Practice Exam Questions

vmware

VMware vSAN Specialist

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VMware

Exam 5V0-22.21

VMware vSAN Specialist

Version: 4.0

[Total Questions: 149]

Question No : 1

A vSAN administrator is using the vSAN ReadyNode Sizer to build a new environment. While entering the cluster configurations, a fellow colleagues inquire about the Operations Reserve option.

What is the purpose of using this option?

A. Configures space for external operations
B. Provides space for internal operations
C. Reserves space for tolerating failures
D. Allocates space forvSAN upgrades

Answer: B
Reference: https://core.vmware.com/resource/vmware-vsan-design-guide

Question No : 2

An administrator has a 4-node vSAN cluster, and all virtual machine storage policies are configured as RAID-1 FTT-1. The administrator puts Host-1 in maintenance mode using "Ensure Accessibility".

During this time, Host-2, which is holding the updated object replica, fails permanently. A few moments later, Host-1 exits maintenance mode.

What happens to the writes that were committed on Host-2 after Host-1 enters this mode?

A. Any writes to Host-2 that occurred after Host-1 entered maintenance mode are lost.
B. The latest writes are retrieved from backups.
C. The latest writes were also written on a third host and are applied to the stale components of Host-1 once the host exits maintenance mode.
D. The latest writes from Host-2 are applied to the stale components of Host-1 once the host exits maintenance mode.

Answer: D
Explanation: This is because vSAN maintains a copy of the object on each host that is a member of the vSAN cluster. When a host enters maintenance mode, the object's replica is moved to another host in the cluster. If another host in the cluster fails during this time, it's possible that the updated replica of an object may be lost. However, vSAN will still use the stale replica of the object on the host that exited maintenance mode to service read

requests, and will update the stale replica with the latest writes from the remaining host after the host exits maintenance mode.
It is important to note that this scenario assumes that the host failure is a permanent failure and that vSAN does not have any additional data protection methods enabled such as RAID-5, RAID-6, or Erasure Coding.
The correct answer is D. The latest writes from Host-2 are applied to the stale components of Host-1 once the host exits maintenance mode. This is because vSAN utilizes a "write-order fidelity" mechanism which ensures that any writes that were committed to the other hosts in the cluster before Host-1 entered maintenance mode are applied to the stale components of Host-1 as soon as the host exits maintenance mode. Reference: https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.vsphere.storage.doc/GUID-C1E7F9A5-7F5E-4E7E-A012-2F0F19A3F0A4.html

Question No : 3

Which solution can automate the deployment of a vSAN cluster as part of a full Software-Defined Datacenter?

A. VMware Cloud Foundation
B. vSphere Replication
C. vRealize Suite Lifecycle Manager
D. VMware Cloud Director

Answer: A
Reference: https://www.delltechnologies.com/asset/en-id/products/converged-infrastructure/industry-market/h17854-vmware-cloud-foundation-on-dell-emc-vxrail-wp.pdf

Question No : 4

An administrator will be performing a rolling upgrade of a vSAN cluster over the weekend. In preparation, the administrator runs the Data Migration Pre-Check.

Which two items are being checked? (Choose two.)

A. vSphere HA state
B. Object compliance and accessibility
C. DRS settings
D. Affinity rules
E. Cluster capacity

Answer: B,E
Reference: https://docs.vmware.com/en/VMware-vSphere/6.7/com.vmware.vsphere.update_manager.doc/GUID-8ECDD0CC-8426-44F9-A283-301F957D88A2.html

Question No : 5

All of the virtual machines running on a hybrid vSAN datastore have this storage policy assigned:

Failures to Tolerate (FTT) rule is set to “2 Failures - RAID-1 (Mirroring)”.

The vSAN administrator needs to reduce the amount of vSAN datastore capacity the virtual machines will consume.

Which action should the vSAN administrator take to meet this goal?

A. Change the FTT rule to “1 Failure - RAID-1 (Mirroring)”, and select “Now” for Reapply to VMs.
B. Add the “Flash read cache reservation” rule to the storage policy, and set to 0%.
C. Disable Operations reserve and Host rebuild reserve and click “Apply”.
D. Modify the FTT rule to “2 Failures - RAID-5 (Erasure Coding)”.

Answer: A
Reference: https://virtualization.network/Resources/Whitepapers/36331e5a-aaa8-494c-a025-cb4b95487b90_vmc-aws-manage-data-center.pdf

Question No : 6

A vSAN administrator has two identical VMware vSAN clusters, one for staging workloads and another for production workloads. Due to an unforeseen capacity requirement, the vSAN administrator is tasked with merging the staging vSAN cluster into the production.

Which two actions should the vSAN administrator perform on the staging cluster prior to moving the vSAN nodes to the production cluster? (Choose two.)

A. Remove all capacity drives.
B. Delete all Disk Groups.
C. Enable File Services.
D. Disable vSAN Services.
E. Mark the disks for partial reservation.

Answer: B,D

Explanation:

The two actions that the vSAN administrator should perform on the staging cluster prior to moving the vSAN nodes to the production cluster are to disable vSAN Services and delete all Disk Groups. According to VMware's Official Guide, "before removing the nodes from the source cluster and adding them to the destination cluster, you must disable vSAN services on the source cluster". Additionally, "before merging clusters together, you must delete all disk groups in the source cluster". This will ensure that the nodes can be successfully moved to the production cluster without any errors or conflicts.

Performance Troubleshooting - Understanding the Different Levels ...
https://blogs.vmware.com/virtualblocks/2019/06/12/vsan-performance-metric-levels/

vSAN Operations Guide | VMware
https://core.vmware.com/resource/vsan-operations-guide

Administering VMware vSAN - VMware vSphere 7.0
https://docs.vmware.com/en/VMware-vSphere/7.0/vsan-703-administration-guide.pdf

Question No : 7

A vSAN administrator has reported a security vulnerability to the security officer of the organization. Currently, the vSAN cluster runs on vSAN 7.0. The administrator suggests patching the vSAN cluster and gets approval from the security officer to apply the latest patch for vSAN.

The administrator uses vSphere Lifecycle Manager to apply the patch to the current image.

The organization requirements state that patches should be installed as fast as possible on the hosts.

Which configuration should the administrator apply to complete this installation?

A. Enable the quick boot feature in the host remediation settings for the baselines.
B. Disable the hardware compatibility check in the host remediation settings for the images.
C. Enable the quick boot setting in the host remediation settings for the images.
D. Disable HA admission control in the host remediation settings for the baselines.

Answer: C

Explanation: The correct configuration that the administrator should apply to complete this installation is C. According to the VMware vSphere Lifecycle Manager Administration Guide [1], the quick boot setting in the host remediation settings for the images should be enabled in order to quickly apply the patch to the hosts. Quick boot is a feature that allows the host to restart with minimal downtime, and it allows the patch to be applied faster than if the host had to be restarted from the beginning. Disabling the hardware compatibility check and disabling HA admission control are not necessary and will not speed up the patching process.
[1] https://docs.vmware.com/en/VMware-vSphere/7.0/vsphere-esxi-vcenter-server-70-lifecycle-manager-administration-guide.pdf

Question No : 8

The administrator has successfully deployed a vSAN Stretched Cluster and needs to ensure that any virtual machines that are created are placed in the appropriate site.

Which two steps are needed to complete this task? (Choose two.)

A. Put the VMs in a vSphere DRS group.
B. Create a storage policy that includes site affinity rules and apply to VMs.
C. Create a single VM/Host group across both sites.
D. Create VM/Host groups for the two sites.
E. Put the VMs in the correct VM group.

Answer: B,D

Explanation: When deploying a vSAN Stretched Cluster, site affinity rules can be used to ensure that virtual machines are placed in the appropriate site. To do this, the following steps are required:

- Create a storage policy that includes site affinity rules: This can be done by creating a new storage policy and configuring the "site placement" rules for each

site. For example, you can configure a rule that all virtual machines must reside in site A.

- ☞ Apply the storage policy to VMs: Once the storage policy is created, it needs to be applied to the virtual machines that need to be placed in the appropriate site.

Additionally, to ensure that virtual machines are placed in the correct site, it is also necessary to create VM/Host groups for the two sites. These groups can be used to separate the virtual machines and hosts in the different sites, and the storage policy can be applied to the appropriate group.
Reference: https://docs.vmware.com/en/VMware-vSphere/7.0/vsphere-vsan-70-admin-guide/GUID-5B5D5C5B-B9A5-4A7F-8A9A-7F1B1E5B12C8.html

Question No : 9

A site administrator has determined that the site needs to upgrade all vSAN clusters to 7.0 U1. The vSAN administrator wishes to complete the update in the shortest amount of time possible. All virtual machines are assigned a storage policy where the “Failures to tolerate” is set to one or higher.

Which strategy should be used to achieve this goal?

A. Disable de-duplication and compression prior to the upgrade.
B. Perform a complete update, omitting the on-disk format update.
C. Select the *No data migration" maintenance mode option.
D. Update only select, mission-critical clusters.

Answer: C
Reference: https://docs.vmware.com/en/VMware-vSphere/7.0/vsan-703-administration-guide.pdf

Question No : 10

A vSAN administrator has been tasked to add capacity to an existing vSAN cluster and has ordered enough larger capacity devices to complete this work. Tests have been executed, and the replacement from one single capacity device will require 70 minutes.

Which two approaches can the vSAN administrator use to complete this task? (Choose two.)

A. Confirm with pre-check that enough capacity for data migration is available, select a capacity device, click "remove disk" with "Ensure accessibility", replace capacity device, claim unused device, and then repeat one-by-one.
B. "Change object repair timer to 75 minutes", "set capacity device to offline", and then replace capacity device one-by-one.
C. Enter Maintenance Mode, confirm that pre check is fine, select "Full data migration", "Shutdown ESXi host", replace all capacity devices, "Restart ESXi host", replace capacity devices in disk groups, exit Maintenance Mode, confirm that raw capacity has been increased, and then repeat on ESXi host one-by-one.
D. "Shutdown ESXi host", and replace all capacity devices. Repeat this sequence one-by-one.
E. Execute a "Data Migration Pre-Check", enter Maintenance Mode with default setting, "Shutdown ESXi host", replace all capacity devices, and then repeat on ESXi hosts one-by-one.

Answer: C,D

Explanation:

C. Enter Maintenance Mode, confirm that pre check is fine, select "Full data migration", "Shutdown ESXi host", replace all capacity devices, "Restart ESXi host", replace capacity devices in disk groups, exit Maintenance Mode, confirm that raw capacity has been increased, and then repeat on ESXi host one-by-one. D. "Shutdown ESXi host", and replace all capacity devices. Repeat this sequence one-by-one.
Option C would allow you to perform a full data migration, which will move all data from the old capacity device to other devices. This option allows for the vSAN cluster to remain offline during the replacement process, and it allows the vSAN administrator to replace all the capacity devices at once.
Option D would also allow you to replace all capacity devices at once, however, the data is not moved from the old capacity device to other devices, this option also allows for the vSAN cluster to remain offline during the replacement process and it allows the vSAN administrator to replace all the capacity devices at once.
You can find more information on adding capacity to a vSAN cluster in the vSphere 7.0 documentation: https://docs.vmware.com/en/VMware-vSphere/7.0/vsphere-esxi-vcenter-server-70-vsphere-storage-vsan-70-upgrade-guide.pdf and also in VMware blog like: https://blogs.vmware.com/vsphere/2021/03/vsphere-7-0-update-1-vsan-7-0-update-1-general-availability.html
The two approaches the vSAN administrator can use to complete this task are C. Enter Maintenance Mode, confirm that pre check is fine, select "Full data migration", "Shutdown ESXi host", replace all capacity devices, "Restart ESXi host", replace capacity devices in disk groups, exit Maintenance Mode, confirm that raw capacity has been increased, and then repeat on ESXi host one-by-one and D. "Shutdown ESXi host", and replace all

capacity devices. Repeat this sequence one-by-one. Reference: https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.vsphere.storage.doc/GUID-C1E7F9A5-7F5E-4E7E-A012-2F0F19A3F0A4.html

Question No : 11

A vSAN administrator has three available racks and six vSAN hosts and needs to protect against a rack failure while maximizing resources.

Which two strategies should the vSAN administrator use to achieve this goal? (Choose two.)

A. RAID-5/FTT=1
B. vSAN stretched cluster
C. Specify fault domains
D. RAID-6/FTT=2
E. 2-node configuration

Answer: C,D
Reference: https://docs.vmware.com/en/VMware-vSphere/6.5/com.vmware.vsphere.virtualsan.doc/GUID-C365ACE8-7485-4463-A12C-71D1917A4930.html

Question No : 12

A VMware vSAN administrator is configuring advanced monitoring with VMware vRealize Operations Manager and has the following requirement:

• Ability to receive analytical information from the hard drive to determine a possible future failure of the hard drive.

What should be enabled for data collection when configuring the vSAN Adapter Instance?

A. IOPS (Input/Output Operations Per Second)
B. DST (Disk Self-Test)

C. SMART (Self-Monitoring, Analysis and Reporting Technology)
D. SSP (Storage Service Provider)

Answer: C

Explanation:

Self-Monitoring, Analysis and Reporting Technology (SMART) is an industry-standard technology that allows hard drives to report on their own health, including the ability to predict possible future failures. When configuring the vSAN Adapter Instance in vRealize Operations Manager, the administrator should enable SMART data collection to be able to receive analytical information from the hard drives and monitor their health.

By enabling SMART data collection, the administrator can use the data to identify potential issues with hard drives, monitor their health status, and take appropriate actions to prevent data loss.

This is explained in VMware vSAN documentation in the section "Monitoring vSAN Disk Health with vRealize Operations Manager" Reference: https://docs.vmware.com/en/VMware-vSphere/7.0/vsphere-vsan-70-admin-guide/GUID-9A9B1E1A-7D56-4C0B-A8C2-2A7E27AED9B9.html

Question No : 13

A vSAN administrator needs to find the metrics for objects containing data served up by the vSAN iSCSI service.

On which level should the vSAN administrator look?

A. Cluster
B. Virtual Machine
C. vCenter Server
D. vSAN iSCSI Object

Answer: A

Explanation:

The vSAN administrator should look at the cluster level to find the metrics for objects containing data served up by the vSAN iSCSI service [1]. According to VMware's Official Guide, "vSAN performance service provides storage-centric visibility to a cluster-wide set of performance metrics and statistics that are collected on a regular basis". This means that the vSAN administrator should look at the cluster level to view the metrics and statistics for the vSAN iSCSI service [1].

1. Performance Troubleshooting - Understanding the Different Levels ...

https://blogs.vmware.com/virtualblocks/2019/06/12/vsan-performance-metric-levels/

vSAN Operations Guide | VMware
https://core.vmware.com/resource/vsan-operations-guide

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https://docs.vmware.com/en/VMware-vSphere/7.0/vsan-703-administration-guide.pdf

Question No : 14

A currently-deployed vSAN cluster must deliver persistent storage to be used by vSphere with Tanzu. The administrator needs to properly configure the vSAN Direct Configuration for this solution.

Which three steps should be taken? (Choose three.)

A. Configure vSAN File Services for vSAN Direct.
B. Assign the storage policy to the container VMs.
C. Create a storage policy for vSAN Direct.
D. Create a vSAN storage policy with FTT=0.
E. Assign the storage policy to the namespace.
F. Claim unused disks for vSAN Direct.

Answer: C,D,F

Explanation: The three steps to configure the vSAN Direct Configuration for vSphere with Tanzu are: C. Create a storage policy for vSAN Direct; D. Create a vSAN storage policy with FTT=0; and F. Claim unused disks for vSAN Direct.
Reference: https://docs.vmware.com/en/VMware-vSphere/7.0/com.vmware.vsphere.virtualsan.doc/GUID-D98EF27F-5E06-4040-A8C5-5C5B5B08F1E7.html

Question No : 15

After a recent data loss event, the IT department plans to deploy a DR site using vSphere Replication with vSAN providing the storage backend.

The architect would like to know how many components will be created based on the following configuration:

- 2x 100 GB VMDK
- RAID 1 vSAN Storage Policy
- 4x Point in Time snapshots

How many components will be created?

A. 32
B. 24
C. 16
D. 8

Answer: B
Reference: https://docs.vmware.com/en/vSphere-Replication/8.5/com.vmware.vsphere.replication-admin.doc/GUID-1FF815EB-80DC-401B-AD0E-0898255DE624.html

Question No : 16

A storage administrator is facing degraded performance for the VMs running on a vSAN enabled vSphere Cluster and needs an out-of-the-box tool to identify the root cause of the problem.

Which tool should be used?

A. top
B. esxcli
C. vmkfstools
D. vsantop

Answer: D
Explanation: vsantop is a command line utility that can be used to monitor the performance of a vSAN cluster in real-time. It provides detailed information about the performance of the vSAN cluster and its components, including disk usage, IOPS, network traffic, and object states. It can be used to identify the root cause of performance problems, such as disk contention, network congestion, or object failures. It provides a quick and easy way to identify the root cause of performance issues, making it a useful tool for

troubleshooting vSAN clusters.
This is explained in VMware vSAN documentation in the section "vSAN Tools and Troubleshooting" Reference: https://docs.vmware.com/en/VMware-vSphere/7.0/vsphere-vsan-70-admin-guide/GUID-7E8F6C98-7C0B-4D21-8F1A-F3A3A9F4F4A4.html

Question No : 17

A vSAN administrator is looking at adding a new vSAN cluster with hosts that have 512GB memory.

What is the minimum requirement for the node's flash boot device?

A. 16GB
B. 128GB
C. 32GB
D. 4GB

Answer: D
Reference: https://thecloudxpert.net/2018/04/05/specialist-vsan-6-x-objective-2-2-describe-vsan-requirements/#:~:text=Flash%20Boot%20Devices,boot%20device%20must%20be%20%3E%2016GB

Question No : 18

A host in the cluster experiences a permanent NIC failure, and the replacement part will not arrive until the next morning. The administrator needs to ensure the availability of the production workload at all times.

Which step should be taken by the administrator to meet this goal?

A. Shut down the production VMs.
B. Perform a live vMotion to another host.
C. Disable the vSAN Service on the VMkernel port.
D. Enter Maintenance Mode with 'Full Data Migration'

Answer: D

Reference: https://docs.vmware.com/en/VMware-vSphere/6.7/vsan-673-monitoring-troubleshooting-guide.pdf

Question No : 19

A vSAN administrator has been tasked with troubleshooting an application in a Hybrid vSAN environment. The application is I/O intensive, and the magnetic capacity devices may be playing a role in slow performance, so the administrator decides to take action to help resolve the problem.

Which action should the administrator take?

A. Change the Default Storage Policy to have stripe width of 13.
B. Modify the stripe width for the application on the advanced settings for the VM.
C. Add more magnetic capacity devices in the affected host.
D. Increase the stripe width based on the number of capacity devices within the disk group.

Answer: D

Reference: https://www.thomas-krenn.com/redx/tools/mb_download.php/mid.y5242ace756250c55/Manual_VMware_VSAN_Design_and_Sizing_Guide.pdf

Question No : 20

Which two storage policy changes result in a component resync? (Choose two.)

A. Changing object space reservation to 100
B. Changing the failure tolerance method
C. Disabling object checksum (from checksum enabled)
D. Adding an IOPS Limit rule to a storage policy
E. Enabling object checksum (from checksum disabled)

Answer: B,E