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BSIT 4-1

What are the advantages and disadvantages of different server roles?

File Services

•**Advantages:** Files can be centrally stored and kept for the use of several users, which makes it easy to locate and retrieve. This also becomes easier for backing up the files. The information is safer since servers may have duplicate hard disks and can be physically locked in a secure room.

•**Disadvantages:** Large numbers of users accessing files at the same time can swell network traffic, slowing the network. When a file server crashes, all files will be out of reach until the server is repaired. File servers may be expensive to install and maintain, usually needing a trained IT individual to handle them.

Print Services

•**Advantages:** Multiple users can use and share a common, centrally positioned printer through this service. It also facilitates sharing expensive, high-duty, or high-speed printers that are capable of advanced features such as color.

•**Disadvantages:** In the event of the print server being down, shared printers cannot be accessed by users. The operation of the service relies on a reliable network connection.

Web Services

•**Advantages:** Web services can run 24/7, are accommodating of many business functions, and can expand resources to meet growing traffic, making them appropriate for expanding businesses.

•**Disadvantages:** Standalone web servers may represent a heavy investment in infrastructure, upkeep, and upgrades. They are also a prime target for attackers and cyberattacks, and their installation and maintenance are technical.

Remote Access

•**Advantages:** This function enables a user to access a server or network remotely, which eases remote working. It can give users a remote desktop and applications, or complete access to internal network resources through a VPN.

•**Disadvantages:** Remote access can be a potential attack point for unauthorized access if not secured sufficiently with good authentication. The performance of the service also depends upon the reliability and consistency of the internet connection.

Application Servers

•**Advantages:** An application server offers a separate and integrated platform to host business applications. It can centrally control the access and data integrity and also undertake some processing. This server role can also be easily expanded and new components added to the network.

•**Disadvantages:** Application servers' hardware and software can be outrageously costly. They need expert skills to install, manage, and debug. If the application server crashes, all hosted applications are unavailable.

Email Servers

•**Advantages:** This function gives a single point to store and manage electronic messages. It provides increased security for email communications. Messages do not get lost in case a local computer crashes because they are saved on the server.

•**Disadvantages:** Email servers may be costly to keep and need continuous administration. They are a common target for hackers, viruses, and other malicious activities. They can also go offline, which would interrupt all email services.

How important are the expansion slots to a server-type computer?

- Expansion slots are extremely important for a server-type computer because they provide flexibility and upgrade-ability. They allow the server to be customized with additional hardware, which is essential for adapting to changing needs, improving performance, and extending the server's lifespan.

Why are the memory slots have different colors? And why is it important?

-The different colors on memory slots are a visual guide for dual-channel memory configuration. To maximize performance, you should install pairs of matching RAM sticks into slots of the same color, which enables the motherboard to access memory faster.

Site some disadvantage of eSATA?

No power delivery: eSATA ports can't provide power, so external devices need a separate power source. This is a significant drawback compared to USB.

Limited functionality: It's designed solely for connecting external storage devices, unlike versatile ports like USB or Thunderbolt which support a wide range of peripherals.

Reduced popularity: With the rise of faster, more convenient, and more versatile standards like USB 3.0/3.1 and Thunderbolt, eSATA is much less common on modern computers.

Can a computer work without a hard drive? Discuss your answer.

- A computer can work without a hard drive, but it's not practical for everyday use. A hard drive is where the operating system and all your programs are permanently stored. Without one, the computer can still power on and access the BIOS/UEFI, but it won't have a permanent operating system to load. To be useful, it must boot from a temporary source like a USB drive, a CD/DVD, or over a network (PXE boot).

Enumerate the different storage sizes of hard drives (from smallest to largest).

Hard drive storage sizes are measured in bytes, with common capacities increasing in powers of 1,000. **Here are some of the most common hard drive sizes, ordered from smallest to largest:**

Megabyte (MB): Used for very old, small storage devices.

Gigabyte (GB): Once the standard, now considered small for most applications. (e.g., 500GB)

Terabyte (TB): The current standard for most consumer and business hard drives. (e.g., 1TB, 2TB, 4TB)

Petabyte (PB): Used for large-scale data storage in data centers and enterprise environments.

Exabyte (EB): For massive, institutional storage needs like those of major cloud providers.

Zettabyte (ZB): A unit of measurement for data on a global scale.

