific scenarios where it is not desirable to have a VM swap file. In my most recent experience a customer was short on storage so wanted to save space occupied by the large VM swap files, which are equal in size to the memory allocation to the VM. As physical memory on the ESXi host was not over-subscribed this would not have negatively impacted the performance of the VMs .

To remove the VM swap files perform the following steps:

1. In the vSphere client locate the VM, right-click on it and select Edit Settings.
2. Go to the Resources tab and select Memory
3. In the right-hand side check Reserve all guest memory (All locked) and click OK. The screenshot below shows this setting:



This setting reserves all 32GB of vRAM allocated to the VM on the ESXi host, and only if that memory is locked and guaranteed will that VM be able to power on.

Note: Removing the swap file is not recommended in solutions where memory has been over-subscribed to VMs. Doing so precludes the use of and benefits VMware memory management techniques such as ballooning, TPS (transparent page sharing), memory compression and host swapping (in that order).

#### **QUESTION 34**

A vSphere environment is created with two virtual machines, VM23 and VM43. Each virtual machine has an instance of the front-end web application for the company's manufacturing management database. A physical load-balancer is configured for the application. Which type of DRS rule should be implemented for VM23 and VM43?

- A. Separate Virtual Machines
- B. Virtual Machines to Hosts
- C. Host DRS Groups
- D. Keep Virtual Machines Together

**Correct Answer:** A

**Section:** Clusters

**Explanation**

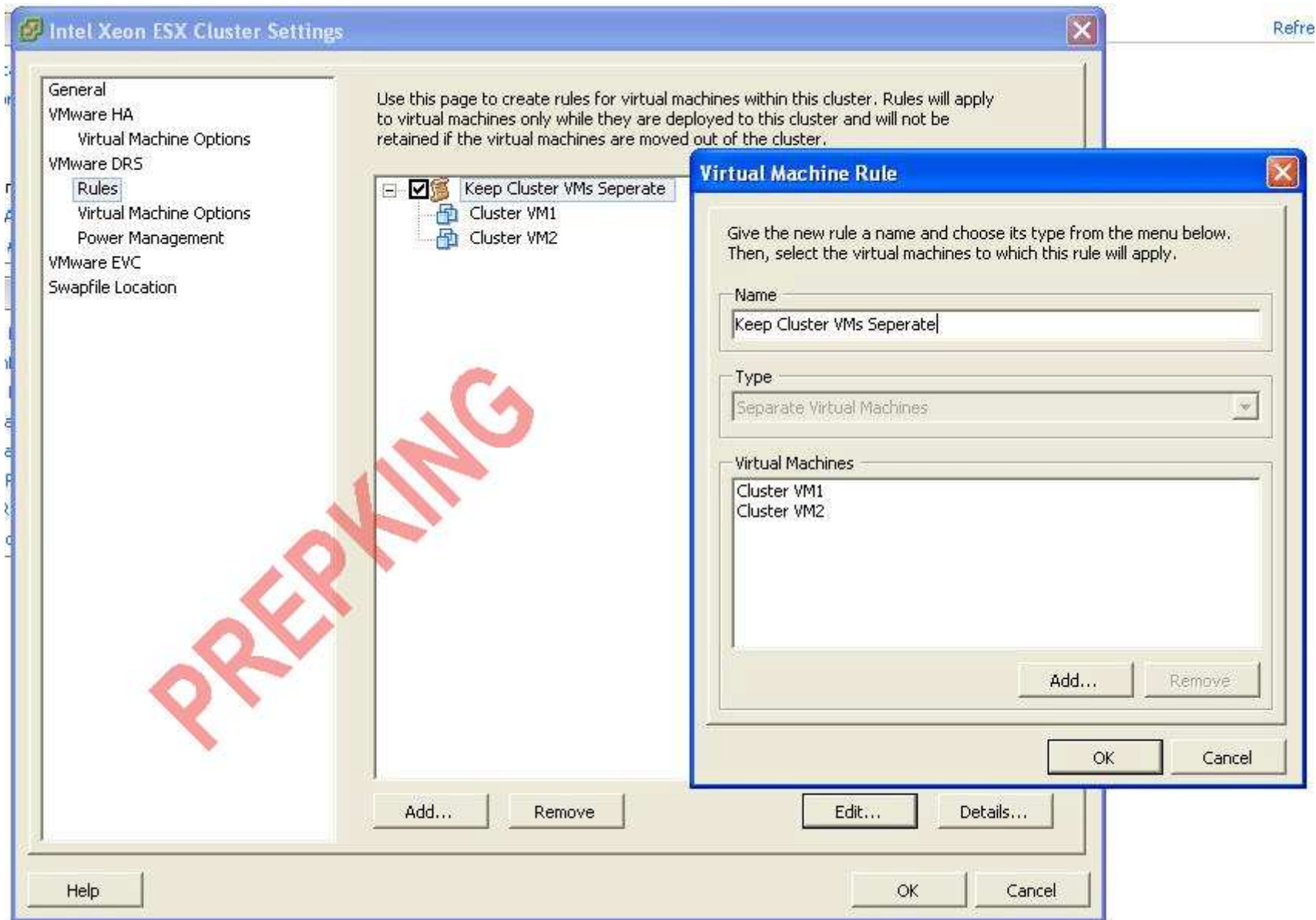
**Explanation/Reference:**

<http://www.vmadmin.co.uk/vmware/36-virtualcenter/59-drsvmhostrules>

It is possible within Virtual Center using DRS to ensure virtual machines are always on separate physical hosts. It is also possible to make virtual machines stay together on the same physical server if you needed that.

You might want to do this if you have a Microsoft cluster in virtual machines and want to ensure that both cluster node VMs are always on different physical servers. In the meantime you can also benefit from vMotion using DRS of these virtual machines to other physical ESX servers, provided that they are separate.





QUESTION 35

Which three services will continue to function when vCenter Server is unavailable? (Choose three.)

- A. Storage DRS
- B. Fault Tolerance (FT)
- C. vMotion
- D. Thin Provisioning
- E. High Availability

**Correct Answer:** BDE

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

What if my vCenter server crashes?

VI Entity		Funct.	Remark
VMware HA	Restart VM	Yes	Full functionality
	Admission control	No	VirtualCenter required as the source of the load information
	Add new host to cluster	No	VirtualCenter is required to resolve IP addresses of cluster members.
	Host rejoins the Cluster	Yes	Yes, resolved host information is stored into /etc/FT_HOST
VMware DRS	Manual	No	Impossible without the VirtualCenter
	Automatic	No	Impossible without the VirtualCenter
	Affinity rules	No	Impossible without the VirtualCenter
Resource Pool	Create	No	Meaningless without the VirtualCenter
	Add VM	No	Meaningless without the VirtualCenter
	Remove VM	No	Meaningless without the VirtualCenter
VMotion		No	<b>No VMotion</b>
ESX Host	Shutdown	Degrad.	Through the direct connection to the ESX host server only
	Startup	Yes	E
	Maintenance	Degrad.	Meaningless without the VirtualCenter
	Deregister	No	Meaningless without the VirtualCenter
	Register	No	Meaningless without the VirtualCenter
Virtual Machine	Power On	Degrad.	E Through the direct connection to the ESX host server only
	Power Off	Degrad.	Through the direct connection to the ESX host server only
	Register	No	Meaningless without the VirtualCenter
	Deregister	No	Meaningless without the VirtualCenter
	Hot migration	No	<b>No VMotion</b>
	Cold Migration	Degrad.	<b>Within one ESX host only</b>
Template	Convert from VM	Degrad.	Direct connection to host only / Meaningless without VC
	Convert to VM	Degrad.	Direct connection to host only / Meaningless without VC
	Deploy VM	No	<b>NO VM Deployment</b>
Guest	All Functions	Yes	No impact

Yes	Same functionality as without the Virtual Center
Degrad.	Functionality degradation without VC

### QUESTION 36

A request has been made to the SAN administrator to provision a new LUN. A LUN (LUN 6) is created, and the SAN administrator presents the LUN to an ESXi 5.x host, using the storage array SAN management software. The administrator looks at the Storage configuration for the ESXi host, and does not see the new LUN. Other LUNs from the same storage array are visible. Which two conditions are most likely to cause the error described? (Choose two.)



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- A. The administrator has not performed a Rescan All on the ESXi host.
- B. The multipathing policy has been set to Fixed for the LUN.
- C. Zoning on the Fibre Channel switches is not configured correctly.
- D. The LUN was not presented to the correct ESXi host.

**Correct Answer:** AD

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

You PRESENT a LUN to a host AFTER the zoning is configured.

Zoning is configured on the FC switch, LUNs are presented on the storage array. Zone is simply a collection of HBA WWN that can talk to each other.

### QUESTION 37

A database administrator has reported periodic poor performance on a particular virtual machine. The virtual machine administrator has noticed a significant drop in performance when utilized memory exceeds 1GB . What does this indicate and what could be checked next?

- A. The application problems are definitely due to a non-memory-related problem. CPU affinity settings should be checked for this virtual machine.
- B. The application problems are definitely due to a non-memory-related problem. CPU utilization should be checked next, using Windows Task Manager.
- C. The virtual machine might not have physical memory available. Compression and swap activity on the ESXi host should be checked next.
- D. The virtual machine might not have physical memory available. Ensure the memory limit on the VM is set to 0 MB

**Correct Answer:** C

**Section:** Troubleshoot Hosts

**Explanation**

**Explanation/Reference:**

[http://www.vmware.com/files/pdf/mem\\_mgmt\\_perf\\_vsphere5.pdf](http://www.vmware.com/files/pdf/mem_mgmt_perf_vsphere5.pdf)

**QUESTION 38**

What would be a valid reason to enable traffic shaping?

- A. Limiting the bandwidth of a FTP server
- B. Restricting the load on a IDS server
- C. Limiting the bandwidth used by an independent hardware iSCSI adapter
- D. Improving the performance of a CPU-intensive application server

**Correct Answer: A**

**Section: Networking**

**Explanation**

**Explanation/Reference:**

**QUESTION 39**

Users have reported performance issues with an application running on a Windows VM.

Performance analysis shows high CPU activity on the ESXi host but low CPU activity on the Windows VM. A high value in which overview graph and counter on the virtual machine's Performance tab would confirm the results of the performance analysis?

- A. CPU (%) / Wait
- B. CPU Usage (Mhz) / Wait
- C. CPU Usage (Mhz) / Ready
- D. CPU (%) / Ready

**Correct Answer: D**

**Section: VMs**

**Explanation**

**Explanation/Reference:**

The percentage of time the world is ready to run.

A world in a run queue is waiting for the CPU scheduler to let it run on a pCPU. %RDY accounts the percentage of this time. So, it is always smaller than 100%.

**QUESTION 40**

Which option could be used for vSphere HA heartbeats?

- A. An iSCSI LUN used for booting the master ESXi host.
- B. An iSCSI LUN backing an RDM connected over 10GB Ethernet
- C. An NFS datastore shared with the all hosts, sync, no\_root\_squash and read only options
- D. A Fibre Channel LUN on an 8GB active/active array backing a VMFS5 datastore

**Correct Answer:** D

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

The concept is to use heartbeat on a highly redundant setup. Active/Active fulfills that.

Typically, Active-Active means that IO being read from or written to a particular logical device (LUN) can happen from either of two redundant storage controllers, or storage processors as you put it.

#### **QUESTION 41**

The performance graph for a virtual machine with 1GB of RAM shows the Swap In rate to be 150 MBps and the Balloon value to be at 0 MB . Users of the virtual machine are complaining that performance is slow. Which two actions could increase performance of the virtual machine? (Choose two.)

- A. Install the VMEMCTL driver on the ESXi host.
- B. Increase the memory share value for this virtual machine.
- C. Install VMware Tools into this virtual machine.
- D. Disable swapping in the virtual machine operating system.

**Correct Answer:** BC

**Section:** Troubleshoot Hosts

**Explanation**

**Explanation/Reference:**

You are not supposed to install the memory driver alone, it is part of the VMware tools.

By increasing the memory shares, it would get more memory, so it would swap less.

#### **QUESTION 42**

Which two components can be installed in monitored virtual machines to trigger vSphere HA Application Monitoring? (Choose two.)

- A. A custom script utilizing the appmonitor executable
- B. The vSphere Fault Tolerant agent
- C. Third-party utilities such as Neverfail or ApplicationHA
- D. The vSphere HA application agent

**Correct Answer:** AD

**Section:** Monitor Hosts, Guests and vCentre

**Explanation**

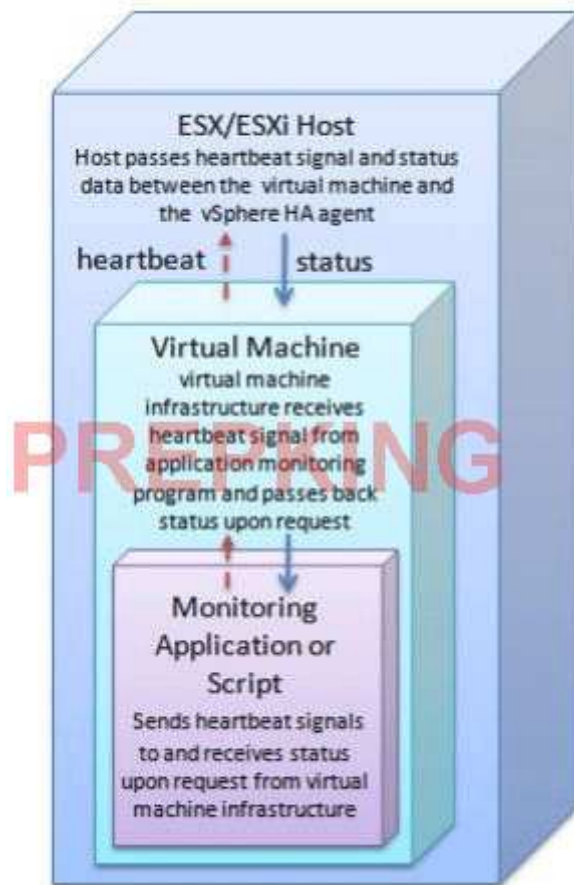
**Explanation/Reference:**

The vSphere High Availability (HA) feature for ESXi hosts in a cluster provides protection for a guest OS and applications running in a virtual machine by restarting the virtual machine if a guest OS or application failure occurs.

1. The HA feature provides this reset capability through two different mechanisms:
2. Guest OS heartbeat issued by the VMware Tools process, known as VM Monitoring.

Heartbeat issued by a program that uses the HA Application Monitoring SDK to communicate with the VMware Tools process and the vSphere HA agent, known as Application Monitoring. This mechanism involves local monitoring by the program, thus avoiding the overhead of sending messages to and from vCenter Server. Heartbeat and Status Signals depicts the monitoring and reset capability of host and virtual machine.

Heartbeat and Status Signals



Using the HA Application Monitoring SDK, developers can write application monitoring programs in the C or C++ language. The application monitoring program sends an enable request to start the monitoring, followed by a heartbeat signal. The vSphere infrastructure passes the signal up from your HA application monitoring program to the virtual machine, and then to the ESXi host. The HA monitoring agent will reset the virtual machine if the application monitoring program stops sending a heartbeat signal.

[http://pubs.vmware.com/vsphere-51/index.jsp?topic=%2Fcom.vmware.guestsdk.pg.doc%2Fguest\\_sdk\\_HAappmon.5.2.html](http://pubs.vmware.com/vsphere-51/index.jsp?topic=%2Fcom.vmware.guestsdk.pg.doc%2Fguest_sdk_HAappmon.5.2.html)

#### QUESTION 43

What are two considerations when using resource pools in a vSphere cluster? (Choose two.)





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- A. Default shares are equal for all sibling resource pools, regardless of virtual machines or child pools
- B. By default, Reservations can be exceeded
- C. vMotion must be setup prior to creating Resource Pools
- D. DRS rules cannot violate Resource Pool membership

**Correct Answer:** AB

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

#### **QUESTION 44**

A vSphere 5.x implementation contains two ESXi hosts, ESXi01 and ESXi02. There is a virtual machine "VM21" connected to the Production port group on ESXi01.

ESXi01 has the following switch configuration.

vSwitch0, single uplink to 10.1.20.0/24

Production port group

VMkernel port for vMotion

VMkernel port for management

vSwitch1, single uplink to 10.1.40.0/24

Engineering port group

VMkernel port for NFS storage

ESXi02 has the following switch configuration.

vSwitch0, single uplink to 10.1.20.0/24

Engineering port group

VMkernel port for vMotion

VMkernel port for management

vSwitch1, single uplink to 10.1.40.0/24

Production port group

VMKernel port for NFS storage

Which two statements are true about this configuration? (Choose two.)

- A. vMotion is not available between the two hosts
- B. If VM21 is migrated to ESXi02 it will not be available on the network
- C. The virtual machine can be vMotion migrated to the target host.
- D. Broadcasts from the Production port group will not reach the Engineering port group.

**Correct Answer:** BD

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

On ESX01, Production is on vSwitch0 (10.1.20.0/24) and Engineering is on vSwitch1 (10.1.40.0/24)

On ESX02, Production is on vSwitch1 (10.1.40.0/24) and Engineering is on vSwitch0 (10.1.20.0/24)

If VM21 from Production group (10.1.20.0/24 network) is migrated to ESX02, it will end up connected to vSwitch1 (10.1.40.0/24)

For "Broadcasts from the Production port group will not reach the Engineering port group."

Ensure that virtual machines have access to the same subnets on source and destination hosts.

## Exam D

### QUESTION 1

The storage administrator is preparing an action plan to upgrade a Fibre Channel storage array. The current plan will result in extended downtime for a VMFS LUN that is part of a SDRS cluster. What steps can be taken in a vSphere 5.x environment to minimize the impact of the downtime? (Choose two.)

- A. Ensure there are multiple active paths to the LUN
- B. Ensure DRS is configured properly
- C. Use Storage vMotion to migrate the affected VMDKs
- D. Place the datastore into maintenance mode

**Correct Answer:** CD

**Section:** Shared Storage

**Explanation**

#### **Explanation/Reference:**

Ensure there are multiple active paths to the LUN  
False, this will not help during the downtime of the LUN.

Ensure DRS is configured properly

False, this is about sDRS not DRS. What is going offline is not a host, but a fiber storage array, so making sure DRS is working won't help.

#### **Use Storage vMotion to migrate the affected VMDKs**

Correct. While sDRS should handle this if fully automated is selected, doing the migrations manually is feasible as well.

#### **Place the datastore into maintenance mode**

Correct. This will allow sDRS to migrate the VMDS from that datastore to another datastore.

### QUESTION 2

Which two types of information can be obtained about a VMFS datastore using the Summary tab for a connected host in the vSphere Client? (Choose two.)

- A. Multipathing status for the datastore
- B. Hardware Acceleration status
- C. Alarm Actions status for the datastore
- D. Runtime name of the datastore

**Correct Answer:** BC

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

**Visible Columns**

- Hardware Acceleration status
- Alarm Actions Status
- Datastore Name & its Status
- Drive type Status
- Capacity & Free Status
- Last Update Status
- Storage I/O controls Status

**QUESTION 3**

What are three reasons for deploying vCenter Server in a physical machine? (Choose three.)

- A. vCenter Server can be deployed as physical machine to support a VSA configuration.
- B. vCenter Server can be deployed as a physical machine to ensure it is not susceptible to vSphere outages.
- C. vCenter Server can be deployed as a physical machine to improve VMware Data Recovery performance.
- D. vCenter Server can be deployed as a physical machine to improve vMotion performance.
- E. vCenter Server can be deployed as a physical machine to ensure it does not contend for resources.

**Correct Answer:** ABE

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

**QUESTION 4**

What are possible valid uses for the default No Access role in vCenter? (Choose two.)

- A. Restrict usage on a object for a member of a group assigned full permissions to the object
- B. Restrict access to sensitive VMs for helpdesk staff
- C. Restrict ESX Admins from managing specific hosts directly
- D. Restrict administrators from managing hosts via vCenter

**Correct Answer:** BD

**Section:** Security

**Explanation**

**Explanation/Reference:**

### QUESTION 5

Two child resource pools exist for a DRS cluster. The Production resource pool has been configured with a CPU reservation of 20GHz and a memory reservation of 20GB . The pool has 16 single- processor virtual machines and 4 dual-processor virtual machines. Each of these virtual machines has a CPU reservation of 1GHz and a memory reservation of 1GB . The Development resource pool and it's virtual machines have been configured with no reservations. The pool has 1 single-processor virtual machine and 1 dual-processor virtual machine. CPU Shares are set to 4000 and Memory Shares are set to 163840. The Production team members occasionally complain about the performance of their servers. Which two options could be part of the plan to to resolve the issue while minimizing the amount of resources reserved by the pool? (Choose two.)

- A. Increase the amount of CPU resources for the Production virtual machines to the processor speed of the host
- B. Set the CPU Shares of Production to 40000
- C. Double the CPU reservation on the Production virtual machines and pool
- D. Set the Memory Shares of Production to 20480

**Correct Answer:** BC

**Section:** Resource Pools

**Explanation**

**Explanation/Reference:**

"Increase the amount of CPU resources for the Production virtual machines to the processor speed of the host" makes no sense. The wording does not specify if they are talking about reservation or not. Also, for it to work, Expandable Reservation needs to be enabled, and we do not know that.

"Set the Memory Shares of Production to 20480" is also incorrect because that would mean the Production has less memory shares than Development.

"Set the CPU Shares of Production to 40000" is correct because the amount of shares per processor (16+ 2\*4) in Prod (40,000/24 = 1667) is better than Dev (4,000/3 = 1333).

The question asks for 2 so that leaves "Double the CPU reservation on the Production virtual machines and pool". This could be either true or false given different Proc speeds of the ESXi host. So since it COULD be true I'll go for it.

### QUESTION 6

A user wants to receive an email notification when the virtual machine CPU usage enters a warning state and again when the condition enters a alarm state. Which two state changes must be selected to receive the appropriate notifications? (Choose two.)

- A. Yellow-red state change
- B. Red-green state change
- C. Yellow-green state change
- D. Green-yellow state change

**Correct Answer:** AD

**Section:** Alarms

## Explanation

### Explanation/Reference:

#### QUESTION 7

An administrator has just completed an update of an ESXi 5.x host. Prior to the upgrade, a backup of the host configuration was performed. After the upgrade, the backup was restored to the upgraded host. Shortly after the upgrade was completed, the administrator receives complaints that users are unable to power on virtual machines. What are the two most likely reasons that VMs cannot power up on this host? (Choose two.)



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- A. The update reset the virtual machine reservations.
- B. It has been more than 60 days since the host was originally installed.
- C. Backup and restore does not include licensing.
- D. The backup was performed prior to a license key being applied.

**Correct Answer:** BD

**Section:** Install & Upgrades

**Explanation**

### Explanation/Reference:

#### QUESTION 8

Which memory conservation technique collaborates with the server to reclaim pages that are redundant in a virtual machine or virtual machines?

- A. Memory Balloon Driver
- B. Transparent Page Sharing
- C. Redundant Memory Driver
- D. VMkernel Swap

**Correct Answer:** B

## Section: VMs

### Explanation

#### Explanation/Reference:

<http://blogs.vmware.com/performance/2011/09/understanding-memory-resource-management-in-vsphere-5.html>

- **Transparent page sharing (TPS)** — removes redundant pages with identical content
- **Ballooning** — artificially increases the memory pressure inside the guest
- **Memory compression** — compresses the pages that need to be swapped out
- **Hypervisor swapping** — ESXi directly swaps out the virtual machine's memory
- **Swap to host cache (swap to SSD)** — reclaims memory by storing the swapped out pages in the host cache on a solid-state drive

### QUESTION 9

What are two reasons creating a host profile could fail? (Choose two.)

- A. Selecting a VMware Infrastructure 3.5 host
- B. The host selected is currently in maintenance mode
- C. Special characters were used when naming vSphere objects
- D. Evaluation Licenses are being used

**Correct Answer:** AC

### Section: Troubleshoot Hosts

#### Explanation

#### Explanation/Reference:

This issue occurs if the Distributed Virtual Switch or Datastore name has special characters, such as "&".

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1034327](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1034327)

*Host profiles is only supported for VMware vSphere 4.0 hosts (and 5.x). This feature is not supported for VI 3.5 or earlier hosts*

[http://pubs.vmware.com/vsphere-4-esxi-installable-vcenter/index.jsp?topic=/com.vmware.vsphere.esxi\\_server\\_config.doc\\_41/esx\\_server\\_config/managing\\_host\\_profiles/c\\_host\\_profiles\\_usage\\_model.html](http://pubs.vmware.com/vsphere-4-esxi-installable-vcenter/index.jsp?topic=/com.vmware.vsphere.esxi_server_config.doc_41/esx_server_config/managing_host_profiles/c_host_profiles_usage_model.html)

### QUESTION 10

vCenter Server is running in a virtual machine that is part of a vSphere DRS cluster. The vCenter Server virtual machine has been tested and can successfully migrate with vMotion between all ESXi hosts in the cluster. DRS is configured for partial automation. What happens if an ESXi 5.x host that is running the vCenter Server virtual machine experiences a power outage?

- A. All DRS cluster operations will be unavailable until the failed ESXi host is brought back online.

- B. vCenter Server will remain offline, but all virtual machines on the remaining hosts will continue without interruption.
- C. This situation cannot occur, because vCenter Server cannot be installed on a virtual machine in a vSphere DRS cluster.
- D. vSphere will restart the vCenter Server virtual machine on another host.

**Correct Answer:** D

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

If you are not using any fail over software (like VMware Heartbeat) and your vCenter goes down, it doesn't matter if physical or virtual in the first step. But if you running it as a VM it will take HA just a couple of seconds to notice the host-failure and all the affected VMs gets restarted (including the vCenter-VM in this example). The total downtime including booting and waiting for all services to come up should be < 5 minutes. I think everybody will agree, that it will take multiple times longer to fix a physical host (with the vCenter installation on it), doesn't matter which hardware-failure need to be fixed (or the hole server replaced).

<http://vknowledge.net/2012/03/18/vcenter-design-why-you-should-run-it-virtual/>

**HA will work if vCenter goes down but DRS needs vCenter to work. HA needs vCenter to configure it.**

**QUESTION 11**

How can vCenter maps be used outside of the vSphere client? (Choose two.)

- A. Saved to a Visio .vsd file
- B. Sent to a printer
- C. Exported as a jpg
- D. Saved as a PDF

**Correct Answer:** BC

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

**QUESTION 12**

Which two VMware software components can be updated by Update Manager? (Choose two.)

- A. ESX 3.5
- B. Virtual Appliances



- C. vCenter Server
- D. Guest OS

**Correct Answer:** AB

**Section:** Update VMs and ESXi

**Explanation**

**Explanation/Reference:**

### **QUESTION 13**

Which network settings are only available with vSphere Distributed Switches?

- A. Jumbo Frames
- B. PVLAN
- C. Load Balancing
- D. Promiscuous Mode

**Correct Answer:** B

**Section:** Distributed Switches

**Explanation**

**Explanation/Reference:**

### **QUESTION 14**

An administrator is configuring an ESXi 5.x host with two dual-port Fibre Channel (FC) HBAs. The FC storage array has four active storage processor ports. Zoning is configured on both fabrics, with ESXi HBA ports and the array ports in the same zone. There are two LUNs with VMFS datastores configured. Using Round Robin multipathing, what is the maximum number of paths that can be used to send data to the VMFS datastores at any given time?

- A. 2
- B. 3
- C. 1
- D. 4

**Correct Answer:** A

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

**QUESTION 15**

Which two statements are true regarding a mixed DRS cluster with Intel-based and AMD-based ESXi 5.x hosts? (Choose two.)

- A. DRS can load-balance running virtual machines, assuming multiple hosts per CPU family.
- B. HA can only failover virtual machines to hosts within the same CPU family.
- C. Cold Migration may be needed to balance the performance load on the cluster
- D. Storage vMotion will not be available for this cluster

**Correct Answer:** AC

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

**QUESTION 16**

Which two vCenter plug-ins are installed with a default vSphere Client installation? (Choose two.)

- A. vCenter Hardware Status
- B. VMware ESXi Service Status
- C. VMware vSphere Update Manager
- D. VMware vCenter Storage Monitoring Service

**Correct Answer:** AD

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

**QUESTION 17**

An administrator has two ESXi 5.x hosts. Each host has two resource pools, Production and Test and a vApp named TestvApp01. What is true when these hosts are added to a DRS cluster?

- A. An option is given during the process to graft the pools under the cluster's root pool, the vApp will be removed.
- B. An option is given during the process to graft the pools and vApp under the cluster's root pool.

- C. The resource pools and vApp are automatically grafted into the cluster under the root pool.
- D. The resource pools and vApp are automatically removed when the host is added.

**Correct Answer:** A

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

#### **QUESTION 18**

A user has permissions to create and manage alarms and tasks for a group of virtual machines. What happens if an administrator modifies permissions for the user so that they can no longer manage alarms?

- A. The user can no longer create alarms, but can modify or delete the existing alarms.
- B. The user can create alarms but can no longer modify or delete alarms.
- C. The user can no longer create, modify or delete alarms.
- D. The Alarms tab is dimmed in the vSphere Client and no alarm-related actions may be taken by the user.

**Correct Answer:** B

**Section:** Security

**Explanation**

**Explanation/Reference:**

#### **QUESTION 19**

When would an administrator configure the Explicit Failover option for a portgroup created on a virtual switch with multiple uplinks?



<http://www.gratisexam.com/>

- A. To manually configure load balancing for the portgroup
- B. To share uplinks between vSwitches

- C. When configuring iSCSI Software Initiator multipathing
- D. If the physical switch does not support etherchannel or 802.3ad

**Correct Answer:** C

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

So this is not true multipathing, only one link is used at a time. By elimination "To manually configure load balancing for the portgroup" seems to be the right answer. All other load balancing policies are automatic, this one is manual.

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.networking.doc\\_50%2FGUID-D5EA6315-5DCD-463E-A701-B3D8D9250FB5.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.networking.doc_50%2FGUID-D5EA6315-5DCD-463E-A701-B3D8D9250FB5.html)

"When configuring iSCSI Software Initiator multipathing" was the original answer

#### **QUESTION 20**

Which two actions can be scheduled through the Scheduled Task wizard in the vSphere Client? (Choose two.)

- A. Remove a host.
- B. Change the VM power state.
- C. Create a virtual machine.
- D. Revert to a snapshot of a virtual machine.

**Correct Answer:** BC

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

#### **QUESTION 21**

Which three features can be used in combination with network-attached storage (NAS)? (Choose three.)

- A. Datastores up to 64TB
- B. virtual-mode RDMS
- C. N-Port ID Virtualization
- D. Storage I/O control
- E. VMware Storage DRS

**Correct Answer:** ADE

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

**QUESTION 22**

What are two reasons why a company would choose to use ESXi 5.x instead of using VMware Workstation 8? (Choose two.)

- A. The company needs to be able to assign existing physical disks to virtual machines.
- B. The company needs remote management of virtual machines
- C. The company needs support for virtual machines with up to sixteen vCPUs
- D. The company wants the lowest overhead possible for the virtual infrastructure.

**Correct Answer:** CD

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 23**

Which three files are valid virtual machine files that might be identified when examining a folder that contains a virtual machine template on a VMFS datastore? (Choose three.)

- A. RDM map file (-rdm.vmdk)
- B. BIOS settings file (.bios)
- C. Template file (.vmtx)
- D. Lock file (.lck)
- E. Suspended state file (.vmsn)

**Correct Answer:** ACE

**Section:** Clones and Templates

**Explanation**

**Explanation/Reference:**

**QUESTION 24**

While building a VMware View environment one of the design requirements is keeping vCenter and View Composer always available. Which solution can be utilized to achieve this?

- A. vCenter Server Heartbeat
- B. vSphere HA
- C. vSphere FT
- D. Host Based Replication

**Correct Answer:** A

**Section:** (none)

**Explanation**

**Explanation/Reference:**

**QUESTION 25**

What happens to the total number of shares available to the children of a resource pool if a virtual machine is powered off inside the resource pool?

- A. It remains the same
- B. It decreases
- C. It increases
- D. It remains the same only if a custom share value was configured

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Remove a Virtual Machine from a Resource Pool

You can remove a virtual machine from a resource pool either by moving the virtual machine to another resource pool or deleting it.

**When you remove a virtual machine from a resource pool, the total number of shares associated with the resource pool decreases**, so that each remaining share represents more resources. For example, assume you have a pool that is entitled to 6GHz, containing three virtual machines with shares set to Normal. Assuming the virtual machines are CPU-bound, each gets an equal allocation of 2GHz. If one of the virtual machines is moved to a different resource pool, the two remaining virtual machines each receive an equal allocation of 3GHz.

[http://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.resmgmt.doc\\_50/GUID-727A88F2-D1C4-4AAE-8261-C75A1EA4A97A.html](http://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.resmgmt.doc_50/GUID-727A88F2-D1C4-4AAE-8261-C75A1EA4A97A.html)

**QUESTION 26**

An administrator is configuring admission control settings for a vSphere HA cluster. The administrator selects the option Allow VMs to Be Powered on Even if They Violate Availability Constraints. Which two events occur during an ESXi host failure? (Choose two.)

- A. Virtual machines with a High restart priority are restarted first.
- B. Virtual machines with a Low restart priority are not restarted.
- C. HA will not restart virtual machines configured for FT.
- D. Virtual machines with VM Monitoring set to Enabled are restarted.

**Correct Answer:** AC

**Section:** Fault Tolerance

**Explanation**

**Explanation/Reference:**

**QUESTION 27**

What are three true statements about an integrity check in vCenter Data Recovery? (Choose three.)

- A. The operation is prevented from overlapping with the backup operations.
- B. The operation is scheduled separately from the backup schedule.
- C. An incremental operation can be manually started.
- D. The operation automatically pauses when the end of the maintenance window is reached
- E. By default the operation does not run during normal business hours.

**Correct Answer:** BDE

**Section:** Backup VMs

**Explanation**

**Explanation/Reference:**

**QUESTION 28**

A DRS cluster with two ESXi 5.x hosts is set to fully automated mode. One host in the cluster is running at 98% CPU utilization. The other host is running at 52% utilization. Upon analysis, it appears that none of the virtual machines are being migrated from the CPU-constrained host, and no recommendations are being generated. What are the two most likely causes of the problem? (Choose two.)

- A. The VMkernel port is assigned an incorrect IP address.

- B. vMotion is not enabled on the VMkernel port.
- C. The DRS Migration Threshold is too aggressive.
- D. VMware DRS is not set to Fully Automated.

**Correct Answer:** AB

**Section:** Troubleshoot HA/DRS

**Explanation**

**Explanation/Reference:**

#### **QUESTION 29**

An administrator is migrating a virtual machine in a DRS cluster. The migration fails the validation check because of a CPU incompatibility issue. Which items below could be causing this issue? (Choose two.)

- A. Inconsistent CPU manufacturers.
- B. Inconsistent CPU steppings.
- C. Inconsistent CPU generations.
- D. Inconsistent CPU GHZ.

**Correct Answer:** AC

**Section:** Troubleshoot HA/DRS

**Explanation**

**Explanation/Reference:**

#### **QUESTION 30**

Which two settings are required by the deployment wizard when installing the VMware vCenter Server Virtual Appliance (vCSA)? (Choose two.)

- A. Number of CPUs
- B. Datastore to install on
- C. Linked-mode
- D. Name of the vCenter server

**Correct Answer:** BD

**Section:** vCSA

**Explanation**



**Explanation/Reference:**

**QUESTION 31**

What options must be configured in the vCenter Server settings before email alerts can be sent? (Choose two.)

A. Sender email address



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B. SNMP address information

C. SMTP server information

D. Email authentication information

**Correct Answer:** AC

**Section:** Monitor Hosts, Guests and vCentre

**Explanation**

**Explanation/Reference:**

Email alerts only require SMTP server address and the sender's email address.

**QUESTION 32**

Which three modules are optional components that can be added from the vCenter Server installer? (Choose three.)

A. VMware vCenter Syslog Collector

B. VMware vCenter License Server

C. VMware vSphere Authentication Proxy

D. VMware vCenter Host Update Utility

E. VMware vSphere Auto Deploy

**Correct Answer:** ACE

**Section:** Install & Upgrades

**Explanation**

**Explanation/Reference:**

**QUESTION 33**

What are two prerequisites for installing the vCenter Server application? (Choose two.)

- A. The system vCenter Server is installed on must be a physical machine.
- B. A valid vSphere vCenter license must be obtained before installation.
- C. vCenter must be in the same network as the hosts if supporting vSphere Storage Appliance Cluster.
- D. The system vCenter Server is installed on cannot be a domain controller.

**Correct Answer:** CD

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

"The system vCenter Server is installed on must be a physical machine.": Wrong, can be installed on a virtual or physical server.

"A valid vSphere vCenter license must be obtained before installation": Wrong, you can run vCenter for 60 days without a license as a trial.

**QUESTION 34**

What are two valid use cases for vCenter Server Linked Mode? (Choose two.)

- A. An administrator wants to migrate running virtual machines between vCenter Server instances.
- B. An administrator wants to increase the vRAM entitlement pool.
- C. An administrator wants to manage a virtual server environment and a View environment from the same pane of glass.
- D. An administrator wants to search all inventory objects across multiple vCenter Server Virtual Appliance (vCSA) instances from one vSphere Client

**Correct Answer:** BC

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

**QUESTION 35**

An administrator is deploying several ESXi 5.x hosts. Centralized logging with accurate timestamps is a requirement for the deployment. Which two operations ensure these requirements are met? (Choose two.)

- A. Ensure TCP port 123 is not blocked

- B. Configure a syslog server on each host
- C. Configure ensure the hosts have the proper timezone configured
- D. Configure a syslog server on the vSphere Management Appliance

**Correct Answer:** AD

**Section:** Monitor Hosts, Guests and vCentre

**Explanation**

**Explanation/Reference:**

### **QUESTION 36**

An administrator is setting up vSphere Auto Deploy to deploy 25 ESXi 5.x hosts using the vCenter Server Virtual Appliance (vCSA). What would be considered best practices for Auto Deploy? (Choose three.)

- A. Enable vSphere HA on the cluster.
- B. Protect the vCenter server with Fault Tolerance.
- C. Install the Auto Deploy service on the VCSA.
- D. Include the vmware-fdm VIB in the image profile.
- E. Use PowerCLI to write a rule that assigns a custom image profile to the target hosts.

**Correct Answer:** ADE

**Section:** Install & Upgrades

**Explanation**

**Explanation/Reference:**

### **QUESTION 37**

Which tool defines the Image Profiles used with Auto Deploy?

- A. The vSphere PowerCLI add-deployrule cmdlet
- B. The vSphere PowerCLI new-deployrule cmdlet
- C. The vSphere CLI add-deployrule command
- D. The vSphere CLI new-deployrule command

**Correct Answer:** B

**Section:** Install & Upgrades

## Explanation

### Explanation/Reference:

#### QUESTION 38

An administrator plans to deploy ESXi 5.x on a blade server containing no local disks. What boot options are supported for use in place of local disks? (Choose three.)

- A. An SD card
- B. A NIC with iBFT
- C. Auto Deploy
- D. A server with IPMI or iLO
- E. A dedicated NFS share

**Correct Answer:** ABC

**Section:** Install & Upgrades

## Explanation

### Explanation/Reference:

iBFT = iSCSI Boot Firmware Table

#### QUESTION 39

An administrator plans to use an upgrade script to upgrade a number of ESXi 5.x hosts. What options are available for the kickstart file? (Choose two.)

- A. dryrun - Parse and check script but does not install
- B. overwritevmfs - permits overwriting of existing VMFS volumes
- C. vcenter - specifies vCenter Server
- D. autodeploy - defines autodeploy options

**Correct Answer:** AB

**Section:** Install & Upgrades

## Explanation

### Explanation/Reference:

#### QUESTION 40

An administrator has deployed a vCenter Server to manage a virtual environment. The administrator has been asked to develop a plan for handling major upgrades

to the application.

What should be included in the upgrade plan?

- A. Utilize vCenter Configuration Manager to upgrade the vCenter Server in place
- B. Install a new vCenter Server and import the information from the existing vCenter Server
- C. Install a new vCenter Server over the existing vCenter Server as an in-place upgrade
- D. Utilize Update Manager to upgrade the vCenter Server in place

**Correct Answer:** B

**Section:** Install & Upgrades

**Explanation**

**Explanation/Reference:**

#### **QUESTION 41**

An administrator is upgrading an ESXi 3.5 host to ESXi 5.x with an intermediate upgrade to 4.0 using Update Manager. The host has a single Intel Xeon processor, 4GB of RAM, and a VMFS datastore on a private, SAN-attached LUN. What might cause the upgrade to be unsuccessful?

- A. The ESXi host has 4GB RAM.
- B. The ESXi host has one processor.
- C. ESXi 3.5 is not supported for upgrade.
- D. Update Manager cannot upgrade a previously upgraded host.

**Correct Answer:** D

**Section:** Install & Upgrades

**Explanation**

**Explanation/Reference:**

- The minimum RAM is 2Gb so 4Gb is OK
- ESXi 3.5 is supported so long as you upgrade to 4.0 as an intermediate step
- ESXi 5.0 requires a host with at least 2 cores: Xeon CPUs have 2 cores.

<http://blogs.vmware.com/vsphere/2011/08/esxi-and-lopsided-bootbanks.html>

"For most ESXi 4.x hosts, the partition table is not rewritten in the upgrade to ESXi 5.0. The partition table is rewritten for systems that have lopsided bootbanks. Lopsided boot banks can occur in systems that are upgraded from ESXi 3.5 to ESXi 4.x, and then upgraded directly to ESXi 5.0."

... the only limitation is that **you won't be able to use Update Manager to upgrade the host to ESXi 5.0**. Update Manager assumes the boot banks are both at 250MB. If it detects one boot bank is smaller than the other it will report an invalid boot disk and won't even try to upgrade.

#### QUESTION 42

An administrator is performing an upgrade on an ESXi host. Which step can be used to back up the host before the upgrade is performed?

- A. Using the vSphere Client connected to vCenter, right-click the host and choose Host Backup.
- B. Log into a vMA appliance and run vicfg-cfgbackup to save the ESXi host configuration.
- C. Using the vSphere Client connected directly to the host, right-click the host and choose Host Backup.
- D. Use PowerCLI to run the host-backup cmdlet to save the ESXi host configuration.

**Correct Answer: B**

**Section: Install & Upgrades**

**Explanation**

#### **Explanation/Reference:**

"So let's say you reinstall ESXi and that really takes a few minutes. However there might be things you do to customize your hosts like licensing info, multipaths, local users, switches etc etc. I think you get the idea. Soon you will realize that its really stuff like this what ends up consuming your time. So what you do? In comes vMA. You can use vMA to backup your host configuration to a file and use that file to restore the changes you made to the host. This will save you plenty of time. Follow these simple steps."

vicfg-cfgbackup -s -server IPAddrOfHost /location/BackupFileName (This command will prompt you for a username and pwd as the vMA appliance doesn't have this. Note the -s stands for save).

You can then FTP or SCP into the vMA appliance and grab this configuration file and store it in a safe/accessible location. Notice I said "accessible" because its important for you to have backups, but these backups are not of any value if you can't get to them when you need 'em.

<http://www.cloud-buddy.com/?p=273>

#### QUESTION 43

For security reasons, an administrator removes a user from the Active Directory domain used by all ESXi hosts for authentication. At the time the user is removed they are actively logged into an ESXi 5.x host through the vSphere Client. What is true regarding this scenario?



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- A. The user immediately loses connectivity to and permissions on the host.
- B. The user retains permissions and connectivity to the host for up to 24 hours.
- C. The user retains permissions on the host until the host is rebooted.
- D. The user retains permissions on the object until the next time the user logs in to vCenter Server.

**Correct Answer: C**

**Section: Security**

**Explanation**

**Explanation/Reference:**

Users who are logged in and are removed from the domain keep their host permissions until you restart the host.

To remove users from vCenter Server, you must remove them from the domain or Active Directory users list.

Users who are logged in and are removed from the domain keep their vSphere permissions until the next validation period. The default is every 24 hours.

**C is correct for ESXi hosts, B is correct for vCenter Server.**

#### **QUESTION 44**

Acme Disposal Services is a large company which has many administrators. For auditing purposes, each administrator must use a unique account to access ESXi Standard hosts. Which two actions satisfy this requirement and require the least amount of administrative effort? (Choose two.)

- A. Configure Authentication Services for Active Directory based authentication to the ESXi hosts
- B. Configure a unique root level account for each administrator using the vSphere Client
- C. Configure user accounts in a host profile, then apply the host profile to the ESXi hosts
- D. Configure Active Directory group ESX Admins with each administrator's AD account

**Correct Answer: AD**

**Section: Security**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 45**

Which two features secure the VMkernel? (Choose two.)

- A. Memory Encryption

- B. Hardware assist virtualization
- C. Kernel module integrity
- D. Trusted Platform Module (TPM)

**Correct Answer:** CD

**Section:** Security

**Explanation**

**Explanation/Reference:**



## Exam E

### QUESTION 1

What Windows security object is granted the vCenter Server administrator role during installation?

- A. Domain Admins
- B. Administrator
- C. Administrators
- D. ESX Admins

**Correct Answer:** C

**Section:** Security

**Explanation**

**Explanation/Reference:**

### QUESTION 2

An administrator attempts to increase the number of vCPUs in a virtual machine to 8. The configuration cannot be successfully completed. What are two likely causes of this issue? (Choose two.)

- A. MS-DOS was selected as guest OS.
- B. The host has 4 processor threads.
- C. Virtual machine hardware version 7 was chosen.
- D. The vSphere 5.x implementation is using a Standard license.

**Correct Answer:** AB

**Section:** VMs

**Explanation**

**Explanation/Reference:**

When you setup a DOS guest you can only use 1 vCPU.

### QUESTION 3

Which component is the metering tool for vCloud administration?

- A. VMware vCenter Chargeback
- B. VMware vCloud Service Manager
- C. VMware vCloud Request Manager

D. VMware vCloud Director

**Correct Answer:** A

**Section:** Architecture

**Explanation**

**Explanation/Reference:**

#### QUESTION 4

An existing vSphere 4 environment will be upgraded to vSphere 5.x. The current implementation utilizes ESXi 4.1 and the new implementation will use ESXi 5.x. In which two ways will the new ESXi 5.x implementation differ from the ESXi 4.1 implementation? (Choose two.)

- A. VMware ESXi 5.x provides a host-based firewall.
- B. VMware ESXi 5.x can boot from additional local sources such as a USB drive.
- C. VMware ESXi 5.x can be managed from a web browser.
- D. VMware ESXi 5.x can support virtual machines with larger hard drive configurations.

**Correct Answer:** BD

**Section:** ESXi

**Explanation**

**Explanation/Reference:**

"Host UEFI boot support.vSphere 5.0 supports booting ESXi hosts from the Unified Extensible Firmware Interface (UEFI). With UEFI you can boot systems from hard drives, CD-ROM drives, or USB media. Booting over the network requires the legacy BIOS firmware and is not available with UEFI."

<http://www.virtualizetips.com/2011/07/whats-new-in-vmware-vsphere-esxi-5/>

Bootting from USB was possible with ESXi 4.x but I think it wasn't officially supported.

RDM physical mode can be up to 64 Tb in 5.1 but and only up to 2 Tb on 4.x

#### QUESTION 5

Which VMware solution allows for the automated discovery and mapping of applications running over the VM infrastructure?

- A. VMware vCloud Director
- B. VMware vCenter Infrastructure Navigator
- C. VMware Service Manager
- D. VMware vSphere 5

**Correct Answer:** B

**Section: Architecture**  
**Explanation**

**Explanation/Reference:**

**QUESTION 6**

Which two statements are true about VLANs and port groups defined on a vSphere Standard Switch? (Choose two.)

- A. A VLAN can be accessed by the entire virtual switch or individual port groups.
- B. Multiple port groups are restricted from accessing the same VLAN.
- C. VLANs can be configured only on individual port groups.
- D. Multiple VLANs can be accessed by virtual machines connected to one port group.

**Correct Answer: AD**

**Section: Standard Switches**

**Explanation**

**Explanation/Reference:**

**QUESTION 7**

A vSphere Standard Switch has been configured for IP-based load balancing using two uplinks. A new uplink is added to the vSwitch. What is the status of the uplink by default?



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- A. The uplink is placed in standby mode until it is added to the active NIC team.
- B. The uplink is marked as active but does not participate in the active NIC team until assigned to a port group.
- C. The uplink is marked as active, but cannot be used by the active NIC team until it is added to the existing 802.3ad group on the physical switch.
- D. The uplink is marked as unused until it is added to the active NIC team.

**Correct Answer: C**

**Section: (none)**

**Explanation**

**Explanation/Reference:**

IP Hash Load Balancing requires static EtherChannel or static 802.3ad to be configured on the switching infrastructure uses a hashing algorithm based on source and destination IP address to determine which host uplink egress traffic should be routed through.

**QUESTION 8**

A virtual machine, VM21, will be migrated between two ESXi 5.x hosts, labeled ESXi01 and ESXi02. Each host has two vSphere Standard Switches (vSS), configured as follows:

1. vSwitch0 has a portgroup labeled Management and a portgroup labeled vMotion.
2. The Management portgroup contains a vmkernel port tagged for management traffic.
3. The vMotion portgroup contains a vmkernel port tagged for vMotion traffic.
4. vSwitch0 on ESXi01 has a single uplink attached to the 10.1.20.0/24 network.
5. vSwitch0 on ESXi02 has a single uplink attached to the 10.1.20.0/24 network.
6. Each host has a vSwitch1 with a Production portgroup used by virtual machine traffic.
7. Each vSwitch1 has an uplink attached to the 10.1.40.0/24 network.

What is true about migrating VM21 to the new host?

- A. vMotion would be supported in this configuration.
- B. Storage vMotion would not be supported in this configuration.
- C. vMotion would not be supported in this configuration.
- D. Storage vMotion would be supported if the storage device supports VAAI.

**Correct Answer: A**

**Section: Clusters**

**Explanation**

**Explanation/Reference:**

vSwitch1 on both hosts share the same subnet therefore vMotion is supported.

**QUESTION 9**

Which settings are required for virtual machine guest tagging for VLAN 100 in a vSphere 5.x environment?

- A. Port Group configured for VLAN 100, physical switch configured as a VLAN trunk
- B. Port Group configured for VLAN 4095, physical switch configured as a VLAN trunk
- C. Port Group configured for VLAN 100, physical switch configured for VLAN 100
- D. Port Group configured for VLAN 4095, physical switch configured for VLAN 100

**Correct Answer: B**  
**Section: Networking**  
**Explanation**

**Explanation/Reference:**

The question states VM guest tagging therefore the vSwitch has to allow all VLANs (4095) and the physical switch must be trunked.

VLAN ID 0 (zero) Disables VLAN tagging on port group (EST Mode)

***VLAN ID 4095 Enables trunking on port group (VGT Mode)***

*More Info.*

The answer comes from the VMWare network guide found here:

[http://www.vmware.com/files/pdf/virtual\\_networking\\_concepts.pdf](http://www.vmware.com/files/pdf/virtual_networking_concepts.pdf)

This link shows how to configure the VGT mode, and the use of port 4095:

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1010733](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1010733)

**Virtual switch tagging (VST mode)** — This is the most common configuration. In this mode, you provision one port group on a virtual switch for each VLAN, then attach the virtual machine's virtual adapter to the port group instead of the virtual switch directly. The virtual switch port group tags all outbound frames and removes tags for all inbound frames. It also ensures that frames on one VLAN do not leak into a different VLAN. Use of this mode requires that the physical switch provide a trunk.

**Virtual machine guest tagging (VGT mode)** — You may install an 802.1Q VLAN trunking driver inside the virtual machine, and tags will be preserved between the virtual machine networking stack and external switch when frames are passed from or to virtual switches. The format for the header of a packet tagged in this way is shown in Figure 3. Use of this mode requires that the physical switch provide a trunk.

**External switch tagging (EST mode)** — You may use external switches for VLAN tagging. This is similar to a physical network, and VLAN configuration is normally transparent to each individual physical server. There is no need to provide a trunk in these environments

and the article on how to configure VGTS...

Configuring Virtual Guest VLAN tagging (VGT) mode on a vNetwork Distributed Switch (1010733)

Purpose

This article describes the concept and configuration of Virtual Guest VLAN tagging (VGT) mode on ESX 4.x. Resolution

Note: For additional information on dvPortGroup configuration, see vNetwork Distributed PortGroup (dvPortGroup) configuration (1010593).

This is a new Virtual Network Adapter, also known as Advanced VMXNET. It is based on Enhanced VMXNET introduced in ESX 3.5, it provides these new features:

- IEEE 802.1Q VLAN tagging
- No more need for e1000 Driver inside of a virtual machine
- VLAN tagging and tag removal offloading

- Only one VLAN per NIC for Windows
- TCP Segmentation Offloading for IPv4 and IPv6
- TCP and UDP Checksum Offloading for IPv4 and IPv6
- MSI (Message Signaled Interrupt) and MSI-X support (subject to guest kernel support)
- Receive Side Scaling (supported in Windows Vista, 2008 and any other system using NDIS 6.x)
- VMXNET 3 is the new “state of the art” Virtual Network Adapter.

To modify and add vNetwork Distributed Port Groups (dvPortGroup):

- 1.In vCenter, click Home > Inventory > Networking.
- 2.Right-click on dvPortGroup and choose Edit Settings.
- 3.Under dvPortGroup > Policies > VLAN, these settings can be specified:
  - VGT – VLAN Guest Tagging
  - VLAN Trunking – Physical equivalent to: VLAN in Trunk/Tagged mode
  - Standard vSwitch equivalent to: VLAN ID set to 4095

Note: Distributed Switch Only specifies the range of VLANs to trunk, to improve security.

#### **QUESTION 10**

When you are configuring the NIC teaming policy for a vSwitch, what happens when the Failback option is set to Yes?

- A. A failed uplink will be left inactive upon recovery until another uplink fails.
- B. The physical switches are notified when a failover event occurs.
- C. The physical switches are notified when a failback event occurs.
- D. A failed uplink is returned to active duty immediately upon recovery.

**Correct Answer: D**

**Section: Standard Switches**

**Explanation**

**Explanation/Reference:**

#### **QUESTION 11**

Which three features are only available in the vSphere Client when using a vSphere Distributed Switch? (Choose three.)

- A. Port Mirroring
- B. PVLAN tagging
- C. Storage I/O Control
- D. Ingress Traffic Shaping
- E. 802.1q VLAN Tagging

**Correct Answer:** ABD

**Section:** Distributed Switches

**Explanation**

**Explanation/Reference:**

**Comparing vNetwork Standard Switch with vNetwork Distributed Switch**

These features are available with both types of virtual switches:

- Can forward L2 frames
- Can segment traffic into VLANs
- Can use and understand 802.1q VLAN encapsulation
- Can have more than one uplink (NIC Teaming)
- Can have traffic shaping for the outbound (TX) traffic

These features are available only with a Distributed Switch:

- Can shape inbound (RX) traffic
- Has a central unified management interface through vCenter Server
- Supports Private VLANs (PVLANS)
- Provides potential customization of Data and Control Planes

vSphere 5.x provides these improvements to Distributed Switch functionality:

- Increased visibility of inter-virtual machine traffic through Netflow
- Improved monitoring through port mirroring (dvMirror)
- Support for LLDP (Link Layer Discovery Protocol), a vendor-neutral protocol.

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1010555](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1010555)

#### **QUESTION 12**

What are two network load-balancing policies for a vSphere Distributed Switch? (Choose two.)

- A. Route based on source MAC hash
- B. Route using physical NIC load
- C. Route based on the destination virtual port ID
- D. Route based on port ID hash

**Correct Answer:** AB

## Section: Distributed Switches

### Explanation

#### Explanation/Reference:

- Route based on the originating virtual port — Choose an uplink based on the virtual port where the traffic entered the distributed switch.
- Route based on ip hash — Choose an uplink based on a hash of the source and destination IP addresses of each packet. For non-IP packets, whatever is at those offsets is used to compute the hash.
- Route based on **source MAC hash** — Choose an uplink based on a hash of the source Ethernet.
- Route based on **physical NIC load** — Choose an uplink based on the current loads of physical NICs. Use explicit failover order — Always use the highest order uplink from the list of Active adapters which passes failover detection criteria.

### QUESTION 13

Which type of port on a secondary private VLAN can communicate with promiscuous ports and other ports that share its VLAN tag?

- A. Isolated
- B. Promiscuous
- C. Community
- D. Trunked

**Correct Answer: C**

### Section: Networking

#### Explanation

#### Explanation/Reference:

#### Three types of Secondary PVLANS:

**Promiscuous** – A node attached to a port in a promiscuous secondary PVLAN may send and receive packets to any node in any others secondary VLAN associated to the same primary. Routers are typically attached to promiscuous ports.

**Isolated** – A node attached to a port in an isolated secondary PVLAN may only send to and receive packets from the promiscuous PVLAN.

**Community** – A node attached to a port in a community secondary PVLAN may send to and receive packets from other ports in the same secondary PVLAN, as well as send to and receive packets from the promiscuous PVLAN.

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1010691](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1010691)

### QUESTION 14

Which statement describes the functionality of traffic shaping on a vSphere Standard Switch?



- A. vSphere Standard Switches support only egress traffic shaping.
- B. vSphere Standard Switches support both ingress and egress traffic shaping.
- C. vSphere Standard Switches support best-effort traffic shaping based on quality of service (QoS).
- D. vSphere Standard Switches support only ingress traffic shaping.

**Correct Answer:** A

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

A traffic shaping policy is defined by average bandwidth, peak bandwidth, and burst size. You can establish a traffic shaping policy for each port group and each distributed port or distributed port group.

**ESXi shapes outbound network traffic on standard switches and inbound and outbound traffic on distributed switches.** Traffic shaping restricts the network bandwidth available on a port, but can also be configured to allow bursts of traffic to flow through at higher speeds.

**QUESTION 15**

Which vSwitch or vSwitch port group policy setting allows packets to be received by a virtual machine with different destination MAC addresses than the configured MAC address?

- A. Promiscuous mode
- B. Traffic shaping
- C. Forged transmits
- D. MAC address changes

**Correct Answer:** D

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

Promiscuous Mode allows a VM to receive packets with any VLAN tag – doesn't address the MAC address.

Traffic shaping deals with throttling traffic.

Forged transmits deals with spoofed MAC addresses, but is only regarding outbound IP traffic.

**MAC address changes** deals with inbound IP traffic with a different MAC address than the one configured on the VM.

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**MAC Address Changes**

The setting for the MAC Address Changes option affects traffic that a virtual machine receives.

When the option is set to Accept, ESXi accepts requests to change the effective MAC address to other than the initial MAC address.

[http://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.security.doc\\_50/GUID-942BD3AA-731B-4A05-8196-66F2B4BF1ACB.html?resultof=%2522%256d%2561%2563%2522%2520%2522%2561%2564%2564%2572%2565%2573%2573%2522%2520%2522%2563%2568%2561%256e%2567%2565%2573%2522%2520%2522%2563%2568%2561%256e%2567%2522%2520](http://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.security.doc_50/GUID-942BD3AA-731B-4A05-8196-66F2B4BF1ACB.html?resultof=%2522%256d%2561%2563%2522%2520%2522%2561%2564%2564%2572%2565%2573%2573%2522%2520%2522%2563%2568%2561%256e%2567%2565%2573%2522%2520%2522%2563%2568%2561%256e%2567%2522%2520)

#### **QUESTION 16**

What failure will beacon probing identify in vSphere networking?

- A. An improper VLAN configuration on a physical switch port
- B. A disconnected network cable
- C. A VMkernel IP mismatch affecting vMotion or HA traffic
- D. Jumbo frames improperly configured on an iSCSI target

**Correct Answer:** A

**Section:** Networking

**Explanation**

**Explanation/Reference:**

Any vSwitch will detect a cable pull on an uplink. The benefit of beacon probing is that it checks the downstream switches, this will highlight not only a cable pull, but an improper VLAN configuration as well

#### **QUESTION 17**

An administrator is creating a vSphere Standard Switch with virtual machine and VMkernel networking. The administrator has two uplinks attached to the switch and wants to make sure multiple sessions for a virtual machine can utilize both uplinks. Which load-balancing policy will guarantee this requirement is met, even if additional management or virtual machine traffic is added to the switch in the future?

- A. Route based on IP hash
- B. Route based on source MAC hash
- C. Route based on the originating port ID
- D. Use explicit failover.

**Correct Answer:** A

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

IP Hashing uses IP address of the virtual machine. So the load balancing is done at VM level.

"It is this fact that makes IP Hash so desirable from a performance standpoint: It is the only load balancing type that could (in theory) allow any single virtual machine to utilize the bandwidth available on all network adapters in the team."

<http://blogs.vmware.com/kb/2013/03/troubleshooting-network-teaming-problems-with-ip-hash.html>

Within ESXi 5.0, there are 4 methods of Load Balancing.

1. Route based on the originating port ID Select an uplink based on the virtual port where the traffic entered the standard switch.
2. Route based on IP hash Select an uplink based on a hash of the source and destination IP addresses of each packet. For non-IP packets, whatever is at those offsets is used to compute the hash.
3. Route based on source MAC hash Select an uplink based on a hash of the source Ethernet.
4. Use explicit fail-over order Always use the highest order uplink from the list of Active adapters that passes fail-over detection criteria.

**QUESTION 18**

Which two storage adapters require no VMkernel ports? (Choose two.)

- A. Independent Hardware iSCSI Adapter
- B. iSCSI Software Adapter
- C. Dependent iSCSI Adapter
- D. Fibre Channel HBA

**Correct Answer:** AD

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc\\_50%2FGUID-7A4E3767-CB54-4E88-9BA8-298876119465.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc_50%2FGUID-7A4E3767-CB54-4E88-9BA8-298876119465.html)

**Hardware iSCSI Adapters**

A hardware iSCSI adapter is a third-party adapter that offloads iSCSI and network processing from your host. Hardware iSCSI adapters are divided into categories.

Dependent Hardware iSCSI Adapter

Depends on VMware networking, and iSCSI configuration and management interfaces provided by VMware.

*This type of adapter can be a card that presents a standard network adapter and iSCSI offload functionality for the same port. The iSCSI offload functionality depends on the host's network configuration to obtain the IP, MAC, and other parameters used for iSCSI sessions. An example of a dependent adapter is the iSCSI licensed Broadcom 5709 NIC.*

Independent Hardware iSCSI Adapter

Implements its own networking and iSCSI configuration and management interfaces.

*An example of an independent hardware iSCSI adapter is a card that either presents only iSCSI offload functionality or iSCSI offload functionality and standard NIC*

functionality. The iSCSI offload functionality has independent configuration management that assigns the IP, MAC, and other parameters used for the iSCSI sessions. An example of a independent adapter is the QLogic QLA4052 adapter.

### **Software iSCSI Adapter**

A software iSCSI adapter is a VMware code built into the VMkernel. It allows your host to connect to the iSCSI storage device through standard network adapters. The software iSCSI adapter handles iSCSI processing while communicating with the network adapter. With the software iSCSI adapter, you can use iSCSI technology without purchasing specialized hardware.

### **QUESTION 19**

When a virtual machine interacts with persistent thick virtual disks stored on a traditional Fibre Channel storage array, which two actions are always taken by the VMkernel? (Choose two.)

- A. The file corresponding to the virtual machine is located on the VMFS datastore using NPIV.
- B. Correlate the blocks requested by the virtual machine with the actual blocks on the array.
- C. Send the I/O request through the device driver to the physical HBA or software FCoE adapter.
- D. Place an atomic lock on the metadata database for the VMFS volume.

**Correct Answer:** BC

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

<http://pubs.vmware.com/vsphere-51/topic/com.vmware.ICbase/PDF/vsphere-esxi-vcenter-server-51-storage-guide.pdf>

### **How Virtual Machines Access Data on a Fibre Channel SAN**

ESXi stores a virtual machine's disk files within a VMFS datastore that resides on a SAN storage device.

When virtual machine guest operating systems issue SCSI commands to their virtual disks, the SCSI virtualization layer translates these commands to VMFS file operations.

When a virtual machine interacts with its virtual disk stored on a SAN, the following process takes place:

- 1 When the guest operating system in a virtual machine reads or writes to a SCSI disk, it issues SCSI commands to the virtual disk.
- 2 Device drivers in the virtual machine's operating system communicate with the virtual SCSI controllers.
- 3 The virtual SCSI controller forwards the command to the VMkernel.
- 4 The VMkernel performs the following tasks:
  - a Locates the file in the VMFS volume that corresponds to the guest virtual machine disk.
  - b Maps the requests for the blocks on the virtual disk to blocks on the appropriate physical device.
  - c Sends the modified I/O request from the device driver in the VMkernel to the physical HBA.
- 5 The physical HBA performs the following tasks.
  - a Packages the I/O request according to the rules of the FC protocol.
  - b Transmits the request to the SAN.
- 6 Depending on a port the HBA uses to connect to the fabric, one of the SAN switches receives the request and routes it to the storage device that the host wants to access.

## QUESTION 20

Which options would reduce the load on the VMkernel when connecting to an iSCSI array? (Choose two.)

- A. Use an independent hardware iSCSI adapter
- B. Use a Converged Network Adapter
- C. Enable the software iSCSI adapter
- D. Use a dependent hardware iSCSI adapter

**Correct Answer:** AD

**Section:** Shared Storage

**Explanation**

### Explanation/Reference:

Hardware iSCSI Adapters

A hardware iSCSI adapter is a third-party adapter that offloads iSCSI and network processing from your host. Hardware iSCSI adapters are divided into categories.

#### Dependent Hardware iSCSI Adapter

Depends on VMware networking, and iSCSI configuration and management interfaces provided by VMware.

*This type of adapter can be a card that presents a standard network adapter and iSCSI offload functionality for the same port. The iSCSI offload functionality depends on the host's network configuration to obtain the IP, MAC, and other parameters used for iSCSI sessions. An example of a dependent adapter is the iSCSI licensed Broadcom 5709 NIC.*

#### Independent Hardware iSCSI Adapter

Implements its own networking and iSCSI configuration and management interfaces.

*An example of an independent hardware iSCSI adapter is a card that either presents only iSCSI offload functionality or iSCSI offload functionality and standard NIC functionality. The iSCSI offload functionality has independent configuration management that assigns the IP, MAC, and other parameters used for the iSCSI sessions. An example of a independent adapter is the QLogic QLA4052 adapter.*

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc\\_50%2FGUID-7A4E3767-CB54-4E88-9BA8-298876119465.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc_50%2FGUID-7A4E3767-CB54-4E88-9BA8-298876119465.html)

**Converged Network Adapter** is another name for hardware FCoE (fibre channel over ethernet).

This category includes completely offloaded specialized Converged Network Adapters (CNAs) that contain network and Fibre Channel functionalities on the same card.

When such adapter is installed, your host detects and can use both CNA components. In the vSphere Client, the networking component appears as a standard network adapter (vmnic) and the Fibre Channel component as a FCoE adapter (vmhba). You do not need to configure the hardware FCoE adapter to be able to use it.

[http://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.storage.doc\\_50/GUID-A9503ED6-2622-4278-890E-B869C3971A9F.html?resultof=%2522%](http://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.storage.doc_50/GUID-A9503ED6-2622-4278-890E-B869C3971A9F.html?resultof=%2522%)

[2555%2573%2565%2522%2520%2522%2575%2573%2522%2520%2522%2543%256f%256e%2576%2565%2572%2567%2565%2564%2522%2520%2522%2563%256f%256e%2576%2565%2572%2567%2522%2520%2522%254e%2565%2574%2577%256f%2572%256b%2522%2520%2522%256e%2565%2574%2577%256f%2572%256b%2522%2520%2522%2541%2564%2561%2570%2574%2565%2572%2522%2520%2522%2561%2564%2561%2570%2574%2522%2520%2522%2541%2564%2561%2570%2574%2565%2572%2522%2520%2522%2561%2564%2561%2570%2574%2522%2520](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1021976)

#### QUESTION 21

ACME Tools has a vSphere 5.x deployment with an older iSCSI storage array. The administrator is considering adding an additional array which will include support for the vStorage APIs for Array Integration (VAAI). Which two tasks would be completed in a reduced period of time if the new array was added? (Choose two.)

- A. creating VMFS datastores on the new array
- B. creating fault tolerant virtual machines on the new array
- C. migrating virtual machines using Storage vMotion between the arrays
- D. writes to thin provisioned virtual disks on the new array

**Correct Answer:** BD

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1021976](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1021976)

"Creating fault tolerant virtual machines on the new array" is correct because VAAI uses this fundamental operation: Clone Blocks/Full Copy/XCOPY, which is used to copy or migrate data within the same physical array.

"writes to thin provisioned virtual disks on the new array" is correct because VAAI uses this fundamental operation: Thin Provisioning in ESXi 5.x and later hosts, which allows the ESXi host to tell the array when the space previously occupied by a virtual machine (whether it be deleted or migrated to another datastore) can be reclaimed on thin provisioned LUNs.

#### QUESTION 22

A vSphere 5.x environment has an ESXi 5.x host configured to boot from a hardware independent iSCSI adapter. What is the expected outcome if the administrator attempts to disable the iSCSI HBA in the vSphere client?

- A. The adapter will be disabled, but is re-enabled the next time the host boots up.
- B. The adapter will be disabled and the host will not boot the next time the host boots up.
- C. A hardware independent iSCSI adapter cannot be disabled from the vSphere Client.
- D. The adapter will be enabled, but the host will boot into troubleshooting mode the next time the host boots up.

**Correct Answer:** C

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

**QUESTION 23**

How does a hardware FCoE Adapter appear to an ESXi host?

- A. As an uplink adapter attached to a vSphere Distributed Switch.
- B. As a hardware FCoE Adapter.
- C. As an enabled FCoE software initiator.
- D. As a Fibre Channel Adapter.

**Correct Answer: D**

**Section: Shared Storage**

**Explanation**

**Explanation/Reference:**

**Configuring FCoE Adapters**

ESXi can use Fibre Channel over Ethernet (FCoE) adapters to access Fibre Channel storage.

The FCoE protocol encapsulates Fibre Channel frames into Ethernet frames. As a result, your host does not need special Fibre Channel links to connect to Fibre Channel storage, but can use 10Gbit lossless Ethernet to deliver Fibre Channel traffic.

To use FCoE, you need to install FCoE adapters. The adapters that VMware supports generally fall into two categories, hardware FCoE adapters and software FCoE adapters that use the native FCoE stack in ESXi.

**Hardware FCoE Adapters**

This category includes completely offloaded specialized Converged Network Adapters (CNAs) that contain network and Fibre Channel functionalities on the same card.

When such adapter is installed, your host detects and can use both CNA components. In the vSphere Client, the networking component appears as a standard network adapter (vmnic) and the Fibre Channel component as a FCoE adapter (vmhba). You do not need to configure the hardware FCoE adapter to be able to use it.

**Software FCoE Adapters**

A software FCoE adapter uses the native FCoE protocol stack in ESXi for the protocol processing. The software FCoE adapter is used with a NIC that offers Data Center Bridging (DCB) and I/O offload capabilities. For information on NICs supporting software FCoE, see the vSphere Compatibility Guide. For the software FCoE adapter, you must properly configure networking and then activate the adapter.

**NOTE:** The number of software FCoE adapters you activate corresponds to the number of physical NIC ports.

<http://pubs.vmware.com/vsphere-50/topic/com.vmware.ICbase/PDF/vsphere-esxi-vcenter-server-50-storage-guide.pdf>

#### QUESTION 24

What two statements are true about Fibre Channel zoning? (Choose two.)



<http://www.gratisexam.com/>

- A. Zones define paths to a Fibre Channel array
- B. Zones control access to LUNs on a Fibre Channel storage array
- C. Zones can be soft or hard
- D. Zones can be configured on an array or ESXi host

**Correct Answer:** AC

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

**Using Zoning with Fibre Channel SANs**

Zoning provides access control in the SAN topology. Zoning defines which HBAs can connect to which targets. When you configure a SAN by using zoning, the devices outside a zone are not visible to the devices inside the zone.

Zoning has the following effects:

- Reduces the number of targets and LUNs presented to a host.
- Controls and isolates paths in a fabric.
- Can prevent non-ESXi systems from accessing a particular storage system, and from possibly destroying VMFS data
- Can be used to separate different environments, for example, a test from a production environment.

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc\\_50%2FGUID-E7818A5D-6BD7-4F51-B4BA-EF8F2D3A8357.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc_50%2FGUID-E7818A5D-6BD7-4F51-B4BA-EF8F2D3A8357.html)

**Soft and Hard zoning**

The fabric name service allows each device to query the addresses of all other devices. Soft zoning restricts only the fabric name service, to show only an allowed subset of devices. Therefore, when a server looks at the content of the fabric, it will only see the devices it is allowed to see. However, any server can still attempt to



contact any device on the network by address. In this way, soft zoning is similar to the computing concept of security through obscurity.

In contrast, hard zoning restricts actual communication across a fabric. This requires efficient hardware implementation (frame filtering) in the fabric switches, but is much more secure. As stated, modern switches will employ hard zoning when you implement soft.

[http://en.wikipedia.org/wiki/Fibre\\_Channel\\_zoning#Soft\\_and\\_Hard\\_zoning](http://en.wikipedia.org/wiki/Fibre_Channel_zoning#Soft_and_Hard_zoning)

#### QUESTION 25

What are two requirements when configuring a Fibre Channel SAN with an ESXi 5.x cluster? (Choose two.)

- A. RDMS must be zoned and masked to each ESXi 5 host in the cluster
- B. A FCP HBA or hardware supporting FCoE must be installed in the hosts
- C. Each LUN should contain only one NFS datastore.
- D. Each LUN must present a unique LUN ID to each ESXi hosts.

**Correct Answer:** AB

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

**"RDMS must be zoned and masked to each ESXi 5 host in the cluster": correct because yes, you have to Zone and mask to allow only the Hosts in that you want in.**

Zoning has the following effects:

- Reduces the number of targets and LUNs presented to a host.
- Controls and isolates paths in a fabric.
- Can prevent non-ESXi systems from accessing a particular storage system, and from possibly destroying VMFS data.
- Can be used to separate different environments, for example, a test from a production environment.

**"A FCP HBA or hardware supporting FCoE must be installed in the hosts": correct because yes you need HBAs to connect to the FC.**

"Each LUN should contain only one NFS datastore." is obviously wrong as the FS is VMFS not NFS

"Each LUN must present a unique LUN ID to each ESXi hosts. is wrong because: Page 37 of the vSphere storage guide says "For multipathing to work properly, each LUN must present the "same" LUN ID number to all ESXi hosts".

<http://pubs.vmware.com/vsphere-50/topic/com.vmware.ICbase/PDF/vsphere-esxi-vcenter-server-50-storage-guide.pdf>

#### QUESTION 26

Where must the VMware vSphere Storage Appliance Manager (VSA Manager) be installed?

- A. On a Windows virtual machine created on the first VSA host
- B. The VSA Manager is deployed as a separate virtual appliance

- C. On a vCenter Server outside of the VSA environment
- D. It is pre-installed on the VMware vSphere Storage Appliance

**Correct Answer:** C

**Section:** VSA

**Explanation**

**Explanation/Reference:**

#### **QUESTION 27**

Using the vSphere Storage Appliance (VSA) Manager to view the Appliances Status column, what are three valid states? (Choose three.)

- A. Degraded
- B. Connected
- C. Maintenance
- D. Online
- E. Offline

**Correct Answer:** ADE

**Section:** VSA

**Explanation**

**Explanation/Reference:**

#### **QUESTION 28**

A virtual machine requires a 4TB disk for application data. The storage administrator has already created and presented a 4TB LUN to an ESXi 5.x host. The host is currently configured with a single 500GB VMFS5 datastore. What is the next step the vSphere administrator must use to provision the data disk?

- A. Create a virtual compatibility mode RDM mapping to the 4TB LUN.
- B. Create a physical compatibility mode RDM mapping to the 4TB LUN.
- C. Expand the existing VMFS volume to 4TB. Create a physical compatibility mode RDM mapping to the 4TB LUN.
- D. Expand the existing VMFS volume to 4TB. Create a virtual compatibility mode RDM mapping to the 4TB LUN.

**Correct Answer:** B

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

You can use RDMs in virtual compatibility or physical compatibility modes. Virtual mode specifies full virtualization of the mapped device. Physical mode specifies minimal SCSI virtualization of the mapped device, allowing the greatest flexibility for SAN management software.

In virtual mode, the VMkernel sends only READ and WRITE to the mapped device. The mapped device appears to the guest operating system exactly the same as a virtual disk file in a VMFS volume. The real hardware characteristics are hidden. If you are using a raw disk in virtual mode, you can realize the benefits of VMFS such as advanced file locking for data protection and snapshots for streamlining development processes. Virtual mode is also more portable across storage hardware than physical mode, presenting the same behavior as a virtual disk file.

In physical mode, the VMkernel passes all SCSI commands to the device, with one exception: the REPORT LUNs command is virtualized so that the VMkernel can isolate the LUN to the owning virtual machine. Otherwise, all physical characteristics of the underlying hardware are exposed. Physical mode is useful to run SAN management agents or other SCSI target-based software in the virtual machine. Physical mode also allows virtual-to-physical clustering for cost-effective high availability.

**VMFS5 supports greater than 2TB disk size for RDMs in physical compatibility mode only.** The following restrictions apply:

You cannot relocate larger than 2TB RDMs to datastores other than VMFS5.

You cannot convert larger than 2TB RDMs to virtual disks, or perform other operations that involve RDM to virtual disk conversion. Such operations include cloning.

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc\\_50%2FGUID-4B2479B1-541D-4FF4-865E-2EE711294478.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc_50%2FGUID-4B2479B1-541D-4FF4-865E-2EE711294478.html)

**QUESTION 29**

Which two statements are true about shared storage capabilities on NFS datastores supported by ESXi 5.x? (Choose two.)

- A. You can create Fault Tolerant virtual machines
- B. You can mount up to 256 NFS datastores
- C. You can use VMware Storage APIs with all NFS datastores
- D. You can use Storage vMotion from a virtual-mode RDM

**Correct Answer:** AB

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:****NFS Features**

Up to 256 datastores

vMotion

DRS

Storage I/O control

FT

No RDM support

<https://blogs.vmware.com/vsphere/2012/02/storage-protocol-comparison-a-vsphere-perspective.html>

### QUESTION 30

A VMFS3 datastore has just been upgraded to VMFS5.

In what two ways does this affect the datastore? (Choose two.)

- A. The existing VMFS3 block size is retained.
- B. The block size will be changed to 8MB.
- C. Any existing VMDK can be expanded up to 2TB.
- D. VMDKs retain their size limit from the VMFS3 block size.

**Correct Answer:** AC

**Section:** Datastores

**Explanation**

#### **Explanation/Reference:**

If you upgrade to VMFS-5 from VMFS-3 then regardless of the block size, VMFS-5 uses double-indirect addressing to cater for large files (up to a size of 2 TB – 512 B) on upgraded VMFS-3 volumes. For example, if the VMDK goes beyond 512 GB it will switch to using double-indirect addressing, which will allow for VMDKs up to 2 TB – 512 B.

### QUESTION 31

When planning for an upgrade from vSphere4 to vSphere5 what will be the effect of upgrading a 1TB VMFS3 datastore with a 2MB block size to VMFS5?

- A. Thick virtual disks can be expanded to a maximum of 2TB.
- B. Thick virtual disks can be expanded to a maximum of 512GB .
- C. Thin virtual disks can be expanded to a maximum of 512GB .
- D. Thin virtual disks can be expanded to a maximum of 2TB.

**Correct Answer:** D

**Section:** Datastores

**Explanation**

#### **Explanation/Reference:**

**A thin disk can be expanded to a size greater than the VMFS size because it grows to the maximum size**, whereas a thick disk is set at that size and cannot be bigger than the VMFS.

When upgrading a VMFS datastore from VMFS-3 to VMFS-5, you can extend a datastore past “2TB minus 512B”. The caveat to upgrading a VMFS-3 datastore to VMFS-5 is that it will inherit the block size properties of the original VMFS-3 datastore.

If you upgrade to VMFS-5 from VMFS-3 then regardless of the block size, VMFS-5 uses double-indirect addressing to cater for large files (up to a size of “2TBminus 512B”) on upgraded VMFS-3 volumes. For example, if the VMDK goes beyond 512 GB it will switch to using double-indirect addressing, which will allow for VMDKs up to “2TB minus 512B”.

### **QUESTION 32**

What are two consequences of deleting a VMFS datastore from an ESXi 5.x host? (Choose two.)

- A. The datastore is inaccessible from all connected ESXi hosts.
- B. The datastore and all virtual machines are removed from the storage device.
- C. The datastore and all virtual machines remain on the storage device.
- D. The datastore is only removed from that specific ESXi host.

**Correct Answer:** AB

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

**Delete VMFS Datastores**

You can delete any type of VMFS datastore, including copies that you have mounted without resignaturing. When you delete a datastore, it is destroyed and disappears from all hosts that have access to the datastore.

NOTE The datastore delete operation permanently deletes all files associated with virtual machines on the datastore.

### **QUESTION 33**

What are two reasons to upgrade a virtual machine's hardware version? (Choose two.)

- A. Migrate a virtual machine from a VMFS3 datastore to a VMFS5 datastore.
- B. Add more than 4 NICs to a virtual machine.
- C. Add more than 8 vCPUs to a virtual machine.
- D. Increase the vRAM of the virtual machine to 512GB.

**Correct Answer:** CD

**Section:** VMs

**Explanation**

**Explanation/Reference:**

"Migrate a virtual machine from a VMFS3 datastore to a VMFS5 datastore." Incorrect. vSphere 5.x VMs can run on VMFS3 and VMFS5

"Add more than 4 NICs to a virtual machine". Incorrect. I believe this is a case of them using the word NIC instead of vNIC. A virtual machine knows nothing of a

physical NIC, only vNICs.

**"Add more than 8 vCPUs to a virtual machine."** Correct. Before hardware version 8, a maximum of 8 vCPUs could be assigned to a single VM.

**"Increase the vRAM of the virtual machine to 512GB."** Correct. Before hardware version 7, a maximum of 256 GB of vRAM could be assigned to a VM.

#### **QUESTION 34**

The Typical option is selected while running the New Virtual Machine Wizard in the vSphere Client. Which three specific configuration options are included during virtual machine creation? (Choose three.)

- A. Datastore location
- B. Virtual machine version
- C. Number of vCPUs
- D. Storage DRS
- E. Virtual disk size

**Correct Answer:** ADE

**Section:** VMs

**Explanation**

**Explanation/Reference:**

#### **QUESTION 35**

An administrator is creating a virtual machine that will be running Windows 2008 Enterprise (64-bit). The application to be installed in the virtual machine requires eight vCPUs to run effectively. During installation, the only available options are one, two, three, or four vCPUs. What condition explains the available vCPU selections?

- A. The virtual machine hardware version is 8.
- B. The guest operating system for the virtual machine is 64-bit.
- C. The ESXi host has two non hyperthreaded dual-core CPUs.
- D. The ESXi host has two hyperthreaded dual-core CPUs.

**Correct Answer:** C

**Section:** VMs

**Explanation**

**Explanation/Reference:**

Intel processors are powered with hyperthreading which will provide the virtual machine with 8 vCpus since the processor presents 8 logical cores

#### **QUESTION 36**

Windows virtual machines use a page file and Linux virtual machines use a swap partition for virtual memory. When you are determining the appropriate size for these, which file is affected?

- A. The .vmx file
- B. The .vswp file
- C. The service console swap partition
- D. The virtual disk size

**Correct Answer:** D

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

The .flat.vmdk file. This is the default large **virtual disk data file** that is created when you add a virtual hard drive to your VM that is not an RDM. When using thick disks, this file will be approximately the same size as what you specify when you create your virtual hard drive. Since both the Windows page file and Linux swap partition are located on the virtual disk, the -flat.vmdk file will be affected.

#### **QUESTION 37**

The page file for a Windows guest operating system or the swap partition for a Linux guest operating system is created by.

- A. the ESXi host
- B. the guest operating system
- C. vCenter server
- D. the VMFS datastore

**Correct Answer:** B

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

#### **QUESTION 38**

What is the size of a virtual machine .vswp file?

- A. The virtual machine .vswp file is equal to twice the amount of available memory configured for the virtual machine when it was created.
- B. The virtual machine .vswp file is equal to the amount of virtual memory (virtual machine available memory, plus virtual machine overhead) configured for the virtual machine when it was created.
- C. The virtual machine .vswp file is set to the amount of memory allocated minus any memory reservation.

D. The virtual machine .vswp file is equal to the amount of available memory in the ESXi server.

**Correct Answer:** C

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

Suppose we created a VM with 3GB vRAM and reserved 5GB vRAM for it. The swap file will be  $5\text{GB} - 3\text{GB} = 2\text{GB}$ .

**QUESTION 39**

An administrator is installing a Windows Server 2008 operating system into a virtual machine on an ESXi 5.x host. What are two valid SCSI adaptors for this installation? (Choose two.)

- A. Paravirtual SCSI
- B. LSI Logic SAS
- C. BusLogic SAS
- D. Broadcom SAS

**Correct Answer:** AB

**Section:** VMs

**Explanation**

**Explanation/Reference:**

**QUESTION 40**

Which network driver is not supported with virtual machine hardware version 8?



<http://www.gratisexam.com/>

- A. vmxnet 3
- B. Enhanced vmxnet
- C. vmxnet 2



D. E1000

**Correct Answer:** C

**Section:** VMs

**Explanation**

**Explanation/Reference:**

From my observation E1000, VMXNET 3 and VMXNET 2 (Enhanced) only appear when creating a new Windows 2008R2 VM.

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1001805](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1001805)

**QUESTION 41**

Which virtual disk types are supported on a network attached storage appliance using NFS with hardware acceleration disabled?

- A. Flat disk
- B. Raw Device Mappings
- C. Thick Provision Lazy Zeroed
- D. Thin Provision

**Correct Answer:** D

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

NFS datastores with Hardware Acceleration and VMFS datastores support the following disk provisioning policies: thick provision lazy/eager and thin.

**On NFS datastores that do not support Hardware Acceleration, only thin format is available.**

**QUESTION 42**

A database administrator has requested a disk for a virtual machine that will run an I/O intensive database application on an ESXi 5.x host. Which two disk types will best fit the needs of the application? (Choose two.)

- A. Raw Device Mapped Disk
- B. Thin Provisioned Disk
- C. Thick Provision Lazy Zeroed Disk
- D. Thick Provision Eager Zeroed Disk

**Correct Answer:** AD

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

I'm not sure about the RDM part of this but I'll leave the answer as is.

"Virtualization of I/O intensive applications is nothing new. Traditionally the virtualization of these applications involved provisioning raw-device mappings over virtual disk files, whether warranted or not. VMware has proven the performance of VMFS to be on par with that of raw-device mappings as far back as ESX 3.0.1 "

The three types of disk provisioning are described below:

**Thick provisioned lazy zeroed** – The virtual disk is allocated all of its provisioned space and immediately made accessible to the virtual machine. A lazy zeroed disk is not zeroed up front which makes the provisioning very fast. However, because each block is zeroed out before it is written to for the first time there is added latency on first write.

**Thick provisioned eager zeroed (Recommended for I/O intensive workloads)** – The virtual disk is allocated all of its provisioned space and the entire VMDK file is zeroed out before allowing the virtual machine access. This means that the VMDK file will take longer to become accessible to the virtual machine, but will not incur the additional latency of zeroing on first write. For this reason the recommendation when deploying an I/O intensive application on VMFS is to use this provisioning method.

**Thin provision** – This method provides quick access to the virtual disk and increases storage utilization by allocating disk space on demand.

<http://blogs.vmware.com/apps/2011/11/using-virtual-disks-for-business-critical-apps-storage.html>

## Exam F

### QUESTION 1

A database administrator has requested that a virtual disk attached to a virtual machine running an I/O intensive database application be fully provisioned. The virtual disk was initially thin provisioned. Which two methods would accomplish this task? (Choose two.)

- A. Use Storage vMotion and change the disk type to Flat.
- B. Use the Inflate option in the Datastore Properties.
- C. Use Storage vMotion and change the disk type to Thick Provisioned Lazy Zeroed.
- D. Use Storage vMotion and change the disk type to Thick Provisioned Eager Zeroed.

**Correct Answer:** BD

**Section:** Datastores

**Explanation**

#### Explanation/Reference:

As of ESXi 5 you have two choices: Storage vMotion and inflate. When initiating a Storage vMotion you have the option to choose any of the three options below and convert it. Eager zeroed is considered to be the best for intensive I/O applications.

#### Disk Types

**Thick Provision Lazy Zeroed** – Space required for virtual disk is allocated at creation time but the disk is zeroed out on demand when requested by the guest operating system (like a fast format in Windows). Fast creation, fully allocated blocks on datastore, high chance of contiguous file blocks.

**Thick Provision Eager Zeroed** – Space required for virtual disk is allocated at creation time and every sector of the disk is zeroed during disk creation. Slow creation, fully allocated blocks on datastore, highest chance of contiguous file blocks.

**Thin Provision** – Disk only uses as much space as it initially needs. Fastest creation, Allocated and zeroed out on demand, low chance of contiguous file blocks, uses less disk space

You can also turn a thin into thick by finding the flat file using the datastore browser and selecting inflate.

<http://blogs.vmware.com/apps/2011/11/using-virtual-disks-for-business-critical-apps-storage.html>

### QUESTION 2

Which two configuration settings can be modified when using the Typical option in the Create New Virtual Machine wizard? (Choose two.)

- A. Network Adapter type
- B. Datastore on which to place the virtual machine disks
- C. Number of Virtual CPUs
- D. Guest Operating System

**Correct Answer:** BD

## Section: VMs

### Explanation

#### Explanation/Reference:

For a **Typical configuration**, verify that you have the following information:

- Virtual machine name and inventory location.
- Location in which to place the virtual machine (cluster, host, resource pool).
- Datastore on which to store the virtual machine's files.
- Guest operating system and version.
- Parameters for the virtual disk size and provisioning settings

In addition to the information for a Typical configuration, for a **Custom configuration**, verify that you have the following information:

- Virtual machine version.
- Number of CPUs and memory size.
- Number of NICs, network to connect to, and network adapter types.
- SCSI controller type.
- Disk type (new disk, existing disk, RDM, or no disk)

Page 32, 33 of <http://pubs.vmware.com/vsphere-50/topic/com.vmware.ICbase/PDF/vsphere-esxi-vcenter-server-50-virtual-machine-admin-guide.pdf>

### QUESTION 3

A virtual machine is using a Fibre Channel attached RDM LUN. Which three use cases would necessitate a RDM? (Choose three.)

- A. VMware snapshots
- B. NPIV
- C. Physical server-to-virtual machine clustering
- D. Distributed file locking
- E. SAN management agents

**Correct Answer:** BCE

### Section: Shared Storage

#### Explanation

#### Explanation/Reference:

Fibre Channel: Physical RDM: Physical features.

### QUESTION 4

What are two benefits of physical compatibility mode for RDMs, as compared to virtual compatibility mode? (Choose two.)

- A. Allows the use of SAN-aware applications
- B. Allows for cloning
- C. Allows the VM to access SAN hardware directly
- D. Allows for template creation of the related virtual machine

**Correct Answer:** AC

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

Physical RDM = physical features

Virtual RDM = VMware features

#### **QUESTION 5**

What is the recommended maximum memory value that is displayed when configuring a virtual machine based upon?

- A. The amount of memory in the ESXi host
- B. The threshold needed for the ESXi host to satisfy a reservation value
- C. The maximum value the guest operating system supports
- D. The maximum recommended by the OS manufacturer.

**Correct Answer:** A

**Section:** VMs

**Explanation**

**Explanation/Reference:**

#### **QUESTION 6**

What reasons would prevent an administrator from deploying a virtual machine from a template? (Choose two.)

- A. The template is missing the .vmx configuration file.
- B. The vSphere Client is connected to an ESXi host.
- C. The template is listed as Orphaned.
- D. The administrator is using the vSphere Web Client.

**Correct Answer:** BC

## Section: Clones and Templates

### Explanation

#### Explanation/Reference:

You can only work with templates through vCenter.

In vCenter Server, you may find that you have a virtual machine that has an orphan designation or has become invalid. An orphan virtual machine is one that exists in the vCenter Server database but is no longer present on the ESX host. A virtual machine also shows as orphaned if it exists on a different ESX host than the ESX host expected by vCenter Server.

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1003742](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1003742)

### QUESTION 7

Why is converting a virtual machine to a template significantly faster than creating a clone of the virtual machine?

- A. Making a clone creates a linked-mode virtual disk.
- B. Making a clone creates a full copy of the VMDK file.
- C. Making a clone only creates a copy of the .vmx file.
- D. The template conversion has low priority on the system CPU.

**Correct Answer: B**

## Section: Clones and Templates

### Explanation

#### Explanation/Reference:

### QUESTION 8

When memory is overcommitted, which two values can an administrator vary to increase the amount of physical memory granted to a given virtual machine? (Choose two.)



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- A. Idle Memory Tax
- B. Shares
- C. VMMEMCTL
- D. Memory Reservation

**Correct Answer:** BD

**Section:** VMs

**Explanation**

**Explanation/Reference:**

#### **QUESTION 9**

In the vSphere Client, the Resource Allocation tab for virtual machines displays host memory and guest memory. Which two statements best describe these terms? (Choose two.)

- A. Guest memory is the amount of physical memory that has been allocated to a virtual machine.
- B. Host memory is the amount of physical memory that has been allocated to a virtual machine.
- C. Guest memory is the memory usage of a virtual machine.
- D. Host memory includes VM overhead.

**Correct Answer:** CD

**Section:** VMs

**Explanation**

**Explanation/Reference:**

#### **QUESTION 10**

An administrator wants to reduce the amount of memory overhead required by a virtual machine. What two options below could be used to accomplish that task? (Choose two.)

- A. Reduce the amount of memory configured for the VM.
- B. Reduce the memory reservation for the VM.
- C. Reduce the memory shares for the VM.
- D. Reduce the number of vCPUs VM.

**Correct Answer:** AD

**Section:** VMs

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 11**

An administrator has configured a virtual machine using the Emulate IDE mode for the DVD drive. Using the vSphere Client from a remote PC, an administrator wants to connect to a virtual machine and burn a DVD, but is getting error messages in the disk burning application. What must the administrator do to fix this issue?

- A. The administrator must use the host DVD drive.
- B. A DVD cannot be burned from within a virtual machine.
- C. The administrator must change the DVD mode to Passthrough IDE.
- D. The administrator must click the Writer checkbox in the DVD settings.

**Correct Answer: C**

**Section: VMs**

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 12**

What two statements regarding the VSWP file are true? (Choose two.)

- A. The VSWP file is equal to the memory allocation.
- B. The VSWP file size is equal to the memory reservation.
- C. The VSWP file size is equal to the difference between the memory assigned and reservation.
- D. No VSWP file is created if reserved memory to the same value as allocated memory.

**Correct Answer: CD**

**Section: Datastores**

## **Explanation**

### **Explanation/Reference:**

If you make reservations for your virtual machine's that are equal to the amount of RAM assigned to them, swapping and page sharing does not occur. You can over commit pretty heavily if you are comfortable with poorer performance. If you do not set reservations, ESX host creates a .vswp file equal to the difference between the amount of physical memory assigned to the virtual machine and the reservation it has.

By default, memory reservations are set to 0. If you have a virtual machine with 2GB of memory without a reservation, it creates a 2GB .vswp file when it is powered



on. The virtual machine starts using the .vswp file if the server is out of physical RAM. If you set a 1GB reservation, it creates a 1GB .vswp file. The .vswp files are what allows for memory over-commitment

### **QUESTION 13**

What type of failure is VMware Fault Tolerance designed to protect against?

- A. A failure on the ESXi host running the primary virtual machine
- B. A failure on an application within the primary virtual machine
- C. Loss of storage connectivity to the primary virtual machine
- D. An operating system failure on the primary virtual machine

**Correct Answer:** A

**Section:** Fault Tolerance

**Explanation**

**Explanation/Reference:**

### **QUESTION 14**

An administrator has discovered a failure that has affected network connectivity on the management network of a vSphere HA cluster. As a result, half of the hosts in the cluster are able to communicate with each other but not the other half. The cluster was configured with default settings. What happens as a result of the failure?

- A. The VMs will be powered off on slave hosts in the cluster.
- B. All VMs and hosts in the cluster are unaffected.
- C. The VMs are unaffected, a second master will be elected.
- D. The VMs will be powered down on all hosts in the cluster.

**Correct Answer:** C

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

### **QUESTION 15**

Under which two conditions is a master elected by vSphere HA? (Choose two.)

- A. When any cluster is created

- B. When a host is placed into maintenance mode
- C. When the datastore configuration changes
- D. When "Reconfigure for vSphere HA" is executed

**Correct Answer:** BD

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

#### **QUESTION 16**

A virtual machine failure occurs in a vSphere HA cluster, but the VM is not restarted. No error messages are given. Which two conditions would explain this behavior? (Choose two.)

- A. Monitoring sensitivity was set to Low.
- B. Application Monitoring Only was selected.
- C. The virtual machine has failed three times.
- D. The HA cluster was set up with all defaults.

**Correct Answer:** CD

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

#### **QUESTION 17**

An administrator is configuring a stretched HA cluster. The administrator wishes to restrict the failover of VMs to certain hosts within a given site. Which additional vSphere feature satisfies this requirement?

- A. vSphere Distributed Switch
- B. Distributed Resource Scheduler
- C. Datastore Clusters
- D. Host Folders

**Correct Answer:** B

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

**QUESTION 18**

What are three use cases for vSphere Fault Tolerance? (Choose three.)

- A. Provide guaranteed up-time for a RDM enabled virtual machine
- B. Provide efficient scheduled reliability for a payroll virtual machine
- C. Provide guaranteed reliability for a development virtual machine with scheduled snapshots
- D. Provide guaranteed reliability for a legacy Windows NT virtual machine
- E. Ensure up-time for a Linux virtual machine without making any changes to the OS

**Correct Answer:** BDE

**Section:** Fault Tolerance

**Explanation**

**Explanation/Reference:**

**QUESTION 19**

Which two vSphere features can be used with virtual machines that are enabled for VMware Fault Tolerance? (Choose two.)

- A. EVC
- B. Storage vMotion
- C. RDMS in virtual compatibility mode
- D. VMware Virtual SMP

**Correct Answer:** AC

**Section:** Fault Tolerance

**Explanation**

**Explanation/Reference:**

**What are Requirements and Limitations for Virtual Machine to Enable FT ?**

1. FT protected virtual machine should be running on the supported Guest operating system
2. FT protected virtual machine's guest operating system and processor combination must be supported by Fault Tolerance. Please refer VMware Site for Supported Guest OS and CPU combination

3. Physical RDM is not supported for FT protected virtual machines but **virtual mode RDM is supported**
4. FT protected virtual machine should have eager zeroed thick disks. Virtual machine with thin provisioned disk will be automatically converted to thick disk, while enabling FT for the virtual machine. Make sure enough free space is available in the datastore for this operation.
5. SMP (symmetric multiprocessing) is not supported. Only 1 vCPU per virtual machine is allowed.
6. Only 64 GB of maximum RAM is allowed for the FT VM's.
7. Hot add and remove devices are not allowed for FT protected VM's.
8. NPIV is not supported for FT VM's.
9. USB Passthrough and VMDirectPath should not be enabled for FT VM's and it is not supported.
10. USB and Sound devices are not supported for FT VM's.
11. Virtual Machine snapshot is not supported for FT protected VM's. FT virtual Machines cannot be backed up using the backup technology like (VCB, vmware data recovery), which uses snapshot feature.
12. Virtual machine hardware version should be 7 and above
13. Paravirtualized Guest OS and paravirtualized scsi adapter for FT protected virtual machine is not supported.
14. Windows Guest OS should not be using MSCS (Microsoft Cluster services) to Protect the Virtual Machine using FT.
15. FT Protected virtual machines should not be HA disabled by Virtual Machine level HA settings.
16. FT protected virtual machines cannot be migrated using SvMotion. If want to migrate FT protected virtual machine, disable the FT on the VM, Migrate the VM using SvMotion and re-enable the FT.
17. IPv6 is not supported by VMware HA so, it is not supported for FT.

<http://virtualizationisfuture.blogspot.no/2013/05/all-about-fault-tolerance.html>

#### **QUESTION 20**

ACME Anvil Incorporated has several departments which each have unique resource requirements in their environment:

1. The Manufacturing department has ten production virtual machines.
2. The Development department has two test/dev virtual machines.

3. The Manufacturing virtual machines have only CPU reservations.
4. No Development virtual machine should be able to use more resources than any Manufacturing virtual machine requests.
5. Manufacturing department virtual machines must always be able to power on.

Resource Pools will be used to address these requirements. When creating the "Manufacturing" and "Development" pools, which settings should be part of the configuration to meet the stated requirements? (Choose two.)

- A. Enable Expandable Reservation on Memory Resources on the Manufacturing pool
- B. Set a reservation for CPU Resources on the Manufacturing resource pool
- C. Create a required Group Rule to ensure Development virtual machines always run on the Development host
- D. Ensure the shares set on the Manufacturing pool are at least five times the shares set on the Development pool

**Correct Answer:** BD

**Section:** Resource Pools

**Explanation**

**Explanation/Reference:**

#### **QUESTION 21**

The VMware vCenter Server Appliance has been deployed using default settings. What user name and password are used to log in to the administration interface to configure the appliance?

- A. The initial user name and password must be supplied on the first login attempt.
- B. The initial user name and password must be supplied during deployment.
- C. The initial user name is root and the password is blank.
- D. The initial user name is root and the password is vmware.

**Correct Answer:** D

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 22**

What are two consequences of deleting an VMFS datastore from an ESXi host? (Choose two.)

- A. The datastore is inaccessible from all connected ESX/ESXi hosts.

- B. The datastore and all virtual machines are removed from the storage device.
- C. The datastore and all virtual machines remain on the storage device.
- D. The datastore is only removed from that specific ESX/ESXi host.

**Correct Answer:** AB

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

### **QUESTION 23**

How is the page file for a Windows guest operating system or the swap partition for a Linux guest operating system created?

- A. By the ESXi host
- B. By the guest operating system
- C. By the vCenter server
- D. By the vCenter cluster

**Correct Answer:** B

**Section:** VMs

**Explanation**

**Explanation/Reference:**

### **QUESTION 24**

When deploying an OVF template, what file format will the resulting virtual disk be?

- A. OVF
- B. VMDK
- C. VMX
- D. VSWP

**Correct Answer:** B

**Section:** Clones and Templates

**Explanation**

**Explanation/Reference:**

**QUESTION 25**

What is an accurate statement about vSphere Fault Tolerant secondary virtual machines?

- A. Cannot be stored on an NFS datastore
- B. Created on the same host as the primary
- C. Can prevent other virtual machines from powering up.
- D. Can be used for load balancing

**Correct Answer:** C

**Section:** Fault Tolerance

**Explanation**

**Explanation/Reference:**

The secondary VM might exceed the vRAM allocation.

**QUESTION 26**

Which two solutions require Raw Device Mapping using virtual compatibility mode? (Choose two.)

- A. Array-based snapshots
- B. Virtual machine snapshots
- C. Move the data using Storage vMotion
- D. SAN management agents

**Correct Answer:** BC

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

Virtual mode: virtual stuff. No physical or array features supported.

**QUESTION 27**

Which scenario requires an additional database server when adding vSphere Update Manager 5 to an environment?

- A. vCenter Appliance (vCSA) with an external Oracle database
- B. vCenter Application with the default database
- C. vCenter Application with an external SQL 2008 Enterprise database
- D. vCenter Appliance (vCSA) with an external DB2 database

**Correct Answer:** B

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

vCenter Server Appliance 5.x supports Oracle as an external database. It does not support Microsoft SQL Server or IBM DB2 as an external database.

[http://kb.vmware.com/selfservice/microsites/search.do?cmd=displayKC&docType=kc&docTypeID=DT\\_KB\\_1\\_1&externalId=2005086](http://kb.vmware.com/selfservice/microsites/search.do?cmd=displayKC&docType=kc&docTypeID=DT_KB_1_1&externalId=2005086)

*So A could be right and D is wrong but the question asks for an additional database server.*

The Update Manager server requires SQL Server or Oracle database. Update Manager can handle small-scale environments using the bundled SQL Server 2008 R2 Express. For environments with more than 5 hosts and 50 virtual machines, create either an Oracle or a SQL Server database for Update Manager. For large scale environments, you should set up the Update Manager database on a different computer than the Update Manager server and the vCenter Server database.

[http://pubs.vmware.com/vsphere-51/index.jsp#com.vmware.vsphere.update\\_manager.doc/GUID-0F3FC3B9-EA82-40F6-9D56-0C0EEB256942.html](http://pubs.vmware.com/vsphere-51/index.jsp#com.vmware.vsphere.update_manager.doc/GUID-0F3FC3B9-EA82-40F6-9D56-0C0EEB256942.html)

*C would be supported but the question asks for an additional database server so B must be correct.*

#### **QUESTION 28**

To prevent non-ESXi hosts from seeing VMFS datastores, which would be the most efficient place to configure LUN masking?

- A. On the ESXi host
- B. On the SAN Storage Device
- C. On the non-ESXi hosts
- D. On the Fibre Channel Switch

**Correct Answer:** B

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

Zoning and Lun Masking are often confused for each other probably because both of them are used to restrict access to storage. If you want to specify only certain hosts from accessing a storage device then you would want to setup zoning. **Once the zoning is done, we can further lock down access to the storage by setting up LUN (Logical Unit Number) Masking on the storage device.**

<http://theithollow.com/2012/03/lun-masking-vs-zoning/>

#### **QUESTION 29**

A storage array containing a VMFS datastore must be taken offline for maintenance. What can be done to avoid virtual machine downtime on VMs running in this datastore?



- A. Clone the virtual machines to a VMFS datastore on a different storage array.
- B. Use Site Recovery Manager to failover the virtual machines on the storage array to the recovery site.
- C. Use vSphere HA to failover the virtual machines to ESX Servers attached to a different storage array.
- D. Use Storage VMotion to migrate the virtual machines to a VMFS datastore on a different storage array.

**Correct Answer:** D

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

### QUESTION 30

You are running into disk contention problems on a VMFS datastore. Which two actions will resolve this problem? (Choose two.)

- A. Adjust disk shares for all virtual machines accessing this datastore from the same ESXi host
- B. Move some of the virtual machines from this VMFS datastore to another datastore on a different LUN
- C. Adjust disk shares for each ESXi host accessing this datastore.
- D. Move some of the virtual machines from this VMFS datastore to another datastore on the same LUN.

**Correct Answer:** AB

**Section:** Datastores

**Explanation**

**Explanation/Reference:**

Disk shares are set at the virtual machine level and can be used to prioritize access to the datastore. However, if contention is severe enough some virtual machines may need to be moved to an alternate datastore. Move some of the virtual machines from this VMFS datastore to another datastore on a different LUN. Moving these virtual machines to a datastore on the same LUN would not relieve contention.

### QUESTION 31

What is true about transparent memory page sharing?

- A. It will not share more than 65% of a VMs memory.
- B. It must be enabled on each host
- C. It is enabled by default
- D. It cannot be disabled.

**Correct Answer:** C

**Section:** VMs

## Explanation

### Explanation/Reference:

Transparent Page Sharing is a process executed frequently by the VMkernel that scans physical memory to identify redundant virtual machine memory pages. When a match is found, the physical page is marked read-only. The VMkernel removes the duplicate page from physical RAM and the page table is adjusted to redirect the virtual machine's virtual page back to the read-only page in physical RAM. This mechanism results in increasing memory that is shared among running virtual machines over time. It is enabled by default.

### QUESTION 32

Which CHAP authentication mechanisms are only available when using software and dependent hardware iSCSI adapters (Choose Two)?

- A. Mutual CHAP
- B. Per-subnet CHAP
- C. Per-target CHAP
- D. One-way CHAP

**Correct Answer:** AC

**Section:** Shared Storage

### Explanation

### Explanation/Reference:

Key word is *only* as one way chap is supported on both independent and dependent adapters.

#### Per-target CHAP

For software and dependent hardware iSCSI adapters, ESXi also supports per-target CHAP authentication, which allows you to configure different credentials for each target to achieve greater level of security.

#### Mutual CHAP

In mutual CHAP authentication, also called bidirectional, an additional level of security enables the initiator to authenticate the target. VMware supports this method for software and dependent hardware iSCSI adapters only.

### QUESTION 33

An administrator must perform maintenance on a fibre channel switch connected to vmhba2 on an ESXi host. The ESXi host has been configured with the Fixed policy, and the preferred path will be impacted by the maintenance event. Which procedure is the least disruptive option that can be taken to prepare for the maintenance event?

- A. Change the policy on the ESXi host to MRU for the duration of the maintenance event
- B. Use the vSphere Client to disable the path impacted by the maintenance event
- C. Unplug the FC cable from vmhba2 for the duration of the maintenance event
- D. Unplug the FC cable from the Storage Processor port on the FC array for the duration of the maintenance event

**Correct Answer:** B

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

When maintenance must be performed on hardware connected to an ESX host, the path undergoing maintenance can be disabled using the vSphere Client for the duration of the maintenance event.

**QUESTION 34**

Which of the following ports is not required by vCenter Server?

- A. 80
- B. 902
- C. 25
- D. 443

**Correct Answer:** C

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

TCP 25 is used by SMTP.

**QUESTION 35**

Which feature allows a running virtual machine to be moved from one ESXi host to another without interruption?

- A. Storage VMotion
- B. HA
- C. Cold Migration
- D. VMotion

**Correct Answer:** D

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

VMotion is used to move a virtual machine to another host without interruption.

Storage VMotion moves a virtual machine's disks to another storage location. The virtual machine remains on the same server during this operation.

**QUESTION 36**

When is the page file for a Windows guest operating system or the swap partition for a Linux guest operating system created?

- A. When the guest operating system is installed on the virtual machine
- B. When a reservation is set for the virtual machine
- C. When the virtual machine is created
- D. When the virtual machine is first powered on

**Correct Answer:** A

**Section:** VMs

**Explanation**

**Explanation/Reference:**

**QUESTION 37**

When defining a NIC team (bond) on an vNetwork Standard Switch, it is possible to designate some of the physical NICs that make up the bond as "standby" NICs. Which statement most accurately describes the purpose of a standby NIC?

- A. Used to implement traffic shaping for the rest of the team.
- B. Used only in the case of the failure of other NICs in the team.
- C. Not used as part of the team until activated by the administrator.
- D. Used only when network traffic exceeds the capacity of the rest of the team.

**Correct Answer:** B

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

**QUESTION 38**

An ESXi host is configured to access an iSCSI target using CHAP authentication. What happens to the access if CHAP is disabled on the ESXi host?

- A. Access is unaffected until the CHAP is disabled at the iSCSI target
- B. Access is immediately removed
- C. Access is unaffected until either the ESXi host or the iSCSI Array are restarted
- D. Access is removed on the next rescan

**Correct Answer:** C

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

[http://www.vmware.com/pdf/vsphere4/r41/vsp\\_41\\_iscsi\\_san\\_cfg.pdf](http://www.vmware.com/pdf/vsphere4/r41/vsp_41_iscsi_san_cfg.pdf)

**iSCSI SAN Configuration Guide, page 47.**

Disable CHAP

You can disable CHAP if your storage system does not require it.

If you disable CHAP on a system that requires CHAP authentication, existing iSCSI sessions remain active until you reboot your ESX/ESXi host or the storage system forces a logout. After the session ends, you can no longer connect to targets that require CHAP.

### **QUESTION 39**

An administrator finds that the Hardware Status tab is unavailable when an ESXi host is selected in vCenter Server. Which two steps could be taken to investigate the issue? (Choose two.)

- A. Check the status of the CIM Data Feed in vCenter Service Status
- B. Check the status of the vCenter Hardware Service in the Windows Services applet
- C. Check the status of the vCenter Hardware Service in the Plug-in Manager
- D. Check the status of the CIM Data Feed on the ESXi host

**Correct Answer:** AC

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

Hardware health information for ESX Hosts is provided in vCenter Server using the vCenter Hardware Service. This service does not show up in the Windows Services applet, but the status can be checked in the Plug-in Manager. The service relies on a CIM Data Feed from the ESX Host, the status of which can be checked in vCenter Service Status.

### **QUESTION 40**

What protocol is used by an ESXi host to communicate with NAS devices?

- A. iSCSI
- B. CIFS
- C. NFS
- D. SMB

**Correct Answer:** C

**Section: Shared Storage**

**Explanation**

**Explanation/Reference:**

Many NAS devices support CIFS, SMB and NFS for file shares. **However, NFS is the only supported protocol for ESX.**

**QUESTION 41**

An administrator is configuring iSCSI for use with a vSphere environment. Which networking feature should be configured on the ESXi host to improve iSCSI performance?

A. Jumbo Frames



<http://www.gratisexam.com/>

B. NetQueue

C. EtherChannel

D. PortFast

**Correct Answer: A**

**Section: Shared Storage**

**Explanation**

**Explanation/Reference:**

- **Jumbo Frames** can be used on a VMkernel port to allow for larger data payloads in fewer packets. Jumbo Frames can provide improved performance for IP-based storage and should be enabled when configuring an ESX Host for iSCSI. Jumbo Frames can be used on a VMkernel port to allow for larger data payloads in fewer packets.
- EtherChannel is a Cisco feature that is used for switch-assisted load balancing. As such it is configured on the physical switch and is not an option that is configured on an ESX Host.
- NetQueue can be configured on an ESX Host to take advantage of multiple receive queues to improve receive-side networking performance. It is enabled by default and does not require configuration.
- PortFast is a Cisco feature that is used with Spanning Tree Protocol (STP). As such it is configured on the physical switch.

**QUESTION 42**

What is the maximum number of VMkernel swap files that an ESXi host can have on a single VMFS volume?

- A. 1
- B. VMkernel swap files must be stored locally on the ESXi host
- C. 1 per virtual machine
- D. 1 per virtual disk

**Correct Answer: C**  
**Section: Datastores**  
**Explanation**

**Explanation/Reference:**

Configuration Maximums VMware vSphere 4.0 and vSphere 4.0 Update 1, page 5.

Memory Maximums

Table 4. Memory Maximums

Item Maximum

Swap files 1 per virtual machine

**QUESTION 43**

What is the size of a virtual machine .vswp file if defaults are accepted for the virtual machine reservations, limits, and shares?

- A. The virtual machine. vswp file is equal to twice the amount of available memory configured for the virtual machine when it was created.
- B. The virtual machine. vswp file is equal to the amount of virtual memory (virtual machine available memory, plus virtual machine overhead the virtual machine when it was created.
- C. The virtual machine. vswp file is equal to zero length when the virtual machine is created and expands as necessary
- D. The virtual machine. vswp file is equal to the amount of available memory configured for the virtual machine when it was created.

**Correct Answer: D**  
**Section: VMs**  
**Explanation**

**QUESTION 44**

What is the proper LUN Masking configuration for LUNs presented to an ESX Host when using the Boot from SAN option?

- A. The Boot LUN should be masked so that only one ESX Host can see the LUN, while the datastore LUNS should be masked so that all ESX Hosts can see the LUNs
- B. The Boot LUN and datastore LUNS should be masked so that all ESX Hosts can see the LUNs
- C. The Boot LUN should be masked so that all ESX Hosts can see the LUN, while the datastore LUNS should be masked so that only one ESX Host can see the LUNs
- D. The Boot LUN and datastore LUNS should be masked so that only one ESX Host can see the LUNs

**Correct Answer:** A  
**Section:** Shared Storage  
**Explanation**

**Explanation/Reference:**



## Exam G

### QUESTION 1

At which two levels can blocking policies be applied on a vNetwork Distributed Switch? (Choose two.)

- A. Virtual Adapter
- B. dvUplink
- C. dvPort Group
- D. Physical Adapter

**Correct Answer:** BC

**Section:** Distributed Switches

**Explanation**

**Explanation/Reference:**

Port blocking policies can only be applied to a vNetwork Distributed Switch. They can be applied to dvPorts/dvPort Groups and to dvUplinks/ dvUplink Groups

<http://pubs.vmware.com/vsphere-51/topic/com.vmware.ICbase/PDF/vsphere-esxi-vcenter-server-51-networking-guide.pdf>

### QUESTION 2

A company has been utilizing templates in its environment. It is running a 10-node ESXi 5.x Cluster and DRS has not been configured. Several virtual machines have been deployed from this template and successfully powered on, but a newly deployed virtual machine will not power on. There appears to be adequate CPU and Memory resources available on the host. Which three things can be done to allow more virtual machines to be deployed into the cluster from this template? (Choose three.)

- A. Deploy the virtual machine to a different host using the same datastore
- B. Enable DRS on the cluster to balance the virtual load out across hosts
- C. Increase the virtual machine memory reservation
- D. Move the swap file to a different location
- E. Select a different datastore for the virtual machine

**Correct Answer:** CDE

**Section:** Clones and Templates

**Explanation**

**Explanation/Reference:**

If you make reservations for your virtual machine's that are equal to the amount of RAM assigned to them, swapping and page sharing does not occur. You can over commit pretty heavily if you are comfortable with poorer performance. If you do not set reservations, ESX host creates a .vswp file equal to the difference between the amount of physical memory assigned to the virtual machine and the reservation it has. By default, memory reservations are set to 0. If you have a

virtual machine with 2GB of memory without a reservation, it creates a 2GB .vswp file when it is powered on. The virtual machine starts using the .vswp file if the server is out of physical RAM. If you set a 1GB reservation, it creates a 1GB .vswp file. The .vswp files are what allows for memory overcommitment.

### QUESTION 3

Which functionality does vSphere HA provide?

- A. Automatic restart of virtual machines
- B. Automatic balancing of server workloads
- C. High availability of ESXi hosts in a cluster
- D. Zero downtime for virtual machines

**Correct Answer:** A

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

### QUESTION 4

Which three Path Selection Policies are supported by default in vSphere? (Choose three.)

- A. MRU (Most recently used)
- B. Round Robin
- C. Fixed
- D. Least I/O
- E. Least Busy

**Correct Answer:** ABC

**Section:** Switch Policies

**Explanation**

**Explanation/Reference:**

### QUESTION 5

You have a Windows 2003 Server virtual machine (VM) that is experiencing performance problems. Task Manager displays the following information:

CPU Usage: 85%

Memory Available: 3 GB  
Network Utilization: 25%  
Center Server displays this additional information:  
ESXi host CPU Utilization: 60%  
VMkernel Swap Activity: None  
Average Network Usage: 900 Mbps

What is the most likely cause for the performance problems?

- A. The VM is CPU constrained.
- B. The ESXi host is CPU constrained.
- C. The ESXi host NIC is being over utilized.
- D. The ESXi host needs more memory installed.

**Correct Answer: C**

**Section: Troubleshoot Hosts**

**Explanation**

**Explanation/Reference:**

vCenter reports 60% utilization on the ESX Server, so there are available CPU resources. vCenter also shows a very high network utilization, which is the more likely cause in this scenario.

#### **QUESTION 6**

An administrator wants to restrict the ability of selected administrators to install plug-ins in their vSphere Client applications. Which action should the administrator perform?

- A. Modify permissions for the administrators and add the Disable Methods privilege.
- B. Modify permissions for the administrators and add the Validate Session privilege.
- C. Modify permissions for the administrators and remove the CIM Interaction privilege.
- D. Modify permissions for the administrators and remove the Register Extension privilege.

**Correct Answer: D**

**Section: Security**

**Explanation**

**Explanation/Reference:**

vSphere Basic System Administration vCenter Server 4.0 ESX 4.0 ESXi 4.0, page 302.  
Extensions privileges control the ability to install and manage extensions

Table A-6. Extension Privileges

Privilege Name Description  
Register extension Registers an extension (plug-in)

### **QUESTION 7**

Which condition produces a warning message but will allow a VMotion migration to proceed?

- A. A virtual machine has an active connection to the ESXi host's CD-ROM drive
- B. A virtual machine has a CPU affinity set to run on a specific CPU.
- C. A virtual machine is in an MSCS Cluster relationship with another virtual machine
- D. A virtual machine is configured to use an internal virtual switch but is not connected to the switch

**Correct Answer:** D

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

### **QUESTION 8**

An administrator finds that an ESXi host cannot be managed by vCenter Server. Which three logs can be reviewed using the DCUI? (Choose three.)

- A. The ESXi shell logs
- B. The HA agent logs
- C. The management agent log
- D. The vmkernel log
- E. The VMware ESXi Observation log

**Correct Answer:** CDE

**Section:** ESXi

**Explanation**

**Explanation/Reference:**

**Log view options**

- 1 Syslog
- 2 vmKernel
3. Config
- 4 Management Agent (hostd)
- 5 VirtualCenter Agent (VPXA)

## 6 VMware ESXi Observation log (vobd)

### QUESTION 9

Which two actions have no effect on the amount of physical memory resources used for virtualization overhead? (Choose two.)

- A. Installing a 64-bit versus 32-bit operating system.
- B. Increasing the amount of RAM in the virtual machine.
- C. Increasing the number of virtual CPUs in the virtual machine.
- D. Increasing the memory shares for the virtual machine.

**Correct Answer:** AD

**Section:** ESXi

**Explanation**

#### **Explanation/Reference:**

Increasing the number of virtual CPUs in the virtual machine.

Explanation: Increasing the number of virtual CPUs in the virtual machine will increase the overhead for the virtual machine. Adjusting memory share values affects priority access to resources when contention exists, but does not increase or decrease a virtual machine's overhead. Operating System architecture affected memory overhead in earlier generations of ESX, but does not impact overhead in vSphere 4.x

### QUESTION 10

Which memory conservation technique allows the secure elimination of redundant copies of memory pages between virtual machines on the host?

- A. VMkernel Swap
- B. Memory Balloon Driver
- C. RAM Overcommit
- D. Transparent Page Sharing

**Correct Answer:** D

**Section:** ESXi

**Explanation**

#### **Explanation/Reference:**

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1021095](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1021095)

Transparent page sharing is a method by which redundant copies of pages are eliminated. This helps to free memory that a virtual machine would otherwise be using. Because of the way TPS works with hardware-assisted memory virtualization systems like Intel EPT Hardware Assist and AMD RVI Hardware Assist, esxstop may show zero or few shared pages in these systems. Page sharing will show up in esxstop only when host memory is overcommitted. The rest of this article provides background and details.

### QUESTION 11

An administrator determines that a virtual machine configured for the Development port group lost network connectivity when it was migrated with vMotion from one ESXi 5.x host to another. The administrator notices that machines configured for the Production port group are not experiencing the issue. The hosts have port groups with the following network configuration:

Host A:

1. Production (VLAN 100)
2. Development

Host B:

1. Production (VLAN 100)
2. Development (VLAN 200)

Which two conditions would explain the loss of network connectivity for the virtual machine? (Choose two.)

- A. The configured VLAN for Production on Host A is incorrect.
- B. The configured VLAN for Development on Host B is incorrect.
- C. An improper native VLAN is configured on the uplinks to Host A.
- D. An improper native VLAN is configured on the uplinks to Host B.

**Correct Answer:** BC

**Section:** Networking

**Explanation**

**Explanation/Reference:**

In order to successfully migrate a vm using vMotion you must have identical network setup on both hosts.

We have only one VLAN WHICH IS THE SAME ON BOTH HOSTS which is the Production (VLAN 100).

- The Development VLAN is the problem because it is configured on Host B but not on Host A.
- Since you can't guess which is the correct setup for the Development (with or without VLAN 200) the answer must be B and C is because **untagged VLANs are usually taken as native VLANS** and it means that the native on the A switch is not set properly

### QUESTION 12

An administrator is setting up vMotion in a vSphere environment. A migration is run to test the configuration, but fails. On which vSphere component does vMotion need to be enabled?

- A. vCenter Server
- B. Virtual Machine port group
- C. VMkernel port group

D. vNetwork Standard Switch

**Correct Answer: C**

**Section: Clusters**

**Explanation**

**Explanation/Reference:**

### **QUESTION 13**

An administrator notices that when a virtual machine is placed into a resource pool, a warning indicates that the virtual machine will receive a very large percentage of the total shares for memory. Which action can be taken to resolve this problem?

- A. Increase the memory resource allocation to the resource pool.
- B. Increase the share value for the resource pool.
- C. Change the shares setting from custom to high, medium, or low for the virtual machine.
- D. Decrease the memory allocation for the virtual machine.

**Correct Answer: C**

**Section: Resource Pools**

**Explanation**

**Explanation/Reference:**

The Memory Resources panel lets you allocate memory resources for a virtual machine and specify reservations, limits, and shares. Symbolic values Low, Normal, High, and Custom are compared to the sum of all shares of all virtual machines on the server and, on an ESX host, the service console. By decreasing the memory share of a particular system, it receives less memory out of the total available memory.

### **QUESTION 14**

Which two conditions prevent the application of a host profile to an ESXi 5.x host? (Choose two.)

- A. The host has multiple profiles attached.
- B. The host has not been placed into maintenance mode.
- C. The host is running virtual machines.
- D. The host is an ESXi host.

**Correct Answer: BC**

**Section: ESXi**

**Explanation**

**Explanation/Reference:**

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.install.doc\\_50%2FGUID-F1F7ACCA-BE85-4AD3-A32C-0C9400A94421.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.install.doc_50%2FGUID-F1F7ACCA-BE85-4AD3-A32C-0C9400A94421.html)

Apply a Profile from the Host Profiles View

You can apply a profile to a host from the Host Profiles main view.

Prerequisites

The profile must be attached to the host and the host must be in maintenance mode before a profile is applied to it.

You can't have a host in maintenance mode with running VMs.

**QUESTION 15**

ACME Junkmail Incorporated has been utilizing templates in their environment. They are running a 10-node ESXi 5.x Cluster and DRS has not been configured. Several virtual machines have been deployed from this template and successfully powered on, but a newly deployed virtual machine will not power on. There appears to be adequate CPU and Memory resources available on the host. Which three things can be done to allow more virtual machines to be deployed into the cluster from this template? (Choose three.)

- A. Select a different datastore for the virtual machines
- B. Move the swap file to a different location
- C. Deploy the virtual machines to a different host using the same datastore
- D. Enable DRS on the cluster to balance the virtual machines load out across hosts
- E. Increase the virtual machine memory reservation

**Correct Answer:** ABE

**Section:** Clones and Templates

**Explanation**

**Explanation/Reference:**

If you make reservations for your virtual machine's that are equal to the amount of RAM assigned to them, swapping and page sharing does not occur. You can over commit pretty heavily if you are comfortable with poorer performance. If you do not set reservations, ESX host creates a .vswp file equal to the difference between the amount of physical memory assigned to the virtual machine and the reservation it has. By default, memory reservations are set to 0. If you have a virtual machine with 2GB of memory without a reservation, it creates a 2GB .vswp file when it is powered on. The virtual machine starts using the .vswp file if the server is out of physical RAM. If you set a 1GB reservation, it creates a 1GB .vswp file. The .vswp files are what allows for memory overcommitment.

**QUESTION 16**

Which three Storage I/O Control conditions might trigger the Non-VI workload detected on the datastore alarm? (Choose three.)

- A. The datastore is connected to an ESX/ESXi 4.0 host that does not support Storage I/O Control.
- B. The datastore is on an array that is performing system tasks such as replication.
- C. The datastore is utilizing active/passive multipathing or NMP (Native Multi-Pathing).
- D. The datastore is storing virtual machines with one or more snapshots.



E. The datastore is connected to an ESX/ESXi 4.0 host that is not managed by vCenter.

**Correct Answer:** ABE

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

<http://kb.vmware.com/kb/1020651>

- \* One or more hosts accessing the datastore are running an ESX version older than 4.1.
- \* One or more hosts accessing the datastore are not managed by vCenter Server.
- \* Not all of the hosts accessing the datastore are managed by the same vCenter Server.
- \* The storage media (spindles, SSD) where this datastore is located are shared with other datastores that are not SIOC enabled.
- \* Datastores in the configuration have multiple extents.

[http://pubs.vmware.com/vsphere-50/topic/com.vmware.vsphere.troubleshooting.doc\\_50/GUID-38F95285-DB4F-462F-AFD7-0F4D812B085F.html](http://pubs.vmware.com/vsphere-50/topic/com.vmware.vsphere.troubleshooting.doc_50/GUID-38F95285-DB4F-462F-AFD7-0F4D812B085F.html)

or

Page 39 on vsphere-esxi-vcenter-server-50-troubleshooting-guide.pdf

Unsupported Host Connected to Datastore

In the vSphere Client, an alarm is triggered when vCenter Server detects that a workload from a host might be affecting performance.

**Problem**

The alarm Pre-4.1 host connected to SIOC-enabled datastore is triggered.

**Cause**

The datastore is Storage I/O Control-enabled, but it cannot be fully controlled by Storage I/O Control because of the external workload. This condition can occur if the Storage I/O Control-enabled datastore is connected to a host that does not support Storage I/O Control.

**Solution**

Ensure that all hosts that are connected to the datastore support Storage I/O Control.

#### **QUESTION 17**

An administrator is working to implement Storage Profiles in their environment. Which two ways can storage capabilities be generated? (Choose two.)

- A. They are generated by Datastore Clusters as LUNs are added to the cluster.
- B. They are automatically determined by the Storage Profile when it is created.
- C. They can be retrieved from the array through the VMware APIs for Storage Awareness (VASA).
- D. They can be manually generated by the administrator.

**Correct Answer:** CD

## Section: Shared Storage

### Explanation

#### Explanation/Reference:

##### Understanding Storage Capabilities

A storage capability outlines the quality of service that a storage system can deliver. It is a guarantee that the storage system can provide a specific set of characteristics for capacity, performance, availability, redundancy, and so on.

If a storage system uses Storage APIs ?Storage Awareness, it informs vCenter Server that it can guarantee a specific set of storage features by presenting them as a storage capability. vCenter Server recognizes the capability and adds it to the list of storage capabilities in the Manage Storage Capabilities dialog box. Such storage capabilities are system-defined. vCenter Server assigns the system-defined storage capability to each datastore that you create from that storage system.

#### NOTE:

Because multiple system capabilities for a datastore are not supported, a datastore that spans several extents assumes the system capability of only one of its extents. You can create user-defined storage capabilities and associate them with datastores. You should associate the same user-defined capability with datastores that guarantee the same level of storage capabilities. You can associate a user-defined capability with a datastore that already has a system-defined capability. A datastore can have only one system-defined and only one user-defined capability at a time.

#### QUESTION 18

Which VMware solution uses the security of a vSphere implementation and provides linked-clone technology to virtual desktops?

- A. VMware ACE
- B. VMware View
- C. VMware Workstation
- D. VMware ThinApp

**Correct Answer:** B

**Section:** Architecture

### Explanation

#### Explanation/Reference:

<http://www.vmware.com/files/pdf/VMware-View-4-Composer-DS-EN.pdf> (page 1, last paragraph)

#### QUESTION 19

Which two conditions will prevent a virtual machine from being successfully migrated using Storage vMotion? (Choose two.)

- A. The virtual machine has an RDM.
- B. The virtual machine has Fault Tolerance enabled.
- C. The virtual machine is running on a vSphere 5.x Standard host.
- D. The virtual machine has a disk stored on an NFS datastore.

**Correct Answer:** BC

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

**What are Requirements and Limitations for Virtual Machine to Enable FT ?**

1. FT protected virtual machine should be running on the supported Guest operating system
2. FT protected virtual machine's guest operating system and processor combination must be supported by Fault Tolerance. Please refer VMware Site for Supported Guest OS and CPU combination
3. Physical RDM is not supported for FT protected virtual machines but virtual mode RDM is supported
4. FT protected virtual machine should have eager zeroed Thick disks. Virtual machine with thin provisioned disk will be automatically converted to thick disk, while enabling FT for the virtual machine. Make sure enough free space is available in the datastore for this operation.
5. SMP (symmetric multiprocessing) is not supported. Only 1 VCPU per virtual machine is allowed.
6. Only 64 GB of maximum RAM is allowed for the FT VM's.
7. Hot add and remove devices are not allowed for FT protected VM's.
8. NPIV is not supported for FT VM's.
9. USB Passthrough and VM DirectPath should not be enabled for FT VM's and it is not supported.
10. USB and Sound devices are not supported for FT VM's.
11. Virtual Machine snapshot is not supported for FT protected VM's. FT virtual Machines cannot be backed up using the backup technology like (VCB, VMware data recovery), which uses snapshot feature.
12. Virtual machine hardware version should be 7 and above
13. Paravirtualized Guest OS and paravirtualized SCSI adapter for FT protected virtual machine is not supported.
14. Windows Guest OS should not be using MSCS (Microsoft Cluster services) to Protect the Virtual Machine using FT.
15. FT Protected virtual machines should not be HA disabled by Virtual Machine level HA settings.
16. **FT protected virtual machines cannot be migrated using vMotion. If you want to migrate an FT protected virtual machine, disable FT on the VM, migrate the VM using vMotion and re-enable FT.**

17. IPv6 is not supported by VMware HA so, it is not supported for FT.

<http://virtualizationisfuture.blogspot.no/2013/05/all-about-fault-tolerance.html>

#### **QUESTION 20**

Under which two conditions can vStorage APIs for Array Integration (VAAI) provide a performance benefit? (Choose two.)

- A. When a virtual disk has VMDK files stored on an NFS datastore.
- B. When a virtual disk is created using the New Virtual Machine wizard.
- C. When cloning a virtual machine with snapshots.
- D. When a virtual disk is deleted.

**Correct Answer:** AD

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

#### **QUESTION 21**

An administrator is enabling Enhanced vMotion Compatibility (EVC) in a DRS cluster. The administrator wants only hosts with the newest Intel processors added to the cluster. Which setting satisfies this requirement?

- A. The baseline with the most CPUs listed
- B. The baseline with the fewest CPUs listed
- C. Any baseline that contains Future Intel processors
- D. Create a new baseline and add only the latest processor family

**Correct Answer:** D

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

#### **QUESTION 22**

Which two conditions must exist on all hosts in the cluster if Enhanced vMotion Compatibility (EVC) is used? (Choose two.)

- A. The cluster must be enabled for DRS.
- B. All hosts in the cluster must be running ESX/ESXi 3.5 Update 2 or later.
- C. All hosts in the cluster must have hardware virtualization support enabled.
- D. The cluster must be enabled for HA.

**Correct Answer:** BC

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

EVC Requirements

Hosts in an EVC cluster must meet certain requirements. To enable EVC on a cluster, the cluster must meet the following requirements:

- \* All virtual machines in the cluster that are running on hosts with a feature set greater than the EVC mode you intend to enable must be powered off or migrated out of the cluster before EVC is enabled.
- \* All hosts in the cluster must have CPUs from a single vendor, either AMD or Intel.
- \* All hosts in the cluster must be running ESX/ESXi 3.5 Update 2 or later.
- \* All hosts in the cluster must be connected to the vCenter Server system.
- \* All hosts in the cluster must have advanced CPU features, such as hardware virtualization support (AMD-V or Intel VT) and AMD No eXecute (NX) or Intel eXecute Disable (XD), enabled in the BIOS if they are available.
- \* All hosts in the cluster should be configured for vMotion. See Host Configuration for vMotion.
- \* All hosts in the cluster must have supported CPUs for the EVC mode you want to enable. Processors Supported in EVC Clusters lists the processor families supported for each EVC mode. To check EVC support for a specific processor or server model, see the VMware Compatibility Guide at <http://www.vmware.com/resources/compatibility/search.php>

Any host added to an existing EVC-enabled cluster must also meet the requirements

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=/com.vmware.vsphere.vcenterhost.doc\\_50/GUID-3B5AF2B1-C534-4426-B97A-D14019A8010F.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=/com.vmware.vsphere.vcenterhost.doc_50/GUID-3B5AF2B1-C534-4426-B97A-D14019A8010F.html)

### **QUESTION 23**

Which conditions are true regarding an ESXi 5.x host placed into maintenance mode while a member of a DRS cluster? (Choose two.)

- A. If the DRS cluster is in partially automated mode and vMotion is configured, its virtual machines will be moved automatically to other hosts in the cluster.
- B. If the DRS cluster is in fully automated mode and vMotion is configured, its virtual machines will be moved automatically to other hosts in the cluster.
- C. If the DRS cluster is in partially automated mode and vMotion is configured, its virtual machines that have a high restart priority will be migrated to other hosts in the cluster.
- D. All the virtual machines on the host must be migrated or powered off before the ESXi host will complete entering maintenance mode.

**Correct Answer:** BD

**Section:** Clusters

## Explanation

### Explanation/Reference:

#### QUESTION 24

An administrator is configuring an ESXi 5.x host with two dual-port Fibre Channel (FC) HBAs. The FC storage array has four active storage processor ports. Zoning is configured on both fabrics, with ESXi HBA ports and the array ports in the same zone. There are two LUNs with VMFS datastores configured. Using Round Robin multipathing, what is the maximum number of paths that can be used to send data to the VMFS datastores at any given time?

- A. 2
- B. 3
- C. 1
- D. 4

**Correct Answer:** A

**Section:** Shared Storage

### Explanation

### Explanation/Reference:

The answer is 2, because this is how Round Robin works when using 4 paths

#### QUESTION 25

When creating a dvPort group, which port binding option assigns a port to a virtual machine when the virtual machine is first powered on?

- A. Static binding
- B. Flexible
- C. Ephemeral
- D. Dynamic binding

**Correct Answer:** D

**Section:** Distributed Switches

### Explanation

### Explanation/Reference:

<http://pubs.vmware.com/vsphere-51/topic/com.vmware.vsphere.vcenterhost.doc/GUID-6A9312BE-B469-48DE-849B-FFBC4F187218.html>

Select Dynamic binding to assign a port to a virtual machine the FIRST time the virtual machine powers on after it is connected to the distributed port group. Dynamic binding is deprecated in ESXi 5.x.

**QUESTION 26**

What would cause the proportional share mechanism to be invoked?

- A. There is resource contention
- B. CPU ready time exceeds a threshold
- C. More than 1 virtual machine is running
- D. the sum of reservations exceeds the physical resources

**Correct Answer:** A

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

**QUESTION 27**

An administrator has a mixture of Intel-based ESX Hosts in a DRS cluster where the CPUs are compatible in every way except that some support the NX/XD feature and some do not.

Which two actions will minimize the effect of these differences? (Choose two.)

- A. Mask the NX/XD bit in the **Processor** section of the **Configuration** tab on the ESXi hosts
- B. Mask the NX/XD bit on every virtual machine in the cluster
- C. Enable Enhanced VMotion Compatibility
- D. Enable Rapid Virtualization Indexing

**Correct Answer:** BC

**Section:** Architecture

**Explanation**

**Explanation/Reference:**

Since we do not have the option to disable it on the host you would hide it on the VM's just as the following states:

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1993#modnxxd](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1993#modnxxd)

Modifying the default NX/XD mask

Issues with the NX/XD features on CPUs are common. Ensure that the feature is either enabled (or disabled) in the BIOS of all hosts to avoid these compatibility error messages.

Note: Not all servers have the option to disable or enable NX or XD in the BIOS.

If a CPU feature compatibility issue with the NX/XD bit is encountered, an error similar to this is generated:  
The CPU of the host is incompatible with the cpu feature requirements of virtual machine; problem detected at CPUID level 0x80000001 register 'edx'.  
Power off the virtual machine before modifying the NX/XD mask.  
To modify the mask to enable or disable the NX/XD CPU bit:

Navigate to the CPUID Mask option on the virtual machine Options tab (see steps above, if necessary).  
Select Hide the NX flag from guest to disable the CPUCompatibility check for the selected virtual machine, or Expose the NX flag to guest to enable this CPU compatibility check for the selected virtual machine.  
Click OK to save the change.

Incorrect: Mask the NX/XD bit in the Processor section of the Configuration tab on the ESXi hosts  
Explanation: The NX/XD bit is masked at the virtual machine level.  
Incorrect: Enable Rapid Virtualization Indexing  
Explanation: Rapid Virtualization Indexing will have no effect on Intel-based hosts since it is an AMD feature.

#### **QUESTION 28**

You have 50 virtual machines (VMs) running across five ESXi hosts in a DRS Cluster in a production environment for a number of weeks. Several VMs running on one of the ESXi hosts suddenly blue-screen.

What is the most likely cause of the failure?

- A. A patch recently applied to all virtual machines.
- B. A driver recently applied to all virtual machines.
- C. A VMkernel panic on the ESXi host running the failed virtual machines.
- D. A hardware problem on the ESXi host running the failed virtual machines.

**Correct Answer:** D

**Section:** Troubleshoot Hosts

**Explanation**

**Explanation/Reference:**

A vmkernel panic would cause all running virtual machines to go offline, whereas a **hardware failure could cause the blue-screen event indicated.**

A patch or driver would affect **ALL** VMs.

#### **QUESTION 29**

Which of the following actions requires a reboot of an ESXi host

- A. Changing the number of ports on a virtual switch



- B. Implementing VLANs in a virtual switch
- C. Adding a second VMkernel port to a virtual switch
- D. Configuring a NIC team for a virtual switch

**Correct Answer:** A

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

Most network activities can be performed without the reboot of the ESX Server. The exception is the modification of the number of ports on an existing virtual switch, which does require a reboot.

### **QUESTION 30**

What is a valid traffic shaping adjustment?

- A. Burst time in seconds
- B. Burst size in KB
- C. Minimum bandwidth adjusted in Kbps
- D. Peak bandwidth adjusted in Mbps

**Correct Answer:** B

**Section:** Networking

**Explanation**

**Explanation/Reference:**

### **QUESTION 31**

What are the iSCSI discovery methods that are supported by ESXi hosts

- A. Static Targets, Dynamic Targets
- B. Static Discovery, Send Targets
- C. Static Discovery, Find Targets
- D. Dynamic Discovery, Find Targets

**Correct Answer:** B

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

The iSCSI discovery methods supported by ESX Server are Static Discovery and Send Targets.

**QUESTION 32**

What two things are controlled by the DRS automation level? (Choose two.)

- A. VM isolation response
- B. VM restart priority
- C. VM migration
- D. Initial placement of VMs

**Correct Answer:** CD

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

DRS automation controls where a virtual machine is placed within the cluster and balances virtual machine workloads using VMotion migration.

VM restart priority is a VMware HA setting that determines the order in which virtual machines will be restarted if an ESX Host fails.

**QUESTION 33**

What does a memory reservation define?

- A. the amount of virtual machine memory that can be paged to the VMkernel swapfile
- B. the amount of physical memory that is guaranteed to the VM
- C. the maximum amount of physical memory that will be used by a VM
- D. the amount of host memory reserved for the VMkernel

**Correct Answer:** B

**Section:** VMs

**Explanation**

**Explanation/Reference:**

Memory Reservations are defined at the virtual machine level and guarantee a specific amount of physical memory to the virtual machine.

*More Info.*

*The following is taken from the resource management guide:*

**CPU Reservation:**

Consider a virtual machine with a reservation set to 2GHz but is totally idle; it is not using any of its reservation. While other virtual machines cannot reserve that 2GHz they can use these 2GHz so the idle CPU reservations are not wasted.

### **Memory Reservation:**

If a virtual machine has a memory reservation but has not yet accessed its full reservation, the unused memory can be reallocated to other virtual machines. After a virtual machine has accessed its full reservation, ESX Server allows the virtual machine to retain this much memory, and will not reclaim it, even if the virtual machine becomes idle and stops accessing memory.

The above paragraph is a bit misleading, as it seems to imply that a VM has to access its full reservation. What it should really say is Memory which is protected by a reservation will not be reclaimed by ballooning or Host-level swapping even if it becomes idle, and Physical machine memory will not be allocated to the VM until the VM accesses virtual RAM needing physical RAM backing. Then that pRAM is protected by the reservation and wont be reclaimed by ballooning or .vswp-file swapping. If there is any .vswp memory at all as no .vswp is created when the reservation is equal to the provisioned memory.

Note, however, that even if pRAM is not allocated to the VM to back vRAM because the VM hasnt accessed corresponding vRAM yet, the whole reservation is reserved, but the pRAM could still be used This gets really confusing. But I think of it thus:

- 1.Reservations can be defined at the VM level or the Resource Pool level.
- 2.Reservations at the RP level are activated or reserved immediately.
- 3.Reservations at the VM level are activated or reserved when the VM is powered on.
- 4.An activated reservation is removed from the total physical Resource Unreserved accounting.
- 5.Reserving and using a resource are distinct: memory or CPU can be reserved but not used or used but not reserved.
- 6.CPU reservations are friendly.
- 7.Memory reservations are greedy and hoard memory.
- 8.Memory reservations are activated at startup, yet pRAM is only allocated as needed. Unallocated pRAM may be used by others.
- 9.Once pRAM is protected by a memory reservation, it will never be reclaimed by ballooning of .vswp-swapping even if the corresponding vRAM is idle.

Example: A VM has 4 GB of vRAM installed and a 3 GB memory reservation defined. When the VM starts, 3 GB of pRAM are reserved. If the host had 32 GB of RAM installed and no reservations active, it now has 29 GB unreserved.

### **QUESTION 34**

When is a 64-bit Windows Operating System required for the installation of vCenter Server?

- A. When the managed vSphere environment exceeds 200 ESX hosts
- B. When the managed vSphere environment exceeds 1000 virtual machines
- C. When deploying vSphere 4.1 or later
- D. vCenter Server is not supported on 64-bit Windows operating systems

**Correct Answer: C**

**Section: vCenter**

**Explanation**

**Explanation/Reference:**

Beginning with vSphere 4.1, a 64-bit version of Windows is required for vCenter Server installation.

**QUESTION 35**

What is a valid use case for the No Access role?

- A. An administrator wants to revoke permissions on an object that would otherwise be propagated.
- B. An administrator wants to allow the state and details of an object to be viewed, but provide no other access.
- C. An administrator wants to allow only the status of an object to be viewed, but provide no other access.
- D. An administrator wants to prevent a user from launching the vSphere Client.

**Correct Answer:** A

**Section:** Security

**Explanation**

**Explanation/Reference:**

The No Access role can be used if a user was granted access higher up in the inventory.

**QUESTION 36**

VMware Tools should be installed on which virtual machines?

- A. Linux
- B. All except Linux
- C. Windows
- D. All

**Correct Answer:** D

**Section:** VMs

**Explanation**

**Explanation/Reference:**

VMware Tools contains a number of optimized drivers and several critical components including a heartbeat service and the balloon driver. The tools should be installed on all virtual machines that are supported. VMware Tools supports Windows, Linux, Netware and Solaris.

**QUESTION 37**

What is the connection type of the primary VLAN in a Private VLAN?

- A. Promiscuous
- B. Isolated
- C. Community

D. Trunked

**Correct Answer:** A

**Section:** Networking

**Explanation**

**Explanation/Reference:**

Primary VLANs are Promiscuous, so that ports on a private VLAN can communicate with ports configured as the primary VLAN.

### **QUESTION 38**

An administrator would like to set up Host Profiles in a vSphere architecture. Using the vSphere Client, the administrator connects to vCenter Server and navigates to **Management**, then begins to build a new Host Profile but is unable to save the profile.

Why is the administrator unable to save the completed profile?

- A. The administrator does not have the proper vSphere edition so this feature is not licensed.
- B. The Host Profiles service is stopped and must be restarted to access this option.
- C. No ESXi hosts have been added to vCenter Server, and this option will not be available until at least one host is managed.
- D. No DRS/HA Cluster has been defined, and Host Profiles must be applied to a cluster.

**Correct Answer:** A

**Section:** Troubleshoot Hosts

**Explanation**

**Explanation/Reference:**

While a Host Profile can be applied to a cluster to check newly added hosts for compliance, profiles can also be applied to individual ESX Hosts. Host Profiles requires a license that is not available in all vSphere editions, and if a license is not present the option is unavailable.

Host Profiles do not rely on a service.

If a license exists for Host Profiles, the option will exist even if no ESX hosts have been added to vCenter Server

### **QUESTION 39**

VMware vSphere can be evaluated prior to purchase. What is the maximum number of days the evaluation can be used before a license must be purchased?

- A. 30
- B. 60
- C. 90
- D. 120

**Correct Answer:** B

**Section:** ESXi

**Explanation**

**Explanation/Reference:**

#### **QUESTION 40**

A vSphere 5 implementation contains two ESXi hosts, ESXi01 and ESXi02. A virtual machine, VM21a on ESXi01 is connected to a vSphere Standard Switch (vSS) in a port group called Production. The vSS is connected to an uplink on the 10.1.20.0/24 network. ESXi02 is configured with a vSS connected to an uplink on the 10.1.30.0/24 network. A port group called Engineering exists on this switch.

Which two statements are true about this configuration? (Choose two.)

- A. Broadcasts from the Production port group can not be received on the Engineering port group.
- B. Broadcasts from the Production port group can be received on the Engineering port group.
- C. The virtual machine can not be vMotion migrated to the target host.
- D. The virtual machine can be vMotion migrated to the target host.

**Correct Answer:** AC

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

2 different subnets: neither broadcasts nor vMotion will work.

#### **QUESTION 41**

Which of the following are true about the share value for a virtual machine after it has been added to a Resource Pool (Choose Two)?

- A. If a previously defined share level (high, medium, low) exists, the %Shares value is adjusted to reflect the total number of shares in use in the Resource Pool.
- B. If a previously defined custom share value exists, the %Shares value is adjusted to reflect the total number of shares in use in the Resource Pool.
- C. If a previously defined share level (high,medium,low) exists, the %Shares value is maintained.
- D. If a previously defined custom share value exists, the %Shares value is maintained

**Correct Answer:** AD

**Section:** Resource Pools

**Explanation**

**Explanation/Reference:**

### Add a Virtual Machine to a Resource Pool

When you create a virtual machine, the New Virtual Machine wizard allows you to specify a resource pool location as part of the creation process. You can also add an existing virtual machine to a resource pool.

When you move a virtual machine to a new resource pool:

- The virtual machine's reservation and limit do not change.
- If the virtual machine's shares are high, medium, or low, %Shares adjusts to reflect the total number of shares in use in the new resource pool.
- If the virtual machine has custom shares assigned, the share value is maintained.

<http://pubs.vmware.com/vsphere-51/index.jsp?topic=%2Fcom.vmware.vsphere.resmgmt.doc%2FGUID-0A910DD0-C75B-46BA-AEC4-7C4B1641C93F.html&resultof=%22share%22%20%22value%22%20%22valu%22%20%22add%22>

### QUESTION 42

Under which two situations does the dead space reclamation feature VAAI Thin Provisioning offer the ability to reclaim blocks of a thin provisional LUN on a array? (Choose two)

- A. When a virtual machine is migrated to a different datastore.
- B. When a guest OS files in a virtual disk are deleted.
- C. When a virtual machine is migrated to a different host.
- D. When a virtual disk is deleted.

**Correct Answer:** AD

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

From <http://www.vmware.com/technical-resources/virtualization-topics/virtual-storage/storage-apis.html>

Dead Space Reclamation: Dead space reclamation offers the ability to reclaim blocks of a thin provisioned LUN on the array when a virtual disk is deleted or migrated to a different datastore using Storage vMotion.

### QUESTION 43

An administrator is performing maintenance on a storage array used by a DRS cluster. The administrator wants to disable alarm actions for the cluster while the maintenance is taking place.

What procedure will accomplish this task?

- A. Go to the alarms tab for each ESXi host in the DRS cluster. Locate storage-related alarms. Right click and disable each alarm

- B. Right-click the DRS cluster and select Alarm and Disable Alarm Actions
- C. Right-click the datacenter containing the DRS cluster. Select Alarm Disable Alarm Actions
- D. Go to the alarms tab for the datacenter containing DRS cluster. Locate the storage-related alarms. Right-click and disable each alarm

**Correct Answer:** B

**Section:** Clusters

**Explanation**

#### **QUESTION 44**

An administrator is using Update Manager 5.0 to update virtual appliances in a vSphere environment. The environment is using the vCenter Server appliance. The administrator is unable to remediate the vCenter Server appliance.

What would cause the remediation to fail?

- A. Updating of the appliance can only be done if the vCenter Server Appliance has been
- B. Remediation must be configured on the Appliance Administration page before use
- C. Remediation of the vCenter Server Appliance with Update Manager is not supported
- D. Remediation of the vCenter Server Appliance must be done from the PowerCLI

**Correct Answer:** C

**Section:** Update VMs and ESXi

**Explanation**



## Exam H

### QUESTION 1

An administrator receives a call indicating users reported extremely slow access to virtual machines the previous evening. Access to virtual machines performs as expected as checked by the administrator. Over the course of several days, the administrator continues to receive calls about the issue, which appears to occur at intermittent times each evening.

Which step can be taken to collect information about the issue?

- A. Create a condition alarm to alert when Datastore Disk Usage (\*) exceeds 70%
- B. Collect esxtop performance data in batch mode and analyze total number of I/O operations (CMDS/s) metrics
- C. Create an event alarm to alert when a storage device is disconnected
- D. Collect esxtop performance data in batch mode and analyze average device latency (DAVG/cm-d) metrics.

**Correct Answer:** D

**Section:** Troubleshoot Hosts

**Explanation**

**Explanation/Reference:**

A – Used for space use, incorrect.

B – Depends on your Storage Array you can obtain more or less I/O operations, it could be good to look at this but only for help. Incorrect.

C – Storage is not disconnected so that answer isn't correct.

### QUESTION 2

A host failure occurs in vSphere HA cluster, but virtual machines from the failed host are not restarted on the surviving nodes in the cluster. Which two conditions explain this behavior? (Choose two)

- A. HA has been configured to use a dedicated failure host, and the failed host is designated failover host.
- B. An anti-affinity rule configured and restarting the VMs would place them on the same host.
- C. The virtual machines on the failed host are HA disabled.
- D. Host Monitoring is disabled

**Correct Answer:** CD

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

- You can't run VMs on a dedicated host
- Question says nothing about DRS, we are only dealing with an HA licensed cluster. Affinity and Anti-Affinity rules are only applicable to DRS enabled clusters for VM's.

### QUESTION 3

An administrator has received calls about a virtual machine experiencing intermittent application issues during the evening. To troubleshoot, the administrator needs to capture the virtual machine in the state it is in during the evening hours for later analysis. Which two tasks would accomplish this requirement? (Choose two)

- A. Create a scheduled task to clone the virtual machine once per evening
- B. Create an alarm that is triggered when a loss of VMware Tools heartbeat to the virtual machine occurs.
- C. Use esxtop in batch mode and capture metrics during the evening hours.
- D. Create a scheduled task to create a snapshot of the virtual machine once per evening

**Correct Answer:** CD

**Section:** Troubleshoot Hosts

**Explanation**

### QUESTION 4

A vSphere 5 environment has an ESXi 5 x host configured to boot from a Software iSCSI adapter. What is the expected outcome if the administrator attempts to disable the iSCSI Software adapter?

- A. The adapter will be disabled, but is re-enabled the next time the host boots up.
- B. The adapter will be disabled and the host will not boot the next time the host boots up
- C. The adapter will not be disabled and the vSphere Client will return an error message
- D. The adapter will be enabled, but the host will boot into troubleshooting mode the next time the host boots

**Correct Answer:** A

**Section:** Networking

**Explanation**

**Explanation/Reference:**

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc\\_50%2FGUID-2B605626-7323-4019-BB16-19339B11E604.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc_50%2FGUID-2B605626-7323-4019-BB16-19339B11E604.html)

If you disable the adapter that is used for software iSCSI boot, the adapter is re-enabled each time you boot the host.

### QUESTION 5

An administrator is enabling Enhanced vMotion Compatibility in a DRS cluster. The administrator wants the greatest degree of flexibility when adding new hosts in the cluster.

Which setting satisfies this requirement?

- A. Any baseline compatible with the existing ESXi hosts in the cluster

- B. The highest baseline that is compatible with the ESXi hosts in the cluster
- C. The lowest baseline that is compatible with all ESXi hosts in the cluster
- D. The highest baseline that is compatible with vSphere 4.x and 5.x

**Correct Answer:** C

**Section:** Clusters

**Explanation**

**Explanation/Reference:**

### QUESTION 6

Which two statements are true about High Priority vMotion requests in vSphere 5.x? (Choose two)

- A. Migrations always proceed regardless of whether or not resources have been successfully reserved.
- B. Migrations do not proceed if resources are not successfully reserved.
- C. vCenter Server attempts to reserve resources on both the source and destination hosts to be shared among all concurrent migrations with vMotions.
- D. vCenter Server attempts to reserve resources on both the source and destinations hosts for each individual High Priority migration with vMotion.

**Correct Answer:** AC

**Section:** Migrate VMs

**Explanation**

**Explanation/Reference:**

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.vm\\_admin.doc\\_50%2FGUID-0542FCAA-209A-4296-8AA4-0A51C13A6233.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.vm_admin.doc_50%2FGUID-0542FCAA-209A-4296-8AA4-0A51C13A6233.html)

Note the question refers to vSphere 5.x with High Priority:

- On hosts running ESX/ESXi version 4.1 or later, vCenter Server attempts to reserve resources on both the source and destination hosts to be shared among all **concurrent** migrations with vMotion.
- vCenter Server grants a **larger** share of host CPU resources to high priority migrations than to standard priority migrations.
- Migrations always proceed **regardless** of the resources that have been reserved.

### QUESTION 7

The remote console performance for a virtual machine on an ESXi host appears to be degraded.

What are two possible causes of the problem? (Choose two)

- A. The virtual NIC assigned to the virtual machine has a speed or duplex mismatch.
- B. The physical NIC assigned to the virtual machine port group containing the affected virtual machine has a speed or duplex mismatch.

- C. The physical NIC assigned to the Service Console port group has a speed or duplex mismatch.
- D. The physical NIC assigned to the VMkernel port group has a speed or duplex mismatch.

**Correct Answer:** BD

**Section:** Troubleshoot Hosts

**Explanation**

**Explanation/Reference:**

Incorrect answers:

A: The remote console uses the ESXi hosts VMkernel management port exclusively. You don't have to have a pNic connected to a virtual machine port group (hence no speed/duplex issues possible) but you can still access the remote console via the vSphere client.

C: ESXi does not have a 'service console'

ESXi does not have a 'service console' so C is not correct. The remote console uses the ESXi hosts VMkernel management port exclusively. You don't have to have a pNic connected to a virtual machine port group (hence no speed/duplex issues possible) but you can still access the remote console via the vSphere client.

#### **QUESTION 8**

An administrator is upgrading an application running in a virtual machine. Before performing the upgrade a snapshot called pre-upgrade is created. NO other snapshots exist. The upgrade operation succeeds and the administrator wants to keep the changes from the snapshot. Which two operations can the administrator perform to ensure that the upgrade cannot be reverted? (Choose two)

- A. Use the Delete All option within the Snapshot Manager
- B. Use the Delete option within the Snapshot Manager
- C. Use the Consolidate option with the Snapshot Manager
- D. Use the Go To option in the snapshot

**Correct Answer:** AB

**Section:** VMs

**Explanation**

**Explanation/Reference:**

**Consolidating snapshots in vSphere 5**

When initiating Delete or Delete All operations on snapshots, the snapshot details are deleted from Snapshot Manager, then the snapshot files are consolidated and merged to another snapshot file or to the virtual machine parent disk. If the consolidation fails, there were no snapshots shown in the Snapshot Manager, but the snapshot files were still being used on the datastore. This can cause the datastore to run out of space.

[http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=2003638](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=2003638)

#### **QUESTION 9**

When writes from a virtual machine are delivered to a Fibre Channel storage array, which two actions are taken by the VMkernel? (Choose two)



<http://www.gratisexam.com/>

- A. The modified I/O request is sent from the physical HBA to the device driver.
- B. The file corresponding to the virtual machine is located on the VMFS datastores.
- C. The request for blocks on the virtual disk is mapped to blocks on the appropriate physical device.
- D. The I/O request is converted from binary data form to optical data form.

**Correct Answer:** BC

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

[How Virtual Machines Access Data on a Fibre Channel SAN](#)

ESXi stores a virtual machine's disk files within a VMFS datastore that resides on a SAN storage device. When virtual machine guest operating systems issue SCSI commands to their virtual disks, the SCSI virtualization layer translates these commands to VMFS file operations.

When a virtual machine interacts with its virtual disk stored on a SAN, the following process takes place:

1. When the guest operating system in a virtual machine reads or writes to a SCSI disk, it issues SCSI commands to the virtual disk.
2. Device drivers in the virtual machine's operating system communicate with the virtual SCSI controllers.
3. The virtual SCSI controller forwards the command to the VMkernel.

**The VMkernel performs the following tasks.**

1. Locates the file in the VMFS volume that corresponds to the guest virtual machine disk.
2. Maps the requests for the blocks on the virtual disk to blocks on the appropriate physical device.
3. Sends the modified I/O request from the device driver in the VMkernel to the physical HBA.

*Note: "The modified I/O request is sent from the physical HBA to the device driver" choice is a trick: the devices are reversed.*

**The physical HBA performs the following tasks.**

1. Packages the I/O request according to the rules of the FC protocol.
2. Transmits the request to the SAN.

Depending on a port the HBA uses to connect to the fabric, one of the SAN switches receives the request and routes it to the storage device that the host wants to access.

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc\\_50%2FGUID-3A05795A-283F-4959-AD81-FAC61FD8D456.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc_50%2FGUID-3A05795A-283F-4959-AD81-FAC61FD8D456.html)

#### **QUESTION 10**

Windows VM is experiencing the poor application performance. The suspected issue is a lack of available memory. Windows Task Manager shows 30% of the memory within the VM is not currently being used. What this indicate and what could be checked next?

- A. Windows Task Manager is not reading actual memory usage in the VM. Windows System Monitor should be used to get precise reading on memory usage.
- B. The application problems are definitely due to a non-memory related problem. CPU affinity settings should be checked for this VM.
- C. The VM has memory available, however it may not actually have "Physical" memory available. VMkernel swap activity on the ESX Server host should be checked next.
- D. The application problems are definitely due to a non-memory related problem. CPU utilization should be checked next using Windows Task Manager.

**Correct Answer: C**

**Section: VMs**

**Explanation**

#### **Explanation/Reference:**

The poor application performance due to suspected lack of available memory suggests paging is the cause of the issue. If Windows Task Manager shows 30% of the memory within the VM is not currently being used, then paging must be occurring within the VM host. Therefore poor application performance should now be checked.

#### **QUESTION 11**

Your manager has requested that you look for ways to ensure that your storage is utilized evenly. Which feature of vSphere 5 would help achieve this request?

- A. sDRS
- B. profile driven storage
- C. VAAI
- D. thin provisioning

**Correct Answer: A**

**Section: Shared Storage**

**Explanation**

**QUESTION 12**

What are two functions of zoning in Fibre Channel switches? (Choose two.)

- A. Controls and isolates LUNs on a Fibre Channel storage array
- B. Restrict connections on a storage array to ESXi hosts that use the array
- C. Prevents non-ESXi hosts from possibly destroying VMFS data
- D. Reduces the number of targets and LUNs presented by a Fibre Channel storage array

**Correct Answer:** CD

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**

Page 34 from vsphere-esxi-vcenter-server-50-storage-guide.pdf

**Using Zoning with Fibre Channel SANs**

Zoning provides access control in the SAN topology. Zoning defines which HBAs can connect to which targets.

When you configure a SAN by using zoning, the devices outside a zone are not visible to the devices inside the zone.

Zoning has the following effects:

- \* Reduces the number of targets and LUNs presented to a host.
- \* Controls and isolates paths in a fabric.
- \* Can prevent non-ESXi systems from accessing a particular storage system, and from possibly destroying VMFS data.
- \* Can be used to separate different environments, for example, a test from a production environment.

**QUESTION 13**

What are the differences between Private and Public Cloud Computing?

- A. private cloud is provided to a single party, public is provided to public and organizations
- B. private cloud is managed by a single party & public cloud is managed by third-party
- C. private cloud is on-premises & public cloud is off-premises
- D. unknown choice

**Correct Answer:** A

**Section:** Architecture

**Explanation**

**Explanation/Reference:**

Enterprise Private Cloud

It's yours, you own it and control it  
More predictable and reliable  
More secure  
On demand computing for an existing application

#### Public Cloud

Could have "noisy neighbors"  
Applications may have to be redesigned and this could cause failure  
Performance may be unpredictable at times  
Transition has to be made and it could be tough. There is a lot more to the transition than just "moving a VM"  
More ideal for a newly written application that was architected for the public cloud

<http://blogs.vmware.com/vcloud/2011/04/enterprise-private-cloud-public-cloud-the-chaos-monkey.html>

#### QUESTION 14

Which two circumstances would prevent the option of joining a Linked Mode group during vCenter Server installation? (Choose two).

- A. An administrator is installing the first of the vCenter Server instances.
- B. An administrator installed vCenter Server instances using different domain accounts.
- C. An administrator has vCenter Server instances in multiple domains
- D. An administrator is upgrading a VirtualCenter Server installation.

**Correct Answer:** AD

**Section:** Install & Upgrades

**Explanation**

**Explanation/Reference:**

You cannot add a vCenter Server to linked mode until the upgrade to vCenter is complete.

#### QUESTION 15

An administrator receives a report that a failover event has occurred on a storage device. Following the event, multiple Microsoft Windows based virtual machines experienced blue screen errors. Only Microsoft Windows based virtual machines were affected. What can be done to ensure that these virtual machines remain up and running?

- A. Change the Microsoft Windows guest operating system disk timeout from 30 seconds to 60 seconds.
- B. Change the Microsoft Windows guest operating system disk timeout from 60 seconds to 90 seconds.
- C. Ensure that the Windows VMs are using LSI logic virtual SCSI controllers.
- D. Ensure that the Windows VMs are using Buslogic virtual SCSI controllers.



**Correct Answer:** A

**Section:** VMs

**Explanation**

**Explanation/Reference:**

Path failover occurs when the active path to a LUN is changed from one path to another, usually because of a SAN component failure along the current path.

When a path fails, storage I/O might pause for 30 to 60 seconds until your host determines that the link is unavailable and completes failover. If you attempt to display the host, its storage devices, or its adapters, the operation might appear to stall. Virtual machines with their disks installed on the SAN can appear unresponsive. After failover is complete, I/O resumes normally and the virtual machines continue to run.

However, when failovers take a long time to complete, a Windows virtual machine might interrupt the I/O and eventually fail. To avoid the failure, set the disk timeout value for the Windows virtual machine to at least 60 seconds.

[http://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.storage.doc\\_50/GUID-EB427F68-6CA1-4A1B-A90E-17D21B913E2E.html](http://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.storage.doc_50/GUID-EB427F68-6CA1-4A1B-A90E-17D21B913E2E.html)

#### **QUESTION 16**

While verifying host connectivity to datastores using topology maps, the administrator sees that one of the hosts in a DRS/HA cluster is framed by a pale green circle.

What does this indicate?

- A. The host has a vMotion validation issue.
- B. The host has a low workload.
- C. The host has a CPU incompatibility.
- D. The host is heavily utilized.

**Correct Answer:** D

**Section:** Troubleshoot Hosts

**Explanation**

**Explanation/Reference:**



A host that is compatible for vMotion migration. The color of the circle varies in intensity based on the load of the current host. Heavily used hosts are pale; low-load hosts are saturated green.

[http://pubs.vmware.com/vsphere-4-esx-vcenter/index.jsp?topic=/com.vmware.vsphere.dcadm.doc\\_41/vsp\\_dc\\_admin\\_guide/vCenter\\_maps/r\\_vcenter\\_map\\_icons\\_and\\_controls.html](http://pubs.vmware.com/vsphere-4-esx-vcenter/index.jsp?topic=/com.vmware.vsphere.dcadm.doc_41/vsp_dc_admin_guide/vCenter_maps/r_vcenter_map_icons_and_controls.html)

#### **QUESTION 17**

Users are complaining that a Windows application server virtual machine configured with 1GB RAM is not performing satisfactorily. The virtual machine is in a fully automated DRS cluster. An administrator opens the Performance tab for the guest virtual machine and adds the counters for Memory Ballooned and Memory Swapped in MB. The performance chart displays a value of 0 for Memory Ballooned and 240 for Memory Swapped. Which action should be taken?

- A. Install VMware Tools into the virtual machine.
- B. Adjust Mem.CtlMaxPercent to read 75.
- C. Migrate the virtual machine to another host.
- D. Add memory to the virtual machine.

**Correct Answer:** A

**Section:** VMs

**Explanation**

**Explanation/Reference:**

The VM first tries to Balloon and then tries compression and then uses Swapping. The fact that it is swapping and not doing any ballooning, means its not working and thus the driver needs to be installed.

VmTools would install the balloon driver into the guest. Instead of the host swapping out part of the guest memory, it would allow the balloon driver to do it's job and let the guest O/S choose the least important pages in memory to swap out therefore freeing up memory for the host, while allowing important pages necessary for performance to stay in memory.

#### **QUESTION 18**

The VMware vCenter Server Appliance offers many features of the Windows application version.

Which of the following features is only available on the Windows application version of vCenter?

- A. Host Profiles
- B. Template and clone customization
- C. Active Directory authentication
- D. Linked Mode

**Correct Answer:** D

**Section:** vCenter

**Explanation**

**Explanation/Reference:**

vCenter Server Virtual Appliance provides all features as the Windows vCenter Server but does not support the following features:

- Microsoft SQL as the database for vCenter.

- vCenter Server Linked Mode.
- vCenter Server Heartbeat.
- IPv6.

<http://vmware.com/2011/07/17/vmware-vcenter-server-virtual-appliance-vcsa-features-and-benefits/>

#### **QUESTION 19**

When comparing software iSCSI initiators with independent hardware initiators, what are the additional CHAP security levels available for a software implementation? (Choose two.)

- A. Do not use CHAP unless required by target
- B. Use CHAP
- C. Use CHAP unless prohibited by target
- D. Do not use CHAP

**Correct Answer:** AB

**Section:** Shared Storage

**Explanation**

**Explanation/Reference:**  
**CHAP Security Level**

Do not use CHAP

The host does not use CHAP authentication. Select this option to disable authentication if it is currently enabled.

Supported by:

- Software iSCSI
- Dependent hardware iSCSI
- Independent hardware iSCSI

Do not use CHAP unless required by target

The host prefers a non-CHAP connection, but can use a CHAP connection if required by the target.

Supported by:

- Software iSCSI
- Dependent hardware iSCSI

Use CHAP unless prohibited by target

The host prefers CHAP, but can use non-CHAP connections if the target does not support CHAP.

Supported by:

- Software iSCSI
- Dependent hardware iSCSI
- Independent hardware iSCSI

#### Use CHAP

The host requires successful CHAP authentication. The connection fails if CHAP negotiation fails.

Supported by:

- Software iSCSI
- Dependent hardware iSCSI

[http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc\\_50%2FGUID-3F97FB05-3C92-4040-84E7-D928555B3808.html](http://pubs.vmware.com/vsphere-50/index.jsp?topic=%2Fcom.vmware.vsphere.storage.doc_50%2FGUID-3F97FB05-3C92-4040-84E7-D928555B3808.html)

#### **QUESTION 20**

Which of the following are valid use cases for VMware Fault Tolerance (Choose Three)?

- A. An administrator wants to provide continuous availability if a business critical application fails
- B. An administrator wants to provide on-demand fault tolerance for a virtual machine during a critical operation
- C. An administrator wants application high availability for applications that are not cluster aware
- D. An administrator wants to provide continuous availability if a critical hardware component fails
- E. An administrator wants to provide fault tolerance for one or more physical servers

**Correct Answer:** BCD

**Section:** (none)

**Explanation**

#### **Explanation/Reference:**

1. Applications that need to be available at all times, especially those that have long-lasting client connections that users want to maintain during hardware failure.

2. Custom applications that have no other way of doing clustering.

Another key use case for protecting a virtual machine with Fault Tolerance can be described as On-Demand Fault Tolerance. In this case, a virtual machine is adequately protected with VMware HA during normal operation. During certain critical periods, you might want to enhance the protection of the virtual machine.

#### **QUESTION 21**

The vSwitch or vSwitch port group policy setting that allows a virtual machine to listen to traffic other than that which is specifically destined for the given VM is:

- A. MAC Address Changes
- B. Promiscuous Mode
- C. Forged Transmits
- D. Traffic Shaping

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

#### **QUESTION 22**

Which of the following describes the default behavior of uplinks added to a vNetwork Standard Switch:

- A. All uplinks are active
- B. The first uplink is active, additional uplinks are standby
- C. The first uplink is active, additional uplinks are unused
- D. Only one uplink can be attached to a virtual switch

**Correct Answer:** A

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

#### **QUESTION 23**

Assuming VLANs are not configured, which of the following is true about traffic from a virtual machine connected to a port group on a vNetwork Standard Switch with no uplinks?

- A. Virtual machines in any port group on the virtual switch can receive the traffic.
- B. The virtual switch will drop the packets if no uplink is present.
- C. Virtual machines on any virtual switch on the same ESX Server can receive the traffic.
- D. Only virtual machines in the same port group on the virtual switch can receive the traffic.

**Correct Answer:** A

**Section:** Standard Switches

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 24**

Networking policies, such as traffic shaping and security, can be configured on the following vSphere elements:

- A. On the physical network interface and the vSwitch
- B. On the port group and the physical network interface
- C. On the port group and the vSwitch
- D. On the vSwitch and the attached virtual machine

**Correct Answer: C**

**Section: Networking**

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 25**

Which two are requirements when booting from SAN? (Choose Two)

- A. The Storage Array port WWN specified in the BIOS configuration of the HBA must be passive
- B. The HBA should be plugged into the lowest PCI bus and slot number
- C. The boot LUN should only be visible to the ESX Server that is booting from it
- D. The boot LUN should be visible to all ESX Servers for HA failover

**Correct Answer: BC**

**Section: Shared Storage**

## **Explanation**

### **Explanation/Reference:**

#### **QUESTION 26**

Traffic Shaping can be configured on the following vSphere elements (Choose Two):

- A. On a vNetwork Standard Switch port group or the entire vSwitch for outbound traffic only

- B. On a vNetwork Distributed Switch dvPort or the entire dvPort Group for outbound traffic only
- C. On a vNetwork Standard Switch port group or the entire vSwitch for inbound traffic only
- D. On a vNetwork Distributed Switch dvPort or the entire dvPort Group for inbound and outbound traffic

**Correct Answer:** AD

**Section:** Standard Switches

**Explanation**

**Explanation/Reference:**

#### **QUESTION 27**

In vSphere, a bound physical NIC can be configured to transmit and receive Jumbo Frames. What is the Maximum Transmission Unit (MTU) for Jumbo Frames in vSphere?

- A. 9000
- B. 9500
- C. 5500
- D. 5000

**Correct Answer:** A

**Section:** Networking

**Explanation**

**Explanation/Reference:**

#### **QUESTION 28**

The vSwitch or vSwitch port group policy setting that allows a virtual machine to transmit packets that contain a MAC address other than the address defined for the VM is:

- A. Promiscuous Mode
- B. Forged Transmits
- C. Traffic Shaping
- D. MAC Address Changes

**Correct Answer:** B

**Section:** Standard Switches

**Explanation**

### Explanation/Reference:

Most pundits and vmware folk agree that:

Outbound IP Traffic: Forged Transmits

Inbound IP Traffic: MAC Address Changes

The setting for the Forged Transmits option **affects traffic that is transmitted** from a virtual machine.

When the option is set to Accept, ESXi does not compare source and effective MAC addresses.

To protect against MAC impersonation, you can set this option to Reject. If you do, the host compares the source MAC address being transmitted by the operating system with the effective MAC address for its adapter to see if they match. If the addresses do not match, ESXi drops the packet.

The guest operating system does not detect that its virtual network adapter cannot send packets by using the impersonated MAC address. The ESXi host intercepts any packets with impersonated addresses before they are delivered, and the guest operating system might assume that the packets are dropped.

<http://pubs.vmware.com/vsphere-51/index.jsp#com.vmware.vsphere.security.doc/GUID-7DC6486F-5400-44DF-8A62-6273798A2F80.html?resultof=%2522%2566%256f%2572%2567%2565%2564%2522%2520%2522%2566%256f%2572%2567%2522%2520%2522%2574%2572%2561%256e%2573%256d%2569%2574%2573%2522%2520%2522%2574%2572%2561%256e%2573%256d%2569%2574%2522%2520>

The setting for the MAC Address Changes option **affects traffic that a virtual machine** receives.

When the option is set to Accept, ESXi accepts requests to change the effective MAC address to other than the initial MAC address.

When the option is set to Reject, ESXi does not honor requests to change the effective MAC address to anything other than the initial MAC address, which protects the host against MAC impersonation. The port that the virtual adapter used to send the request is disabled and the virtual adapter does not receive any more frames until it changes the effective MAC address to match the initial MAC address. The guest operating system does not detect that the MAC address change was not honored.

<http://pubs.vmware.com/vsphere-51/index.jsp#com.vmware.vsphere.security.doc/GUID-942BD3AA-731B-4A05-8196-66F2B4BF1ACB.html?resultof=%2522%256d%2561%2563%2522%2520%2522%2561%2564%2564%2572%2565%2573%2573%2522%2520%2522%2563%2568%2561%256e%2567%2565%2573%2522%2520%2522%2563%2568%2561%256e%2567%2522%2520>

But according to VMware's Mock Exam: MAC Address Changes affects outbound traffic but not the traffic to which a VM can listen. I'm confused ;-)

### QUESTION 29

Which of the following functions cannot be performed remotely and must be performed from the ESXi Direct Console (Choose Three)?

A. Configure DNS Settings



- B. Restart Management Agents
- C. Test the Management Network
- D. Restore a Standard Switch
- E. Configure a Static IP Address

**Correct Answer:** BCD

**Section:** ESXi

**Explanation**

**Explanation/Reference:**

### QUESTION 30

Several virtual machines residing in a resource pool are exhibiting pools and critical virtual machines in the pool appear hung. The resource pool has been allocated exactly 500MHz of CPU and does not have the Expandable Reservation option selected. The cluster in which the resource pool resides has a total of 6000MHz, with 1000MHz available. Which step can be used to increase the performance of the critical vms?

- A. Increase the CPU limit on the critical virtual machine.
- B. Increase the CPU reservations on the critical virtual mach
- C. Increase the CPU reservations on the resource pool
- D. Increase the CPU limit on the resource pool

**Correct Answer:** C

**Section:** Resource Pools

**Explanation**

**Explanation/Reference:**

There are 1000Mhz of CPU resources available but the VM is not using it therefore there is a limit that has been set on the VMs. The solution is to either remove the limit or increase it.

### QUESTION 31

A 2TB VMFS3 datastore has been upgraded to VMFS5. The original block size was 2MB. What effect will this upgrade have on the maximum file size supported by the datastore?

- A. The maximum virtual disk size remains 512MB
- B. The maximum virtual disk size increases to 1TB
- C. The maximum virtual disk size increases to 32TB providing the datastore is also increased
- D. The maximum virtual disk size increases to 2TB minus 512 Bytes

**Correct Answer:** D  
**Section:** Datastores  
**Explanation**

**Explanation/Reference:**  
<http://blogs.vmware.com/vsphere/2011/08/2tb-vm disks-on-upgraded-vmfs-3-to-vmfs-5-really.html>

**QUESTION 32**

Your manager has requested that you look for ways to ensure that your storage is utilized evenly. Which feature of vSphere 5 would help achieve this request?

- A. sDRS
- B. profile driven storage
- C. VAAI
- D. thin provisioning

**Correct Answer:** A  
**Section:** Shared Storage  
**Explanation**

**QUESTION 33**

Networking policies for a vSphere Standard Switch, such as traffic shaping and security, can be overridden on which vSphere elements?

- A. On the virtual machine
- B. On the physical switch
- C. On the physical network interface
- D. On the port group

**Correct Answer:** D  
**Section:** Standard Switches  
**Explanation**

**Explanation/Reference:**

**QUESTION 34**

What happens to the total number of shares available to the children of a resource pool if a virtual machine is powered off inside the resource pool?

- A. It remains the same

- B. It decreases
- C. It increases
- D. It remains the same only if a custom share value was configured

**Correct Answer:** B

**Section:** (none)

**Explanation**

**Explanation/Reference:**

Remove a Virtual Machine from a Resource Pool

You can remove a virtual machine from a resource pool either by moving the virtual machine to another resource pool or deleting it.

**When you remove a virtual machine from a resource pool, the total number of shares associated with the resource pool decreases**, so that each remaining share represents more resources. For example, assume you have a pool that is entitled to 6GHz, containing three virtual machines with shares set to Normal. Assuming the virtual machines are CPU-bound, each gets an equal allocation of 2GHz. If one of the virtual machines is moved to a different resource pool, the two remaining virtual machines each receive an equal allocation of 3GHz.

[http://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.resmgmt.doc\\_50/GUID-727A88F2-D1C4-4AAE-8261-C75A1EA4A97A.html](http://pubs.vmware.com/vsphere-50/index.jsp#com.vmware.vsphere.resmgmt.doc_50/GUID-727A88F2-D1C4-4AAE-8261-C75A1EA4A97A.html)

#### **QUESTION 35**

An administrator wants to configure a DRS Migration Threshold that allows automated migration only when a host is placed into maintenance or to satisfy cluster constraints. What setting should be utilized?

- A. Priority 2
- B. Priority 4
- C. The most conservative setting
- D. The default setting

**Correct Answer:** C

**Section:** Migrate VMs

**Explanation**

**Explanation/Reference:**

#### **QUESTION 36**

An administrator is responsible for enabling file access for desktop users. Many users have complained that they cannot access their files. An alert in the vSphere Client states that the storage connectivity alarm for all hosts has been triggered. The storage screen indicates that everything is connected, but the triggered alert

has not been acknowledged. Which action will correct the user access problem?

- A. Rescan the storage on the file-sharing virtual machine on which the users are seeing the problem.
- B. Reconnect the storage containing the user files to all hosts in the cluster, then Refresh datastores on all hosts in the cluster.
- C. Tell each user to reboot their computer.
- D. Reconnect the storage containing the user files to all hosts in the cluster, then Rescan datastores on all hosts in the cluster.

**Correct Answer:** D

**Section:** Troubleshoot Storage

**Explanation**

**Explanation/Reference:**



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