Vendor:EMC

Exam Code:E20-526

Exam Name: XtremIO Solutions and Design Specialist Exam for Technology Architects

Version: Demo

QUESTION 1

When using XtremIO storage with Solaris (SPARC), what is the EMC recommended I/O size that will deliver sequential I/O more efficiently to XtremIO?

A. 1 MB

B. 2 MB

C. 4 MB

D. 8 MB

Correct Answer: C

EMC recommended setting for Solaris include that the /etc/system file be modified to include the following parameter:

* Set maximum IO size

set maxphys = 0x400000

This also requires increase of the maximum I/O size for the disk driver. The corresponding entry and file for

this change are different for different Solaris versions, as follows:

For Solaris 10 (SPARC):

File: /kernel/drv/ssd.conf

Setting: ssd_max_xfer_size=0x400000;

For Solaris 10 (x86):

File: /kernel/drv/sd.conf

Setting: sd_max_xfer_size=0x400000;

Etc.

References: EMC Host Connectivity Guide for Oracle Solaris, page 167

https://www.emc.com/collateral/TechnicalDocument/docu5132.pdf

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QUESTION 2

Where is the XtremIO VSS hardware provider package installed?

A. On all X-Bricks in the cluster

B. On the XMS

C. Factory-installed on the array

D. On the backup server

Correct Answer: D

In order to use the XtremIO VSS provider it must be installed on the server where we want to do an application consistent snapshot.

References: http://muegge.com/blog/tag/xtremio/

QUESTION 3

When using the XtremIO PoC Toolkit, what is the purpose of the Age phase?

A. Continuously write to a specific range of logical block addresses to test Flash durability

B. Overwrite each LUN multiple times to ensure they contain all unique data

C. Test the performance of the All-Flash array with non-production static data

D. Scatter writes across the entire array to simulate ordinary use of the system

Correct Answer: D

Proceed with filesystem aging by doing random overwrite cycles.

QUESTION 4

Which operation is performed when an XtremIO Snapshot is created?

A. Pointers to the ancestor metadata are created for the snapshot

B. Space equal to the size of the ancestor is allocated to the snapshot

C. A reserved space is created for new snapshot data

D. A deduplication pass is immediately run against the snapshot

Correct Answer: A

When a snap is created, the following steps occur: 1) Two empty containers are created in-memory 2) Snapshot SCSI personality is pointing to the new snapshot sub-node 3) The SCSI personality which the host is using, is linked to the second node in the internal data tree

References: EMC RECOVERPOINT REPLICATION OF XTREMIO, Understanding the essentials of RecoverPoint Snap-based replication for XtremIO, page 8 https://www.emc.com/collateral/white-papers/ h14296-wp-recoverpoint-replication-of-xtremio.pdf

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QUESTION 5

How many management IP addresses are required on a single XtremIO storage controller?

A. 1

B. 2

C. 3

D. 4

Correct Answer: A

References: https://docs.openstack.org/juno/config-reference/content/XtremIO-cinder-driver.html#xtremiomanagement-ip

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QUESTION 6

What is considered typical performance for an XtremIO single X-Brick cluster?

A. Small block writes: 200k-250k IOPs. Large block reads: up to 2.5 GB/s

B. Small block writes: 200k-250k IOPs. Large block writes: up to 2.5 GB/s

C. Small block reads: 200k-250k IOPs. Large block writes: up to 2.5 GB/s

D. Small block reads: 200k-250k IOPs. Large block reads: up to 2.5 GB/s

Correct Answer: C

Choose an EMC XtremIO system and scale out linearly by adding more XtremIO X-Bricks.

System	Raw Capacity	Read/Write IOPS	Read IOPS
Starter X-Brick	5 TB	150K	250K
1 X-Brick	10, 20, or 40 TB	150K	250K
2 X-Brick Cluster	20, 40, or 80 TB	300K	500K
4 X-Brick Cluster	40, 80, or 160 TB	600K	1M
6 X-Brick Cluster	120 or 240 TB	900K	1.5M
8 X-Brick Cluster	160 or 320 TB	1.2M	2M

References: https://store.emc.com/en-us/Product-Family/EMC-XtremIO-Products/EMC-XtremIO-All-FlashScale-Out-Array/p/EMC-XtremIO-Flash-Scale-Out

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QUESTION 7

A physical XtremIO Management Server (XMS) has failed and requires replacement. Which two software packages are required for recovery?

A. XMS image and OVA image

B. Xtremapp and OVA image

C. XMS image and Xtremapp

D. Xtremapp and MPIO

Correct Answer: C

The first step is to re-install the XMS image, in the event it is a physical XMS then you may install an image via a USB flash drive or for a virtual XMS simply deploy the provided VMware OVA image.

The following step is to upload the XMS software to the images directory of the XMS and login with install mode .....

Once logged into the XMS console with xinstall then perform the following sequence of steps:

1. Configuration

5. Perform XMS installation only

11. Run XMS Recovery

```
Install menu
1. Configuration
2. Check configuration
3. Display configuration
4. Display installed Xtremapp version
5. Perform XMS installation only
6. Perform "fresh" installation(XMS + storage controllers)
7. Set IP Client Configuration
8. Start IP Client Installation
9. Set Policy Manager configuration
10. Start Policy Manager Installation
11. Run XMS Recovery
12. Reboot
99. Exit
```

Options to choose when running the "XMS Recovery":

```
> > 11
Enter IP Address or Host Name of the System Manager Storage Controller (usually the first) (previous value: ''):
> 172.      .40
Input received: '172.      .40'
Enter selection for Keeping the GUID of the old XMS (Y/N) (previous value: 'N'):
> N
Input received: 'N'
Enter selection for restoring the original DB in case of failure (Y/N) (previous value: 'Y'):
> Y
Input received: 'Y'
Running: /xtremapp/bin/xms-recovery 172.      ..40
```

References: https://davidring.ie/2015/02/20/emc-xtremio-redeploying-xms-xtremio-management-server/

QUESTION 8

A new 500 GB VM disk is created on a database that resides on an XtremIO LUN. The VMware administrator plans to provision the disk using the thick provisioned eager zeroed format.

How much physical XtremIO capacity will be allocated during this process?

A. 5 GB

B. 10 GB

C. 50 GB

D. None

Correct Answer: D

XtremIO storage is natively thin provisioned, using a small internal block size. This provides fine-grained resolution for the thin provisioned space. All volumes in the system are thin provisioned, meaning that the system consumes capacity only when it is actually needed. XtremIO determines where to place the unique data blocks physically inside the cluster after it calculates their fingerprint IDs. Therefore, it never preallocates or thick-provisions storage space before writing.

References: Introduction to the EMC XtremIO STORAGE ARRAY (April 2015), page 22

QUESTION 9

A customer has purchased a two X-Brick XtremIO array with a physical XtremIO Management Server (XMS). The customer plans to use all Fibre Channel connectivity in the environment.

What are the physical connectivity requirements for the cluster?

A. 1 Copper Ethernet connection, 4 Fibre Channel Optical connections

B. 3 Copper Ethernet connections, 8 Fibre Channel Optical connections

C. 4 Copper Ethernet connections, 16 Fibre Channel Optical connections

D. 5 Copper Ethernet connections, 8 Fibre Channel Optical connections

Correct Answer: B

EMC XTREMIO 4.0 SYSTEM SPECIFICATIONS

Host Connectivity *(Based on number of X-Bricks in the array)*	Starter X-Brick	1 X-Brick	2 X-Brick Cluster	4 X-Brick Cluster	6 X-Brick Cluster	8 X-Brick Cluster
Fibre Channel Ports (8Gbps)	4	4	8	16	24	32
iSCSI Ethernet Ports (10Gbps)	4	4	8	16	24	32

Management	Starter X-Brick	1 X-Brick	2 X-Brick Cluster	4 X-Brick Cluster	6 X-Brick Cluster	8 X-Brick Cluster
Ethernet Ports (1Gbps)	2	2	4	8	12	16

References: http://www.aecl.com/AECWeb/media/Assets/PDF/h12451-xtremio-4-system-specificationsss.pdf

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QUESTION 10

A customer has the following requirements for their VDI deployment: Greater than 1000 desktops with the ability to grow 10% for the next 3 years Low latency boot volumes General purpose NAS for home directories Remote replication with the ability to snap at every write Capable of delivering 100 IOPs per desktop

Which EMC technologies should be recommended?

A. XtremIO, RecoverPoint CRR, and VPLEX only

B. VSPEX Blue, RecoverPoint CDP, and VNX

C. Isilon, VSPEX Blue, VPLEX, and RecoverPoint CDP

D. XtremIO, RecoverPoint CRR, VPLEX, and Isilon

Correct Answer: A

The EMC RecoverPoint family provides cost-effective, local continuous data protection (CDP), continuous remote replication (CRR), and continuous local and remote replication (CLR) that allows for any-point-intime data recovery and a new "snap and replicate" mechanism for local and remote replication (XRP).

Splitter-based replication, using VPLEX RecoverPoint splitter-based replication provides synchronous replication, continuous replication with fine recovery granularity (journal based), and replication for active-active datacenters.

References: Introduction to the EMC XtremIO STORAGE ARRAY (April 2015), page 52

QUESTION 11

At which point is data compressed when a host sends data to the XtremIO storage system?

A. Inline before data is written to the SSD

B. Once data is written to the storage controller

C. After data is written to the SSDs

D. After data is in SSD cache

Correct Answer: A

XtremIO inline data deduplication and inline data compression services are inline, all the time.

References: https://www.emc.com/collateral/faq/faq-million-dollar-guarantee-rp-2016.pdf

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QUESTION 12

You have worked with a customer to successfully evaluate their existing server environment using the MiTrend data analysis tool. You have collected the resulting reports and aggregated the data set. You determine the customer\\'s application workload generates a 50:50 read/write ratio with an average of 500K IOPs during peak business hours.

Which recommended XtremIO model meets the customer\\'s needs?

A. Starter X-Brick cluster

B. Single X-Brick cluster

C. Two X-Brick cluster

D. Four X-Brick cluster

Correct Answer: D

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8 X-Brick Cluster	160 or 320 TB	1.2M	2M

References: https://store.emc.com/en-us/Product-Family/EMC-XtremIO-Products/EMC-XtremIO-All-FlashScale-Out-Array/p/EMC-XtremIO-Flash-Scale-Out