First call essay

Design, Architecture

Calling all computers and other intelligent parts of it as nodes, the term network topology can be defined as patterns of links connecting a pair of nodes of a network. Topologies are generally meant for making LANs.

WANs are just a network with lots of LANs within its large structure (Cisco, 2006). Different topologies define different LANs. A LAN is distinguished by three characteristics: its size, transmission technology, and its topology (Tech, 2006). The two types of transmission technology that are in widespread use are the broadcast links and point-to-point links.   The topology which has been implemented for establishing network in the various departments and establishments of the Corporation will be a hybrid architecture yet very simple to implement and understand. First concentrating on everything present in a particular office, a peer-to-peer architecture will be implemented at section.

The word section here refers to different departments of Mandrake within the same building. A simple peer-to-peer network is implemented in such way that all peripherals of the department get connected. Once this sort of network gets established in each department then the hub or switch of each of these departments is connected to a LAN server. This local network server serves all PCs of the network (Tanenbaum, 2003).

The PCs are connected with LAN cards that help in establishing network connection with maximum possible network speed being 100 mbps. The network architecture will appear very much like the diagram shown above. The server will be used to cater the need of each of the department's local network.

Since, the current business environment demands efficient use of IT in maintaining transparency within the company and at the same time active use of WWW in getting into new markets and opportunities. The system which has been proposed will help the Corporation in maximum possible use of network by making everything available at all PCs connected to the network and at the same time gives option of accessing the same through WWW to have remote access. A virtual connection will make offices at locations present all around the nation to get connected with the head office. The LAN of the different offices can be connected with the head office or the server through VPN technology or Virtual Private Network Technology. The VPN technology is a private network communication technology used within company with message transmission being confidentially or securely done over publicly accessible network (Howstuffwork, 2006). The VPN technology can make private connection between two LANs through the use of publicly accessible network.   Security in the network can be maintained through the authentication system.

Any access to the network or server will require approval from the firewall. Firewall is basically a system which checks the access right of the user. The access rights are assigned by the system administrator and the firewall compares the access right of the client intending to get into the network with the list or database already provided to it by the administrator.

This technology makes the network secure and also gives option to authorized users to access the network through proper channel at either end of the network. Providing internet facility to the PCs present in the network is

to be achieved through sharing the net connection.   The bandwidth is the amount of data that can be transmitted in a fixed amount of time (Webopedia, 2006). For local network, LAN cards and cables used will provide proper bandwidth and will be sufficiently high.

But for VPN, the high speed infrastructure integrated VPN supplied by Cisco Systems can be installed. It can deliver up to 1. 9 Gbps speed with data security through 3DES encryption technique (Cisco, 2001). ReferencesTanenbaum, A. S. 2003. Computer Networks, Pearson Education, Howstuffwork Inc, 2006. http://www.

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