IT INFRASTRUCTURE MANAGEMENT WEEK 11 ASSIGNMENT

1.What are the major Performance metrics commonly collected in a server environment during the P and T process? Explain each one of them.

Performance issues in a server environment include the following:

- Processors
- Main memory
- Cache memory
- Swap space
- Number and size of buffers
- Number and type of channels

Disk Storage

• Along with the configuration of the network and the design of the databases, diskstorage has a huge influence on the overall performance of an online system.
• If the disk environment is well tuned, the resulting response times of the onlineapplications are to be acceptable.

This is because the time it takes to do the following, is a relative eternity in computer time.

• To seek for a specific track on a data volume
• To search for a specific piece of data on that track
• To read or write it back out to the controller
• To prepare it for transport along a channel
• To transmit it down the channel
• Finally have it arrive at its destination

2.An online banking application encompasses a complete IT infrastructure management system. For such an application, analyze the possibility of introducing the following two scenarios. One, usage of Storage Area Networks as part of the application. Second, usage of Network Attached Storage as part of the application. Compare the impact of these two scenarios.

Storage Area Network (SAN)

• It is configuration enhancement that places a high-speed fiber-optic switch betweenservers and disk arrays.
• The advantages are speed and flexibility.
• The fiber channel can transmit data between servers an the arrays at speed up to100mb per second as contrast to the other standards which at the rate 6-10mb per second.
• Parameters within switch can help to improve performance by controlling buffers,contention, and load balancing.
• This switch allows a greater number of input paths to the switch than what might beavailable on the array.
• This ratio of server paths to array paths is known as the fan-in ration.

Network Attached Storage (NAS)

- In which the disk array, along with the servers and the clients, is attached directly tothe network.
- Disk arrays connect to the network with special purpose interface devices or by usingmultipurpose operating systems running on multipurpose servers.
- The result is that data can travel from NAS device over the network directly to theserver or the client requesting the data.

Extents

- Extents occur when the amount of data to be written is greater than the contiguousdisk space is allotted.
- Rather than abnormally terminating the request, the operating system will look forempty contiguous space for storing the data.

Fragmentation

- Storage that is allocated in fragments (pieces) and not in sequential order.
- Fragmentation occur by other means as well, with longer disk access times andslower response times