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CYSE 280

1. **What are the main problems related to fragmented files?**

Fragmentation causes slow access time because read/write head accessing the data must find all fragments of a file before it can be opened or executed. If the hard drive must do this many files each time it's opened, it can decrease the computer's performance. These are some of the problems related to fragmented files.

**2. Why is backing up an organization’s servers important?**

Storing the copy of the data on separate medium is critical to protect against primary data loss or corruption. Backup copies allow data to be restored from an earlier point in time to help the business recover from an unplanned event.

1. **Discuss in detail the creation of a DNS implementation plan.**

DNS stands for a Domain Name System. DNS resolves names to numbers, to be more specific it resolves domain names to IP addresses. So, if you type in a web address in your web browser, DNS will resolve the name to a number because the only thing computers know are numbers.

1. **What are the advantages and disadvantages of using DHCP?**

Some of the advantages of using DHCP are that DHCP is easy to implement and does automatic assignment of IP addresses to requesting clients. Hence manual configuration time of IP addresses can be reduced. DHCP is also very cost effective.

**5. How did the WannaCry ransomware attack begin? What vulnerabilities did it exploit?**

WannaCry exploited a known vulnerability in older Windows systems called EternalBlue, which was found by the United States National Security Agency (NSA). EternalBlue was stolen and leaked by a group called The Shadow Brokers a few months prior to the attack.

**6.  Who was affected by the WannaCry attack? How much damage did it cause?**

The kill switch prevented already infected computers from being encrypted or further spreading WannaCry. The attack was estimated to have affected more than 300,000 computers across 150 countries, with total damages ranging from hundreds of millions to billions of dollars.

**7.  What lessons can we learn from the WannaCry attack about the importance of cybersecurity and the potential risks of relying on outdated or unsupported software?**

This attack has caused some organizations and individuals to lose valuable data. Having a secure and reliable backup ensures that if an attack is successful, your data is still protected and available. Another lesson we can learn from this is always make sure your software is frequently patched and updated.