Assignment

NAS and SAN Introduction

	This video tutorial introduces you to Network Attached Storage and Storage Attached Networks. Here, you will learn these high performance network storage technologies . You will also learn about attributes critical for enabling high availability in data center environments. Topics include: • NAS • SAN • Related Issues • iSCI

Table 1 *Eli the Computer Guy's NAS and SAN Video Tutorial.*

You can find this video tutorial at:
http://www.elithecomputerguy.com/2013/09/26/nas-and-san-introduction/

Instructions
For this Assignment, you will first view the NAS and SAN Introduction video tutorial. After viewing the tutorial, answer the following questions. When you have completed your answers, post them to your online portfolio.

Questions

1. When Eli says that NAS is 'basically' a shared file server, what does he mean? How does a NAS differ from a conventional file server?
2. According to Eli, what is the problem with serving files from a conventional Windows File Server?
3. How does Eli define a SAN?
4. In a SAN context, what is a cluster? What are the inherent advantages of a cluster?
5. From Eli's perspective, what is the most obnoxious problem with commercial storage?
6. From Eli's perspective, what is the advantage of storing a VM instance on a SA and running the instance on a hypervisor?
7. From Eli's perspective, what is the major advantage and disadvantage of Fiber Channel?
8. How does Eli describe iSCSI?

Assignment

Introduction to RAID

	This video tutorial introduces you to Redundant Arrays of Inexpensive Disks (RAID). Here, you will learn about technologies that allow you to add redundancy or performance to a system. Note that for our purposes, we are primarily interested in RAID 0, 1, and 5. Topics include: • Disk Striping • Disk Mirroring • Redundancy • Hardware vs Software RAID • Common RAID configurations

Table 1 *Eli the Computer Guy's Introduction to RAID Video Tutorial.*

You can find this video tutorial at:
http://www.elithecomputerguy.com/2010/12/17/introduction-to-raid/

Instructions
For this Assignment, you will first view the Introduction to RAID video tutorial. After viewing the tutorial, answer the following questions. When you have completed your answers, post them to your online portfolio.

Questions

1. From a computer's perspective, what does RAID do?
2. What is the advantage of disk striping?
3. What is the main disadvantage of disk striping?
4. What is the main advantage and disadvantage of disk mirroring?
5. What is the major advantage of RAID 5?
6. In a RAID 5 context, what does hot swappable mean?
7. What are the 3 most common RAID configurations?

Assignment

Introduction to Solid State Drives (SSD)

	This video tutorial introduces you to Solid State Drives (SSDs). Here, you will learn about solid state storage technologies that can allow you to greatly enhance the performance to a system.. Topics include: • NAND based flash memory • Relevant host interfaces

Table 1 *Eli the Computer Guy's Introduction to Solid State Drives Video Tutorial.*

You can find this video tutorial at:
http://www.elithecomputerguy.com/2013/08/08/introduction-to-solid-state-drives-ssd-2/

Instructions
For this Assignment, you will first view the Introduction to Solid State Drives video tutorial. After viewing the tutorial, answer the following questions. When you have completed your answers, post them to your online portfolio.

Questions

1. What is the usual bottleneck for a computer?
2. Do solid state drives wear out in normal usage? Is this relevant?
3. In terms of MTBF how long to SSDs last compared to platter based HDs?

Exam One Review

Exam questions will be drawn from three primary sources:

1. Textbook Chapters 1, 2, 3, and 4. (Know the answers to the end of chapter questions.)
2. Each of the three class assignments.
3. Class presentations.

Expect that the exam will contain between 50 and 70 questions. Most questions will be multiple choice. Though, you can also expect some short answer.

Best of luck!