

STUDENT ACTIVITY 4.1_4.2_KEY: IDENTIFYING STORAGE TECHNOLOGIES AND UNDERSTANDING RAID

MTA Course: 98-365 Windows Server® Administration Fundamentals

Topic: Identify storage technologies; Understand RAID

(One 50-minute class period)

File name: WinServerFund_SA_4.1_4.2_Key

Lesson Objectives

4.1: Identify storage technologies. *This objective may include but is not limited to:* advantages and disadvantages of different storage types; local (SATA, SCSI, IDE); NAS; SAN; fiber channel; iSCSI; NFS; FC HBA and FC switches; iSCSI hardware

4.2: Understand RAID. *This objective may include but is not limited to:* RAID 0, RAID 1, RAID 5, RAID 10 and combinations; hardware and software RAID

Resources, software, and additional files needed for this lesson

- Students should have access to the Internet

Directions to the student

Answer the following questions. You may use the Internet as a resource.

Content:

1. What protocol does iSCSI use to send SCSI commands?

Answer: IP

2. What is a benefit of iSCSI over Fiber Channel?

Answer: Fiber channel is limited to distance. iSCSI isn't.

3. You are tasked with configuring a RAID 5 solution. You have 5 hard drives at your disposal.

Drive	Size
1	50 GB
2	120 GB
3	72 GB
4	500 GB
5	72 GB

- a. What is the total usable storage available in the array after RAID 5 is configured using these 5 hard drives?

Answer: 200 GB. Smallest drive is 50 GB. $50 \times 5 = 250 \times 1/5 = 200$ (50 GB is used for parity).

4. What is a benefit of a Network Attached Storage over a Storage Area Network?

Answer: NAS is not dependent upon a physical server to provide file servicing. SAN stores data in blocks, not a file distributed format.

5. What is the minimum number of drives required to configure RAID 1?

Answer: 2 drives are required.

6. What is another name for RAID 5?

Answer: Disk striping with parity.

7. You have 5 identical hard drives. You want to implement a RAID 10 solution. What would be required in order to accomplish this?

Answer: 5 additional drives would be required to be purchased to create two RAID 5 arrays with 5 drives each. Then the two arrays would be mirrored.