

**STUDENT ACTIVITY 5.1_KEY: IDENTIFY MAJOR SERVER
HARDWARE COMPONENTS**

MTA Course: 98-365 Windows Server® Administration Fundamentals

Topic: Identify Major Server Hardware Components

File name: WinServerFund_SA_5.1_Key

Lesson Objective

5.1: Identify major server hardware components. *This objective may include but is not limited to:* memory; disk; processor; network; 32 and 64 bits; removable drives; graphic cards; cooling; power usage; ports.

Resources, software, and additional files needed for this lesson

- Internet access

Directions to the student

Answer the following questions on a separate sheet of paper. You may use the Internet as a resource.

Content

1. You need to purchase a rack enclosure to store the following:
 - a. Four 1U blade servers
 - b. One 2U Uninterruptable Power Supply
 - c. One 1U Keyboard/Mouse-Monitor
 - d. One 3U server
 - e. One 1U 48-port switch

What is the total height of the modules required to mount in the rack? 1U = 1.75”

Answer: 19.25 inches

What size rack enclosure cabinet would accommodate these equipment modules?
You can select a rack from the following website: <http://www.server-rack-online.com/server-racks.html>

Answer: An APC 24U rack would accommodate this configuration and allow for growth. Any similar size by another manufacturer would also accommodate.

2. What would the server processor requirements be for a server that will be running Windows Server 2008[®] R2 with Exchange Server 2010?

Answer: 64-bit processor. Windows[®] Server 2008 R2 and Exchange Server 2010 both require 64-bit architecture. The number of cores and processors would depend on the size of the organization.

(<http://www.microsoft.com/windowsserver2008/en/us/system-requirements.aspx>)

3. What is the primary reason for a climate controlled data center?

Answer: The primary reason for climate control is to reduce the possibility of downtime due to servers overheating and then failing.

4. What level(s) of the OSI reference model does a Network Interface Card operate at?

Answer: NICs function at both the physical layer and the data link layer.

5. List 3 different server components that offer redundancy.

Answer:

- a. **Disks**
- b. **Power supplies**
- c. **Fans**

Additional acceptable answers would include, NICs, complete servers, etc.

6. What is the primary purpose of an uninterruptable power supply?

Answer: The primary purpose of a UPS is to provide time to either shut down all of the components or modules or to provide enough power to a switch until it can change to an alternative power source. A UPS is not intended to provide power until the main power source is restored. UPS power time typically ranges from 5 to 15 minutes depending on the components connected to the power supply.