

Networking 2

Technology, Information Technology



Network 2 Designing of the LAN network LAN refers to a Large Area Network. In the case highlighted, the LAN is to be established in an area of over 100m. To start with, coaxial cable is mostly used for video and is no longer a priority in networking. Fiber optic cables are the quickest way transmission for devices currently, and their speeds depend on their diameter, distance of transmission, and light source used to transmit the signals. Twisted pair cables comprise of differently colored wires twisted into a cable. Wireless networks comprise of signals that are broadcasted by the use of a wireless transmitter. A deeper comparison is as shown in the table below.

2. Establishment of a world-wide satellite radio infrastructure

The radio infrastructure will require 4 satellites which will be established at four points whereby one will be in the line of sight of the next satellite. This infrastructure will use Hertzian Insurgency frequency since the normal FM frequency is not applicable over satellites. The orbits for the satellites should be contradictory to that of the moon so as to defy the interference that the moon causes to them as a result of the lunar gravitational pull.

3. Signal sequence in a synchronous connection

A signal in a connection is like water in a river only that the destination of the signal is defined. In addition to the message carried by the signal, there is also the destination address and the origin address. The signal is broken down into smaller segments called data packets and these packets are allocated numbers according to the segment of the signal in which they belong. For example the first segment will be allocated the first number and the last segment will be allocated the last number. These packets use different pathways in the network specifically the shortest route to the

destination and when they all get to the destination they are assembled according to the segment number hence making the original signal.

4. Structure of the network selected

The network selected employs the use of twisted pair cables. This network's structure has an additional device that is the hub. The network uses a topology called the star topology whereby all the components are connected to the hub. This includes the gateway which refers to the computer connected to the internet which provides connection to all the other computers. The hub acts as the central switching device that controls how the messages and signals are relayed within the network. It is also the location whereby signals are kept whenever a transmission medium (cable) is in use since two signals cannot be transmitted over the same cable.

Another alternative device that can be used in place of the hub is the switch (also known as the smart hub).

Bibliography

Higbie, C. (n. d.). Comparisons of coaxial cable fiber optic cable and twisted pair cable. Retrieved June 12, 2012, from techtarget.com: