5.8 Storage Spaces

As you study this section, answer the following questions:

- What components are used to create storage spaces?
- What is the difference between a storage pool and a storage space?
- Which hardware devices can be used to make storage pools?
- What are the benefits of using storage pools?
- You are comparing the hardware required for two-way mirroring and three-way mirroring. What is the minimum number of disks required for each data resiliency type?
- How does thin provisioning allow you to allocate more storage space to users than is available in the pool?

In this section, you will learn to:

- Implement storage spaces

Key terms for this section include the following:

Term	Definition
Storage Space	A Windows function that allows you to group physical disks into storage pools and create virtual disks from the available capacity.
Parity	Parity requires that you have at least three storage devices. It uses parity information to reconstruct data if one of the storage devices fails. Parity uses less space for redundancy than the mirror options, but performance is not as good as the mirror options if a device failure occurs. Parity requires only 50 percent more redundancy space than storage space.
Simple data Provisioning	This option simply adds space from the storage pool to the storage space. When you select the Simple option, all of the data in the storage space is lost if one of the drives fails.
Thin provisioning	An option that allows you to allocate larger storage spaces than the disk space available in the pool.
Three-way mirror	Three-way mirror requires at least five storage devices. The data is written to three storage devices. This option provides redundancy for the data if two storage devices fail at one time.
Two-way mirror	Two-way mirror requires at least two storage devices. The data is written to two devices. Two-way mirror requires twice as much device space as the amount of storage allocated to the storage space. This option protects you from a single storage device failure.

This section helps you prepare for the following certification exam objectives:

Exam	Objective
TestOut PC Pro	1.3 Install and configure storage 1.3.2 Configure and manage storage

CompTIA 220-1002	1.5 Given a scenario, use Microsoft operating system features and tools.
	
	▪ Disk Management
	  ▪ Drive status
	  ▪ Mounting
	  ▪ Initializing
	  ▪ Extending partitions
	  ▪ Splitting partitions
	  ▪ Shrink partitions
	  ▪ Assigning/changing drive letters
	  ▪ Adding drives
	  ▪ Adding arrays
	  ▪ Storage spaces