Network operations

Technology, Information Technology

Network Operations Question Criteria NetWare Windows Unix Linux Mac OSX

Server Operating Systems NetWare Version 6 Windows Server 2008, 2012R2

Unix Linux Netware

Fedora , Ubuntu Network Server

Mac OS X Server

Performance

High

High

High

High

High

Acceptance

Wide

Wide

Very wide

Wide

Modest

Cost

Moderate-high

Moderate-high

Moderate-high

Low-moderate

Moderate-high

Stability

High

High

High

High

High

TCP/IP support

Yes

Yes

Yes

Yes

Yes

Strengths

NDS, file server

Microsoft name, Application Server

Stability, Speed, Flexibility

Stability, cost, Speed, flexibility

Stability, Speed

Question 2

LAN stands for local area network while WAN stands for Wide Area Network. LAN network covers small geographical area like homes, office or a school up to a range of 1km. Tamara, (2009) says that WAN covers a broad area of metropolitan, regional boundaries up to a distance of 10000km. LAN uses a peer to peer network topology while WAN, on the other hand, uses a Client to Server model of the topology. LAN uses Ethernet standard while WAN uses T1. LAN uses layer two devices switches and bridges and Layer 1 devices like

hubs and repeaters. WAN mostly uses layer three devices like routers, multi-layer switches and other devices like ATM and Frame Relay switches.

Question 3

The user that gave the request might not have correct access rights to the application given, and it will result into the request failing. The issues can be avoided by setting the client and server to be in the same Windows domain. Make sure the user id of the customer is configured on both the client and server computers. There might be a failed communication between the client and server due to faulty connection hardware or no internet. No connection problems can be avoided by first establishing if there is a link to the server through the ping command. Problems might arise from weak firewall configurations. Firewalls might deny a client access to certain resources on the server, (Tamara, 2009). The problem can be avoided by first disabling firewall to ascertain if that is the cause of the problem and then configuring the firewall setting for the client in question. The transmission might not be successful due to power or electricity interruptions of either the client or server or both. Power interruptions can be avoided by having power backups. Transmission problems might arise due to change of IP addresses. The problem can be solved when using DHCP by setting client lease time to at list 24hrs. The problem can also be solved assigning static IP addresses to client, server or both.

Question 4

Setting up of the a WAN that covers a large area has a lot of challenges during the initial setup. The major challenges are staffing, existing applications, network equipment and managing connectivity outside of the

primary organization location. Staffing and personnel implications to consider include; making sure that the correct employees with the required skills are available at every global location. The senior network designer should make sure there is constant communication with all the teams in all the locations. The personnel should have the correct motivation in terms of pay. Another staff implication from different regions is the situation of the working environment in their area. Barriers to an effective global team include: time restrictions where the working times are different which might create problems in coordination. Language barrier can also be a major challenge since there will be a lack of adequate understanding between the personnel. Other barriers include effective communication like challenges of video conferencing and coordination of all the staff and having the same schedule to adhere to is very hard.

Question 5

Setting up an effective WAN network requires powerful equipment and servers to implement the network (Tamara, 2009). The devices that will be needed include; several workstations, printers Ethernet cables, layer three devices like routers and multilayer switches. Each location in Peru, France, Hungary will have several servers preferably windows server 2012. Tere shall be a windows server 2012 standard and data center edition. Since the main office will be in USA, the servers to be used will be mainly data center edition. Each of the global locations will have a primary server, file sharing server and print server. The location in the USA will also have a web server to handle the website of the company. Users in each location will be able to access specific files from any of the locations if they have the correct access

rights. The users will also have Internet access points in each site or network connectivity through LAN.

Shared devices in each location will include computer operating systems, data storage hard disks and printers. Resources of a computer will be shared through virtualization where several users can use a computers resources. It will be effected through the windows server. Printers will be shared through correct configuration of print servers in each location and storage hard disks will be shared through LAN connections and file sharing server.

Reference

Tamara Dean, (2009). Network+ Guide To Networks. Cengage Learning. New York.