

EE4221 Lectures 1 to 3 Questions

A Simplified Infrastructure of Data Centers

Q1. An IP address 10.0.1.3 belongs to a network that uses a subnet mask of 255.255.0.0. What is the network address of the network?

- a. 10.0.1.3
- b. 10.0.1.0
- c. 10.0.0.0
- d. I don't know

Q2. An IP address 111.0.21.33 belongs to a network having a network address of 111.0.21.0. What is the possible subnet mask of the network?

- a. 255.0.0.0
- b. 255.255.0.0
- c. 255.255.255.0
- d. I don't know

Q3. 255.255.0.255 is a valid subnet mask.

- a. true
- b. false
- c. not sure

Q5. A data center has a network with network address 123.1.0.0 and subnet mask 255.255.255.0. A computer A connected to the networks is going to send an IP packet to computer B. The IP addresses of A and B are 123.1.1.3 and 123.1.1.5 respectively. Then, the IP packet will be sent

- a. directly to 123.1.1.5
- b. to the default gateway of the network
- c. I don't know

Q6. Assuming that the MAC addresses of

Computer A is: MAC-A

Computer B is: MAC-B

Default Gateway: MAC-DG

What are the MAC addresses of the frame that carries the IP packet as mentioned in Q5?

Source MAC:

Destination MAC:

Introduction to Data Center - CDC Storage

Q1. What is prevented using RAID technology?

- a. Switch failure
- b. Host Bus Adapter failures
- c. Data loss
- d. Security breach

Q2. What is true about parity-based RAID?

- a. Parity is read each time a read is performed
- b. Parity is updated each time a write is performed
- c. Parity is updated only when writes fill a stripe
- d. Parity is updated each time when both reads and writes are performed

Q3. Which of the following suffers from write hole problem?

- a. RAID 0
- b. RAID 1
- c. RAID 5
- d. RAID Z

Q4. If read and write performance is the only criterion, which would you choose?

- a. RAID 0
- b. RAID 1
- c. RAID 5
- d. RAID 50

Q5. What is the minimum number of disks needed for RAID 5?

- a. 2
- b. 3
- c. 4
- d. 5

Q6. Suppose that a disk has probability F of failing in a given year, and it takes H hours to replace a disk. What is the probability of data loss?

- a. F
- b. FH
- c. H

d. I don't know

VDC Compute - Compute Virtualization Overview & Techniques

Q1. What is the primary function of hypervisor?

- a. Allows multiple operating systems to run concurrently on a physical machine
- a. Allows multiple operating systems to run concurrently on a virtual machine
- b. Allows multiple file systems to run concurrently on a virtual machine
- c. Allows authorization to virtual machine resources to users

Q2. Go to web and have a look on a product called "VMware Player Plus". Is this product using a bare-metal hypervisor or a hosted hypervisor?

- a. Bare-metal hypervisor
- b. Hosted hypervisor

Q3. Go to web and have a look on a product called "vSphere". Is this product using a bare-metal hypervisor or a hosted hypervisor?

- a. Bare-metal hypervisor
- b. Hosted hypervisor

Q4. Go to web and have a look on a product called "Parallels Desktop". Is this product using a bare-metal hypervisor or a hosted hypervisor?

- a. Bare-metal hypervisor
- b. Hosted hypervisor

Q5. What is stored in virtual machine log file?

- a. Information of virtual machines activities
- b. Virtual machine's RAM contents
- c. Virtual machine BIOS information
- d. Information of virtual machine's configuration

VDC Compute - Resource Management

Q1. What parameter determines the maximum amount of resource that a virtual machine can consume?

- a. Share
- b. Limit
- c. Reservation
- d. Priority

Q2. Which technology enables a physical CPU to appear as two or more logical CPUs?

- a. Hyper-threading
- b. Multi-core
- c. Load balancing
- d. Ballooning

Q3. Which optimization technique is used to detect identical pages in the memory?

- a. Transparent page sharing
- b. Memory ballooning
- c. Memory swapping
- d. Cache flushing

Q4. A server has a 3GHz CPU and a memory size of 16GB. This server is running a virtualization software. Can a VM with a 2GHz CPU and a memory size of 16GB be configured on this server?

- a. Yes
- b. No

VDC Storage

Q1. What is used to create secondary cache in cache tiering mechanism?

- a. DRAM
- b. FC drive
- c. Solid state drive
- d. SATA drive

Q2. When is thin LUN preferred over traditional LUN?

- a. Performance is predominant
- a. Security is more important
- b. Storage space efficiency is paramount
- c. High availability is predominant

Q3. Go to web and find what is a symbolic link. In Windows OSs, symbolic links are supported in the form of:

- a. Symbolic files
- b. Shortcut files
- c. Link files
- d. None of the above

Q4. What is the benefit of using Thin Pool Rebalancing?

- a. To improve speed performance
- b. To improve redundancy performance
- c. To improve security performance
- d. To reduce probability of disk failures