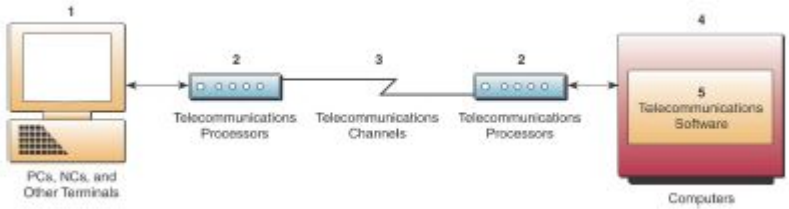
Introduction

TLC Network Model → 5 components



Types of tlc networks

WAN, MAN, LAN

PAN: Personal Area Network: Wireless LAN, Bluetooth, Infrared.

VPN: secure network, relies on firewalls and other sec features.

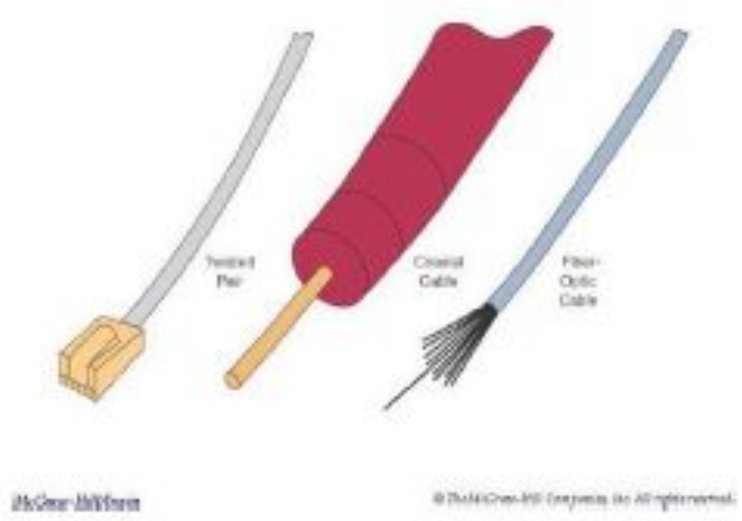
- IPSec (SVPN): IP-Packet encryption, add headers and encapsulate packets in new ones.

TLCs Media

Twisted-pair wire

Coaxial cable: less interf. and distortion, high-speed

Fiber optics: conducts pulses of light, smaller faster



Wireless Technologies

- Terrestrial Microwave: Line-of-sight between relay stations (40 km apart).
- Communications satellites: serve as relay stations for communications signals from earth.
- Cellular Systems: each cell for several square miles, low-power transmitter or radio antenna; processors coordinate and control transmission inter-cells.

TLC Processors

- Modems: analogic to digital and viceversa
- Multiplexers: single comm. channel to carry transmission of many terminals
- Switches: makes connections between telecomm. circuits
- Router: Interconnects networks
- Hub: Port switcher
- Gateway: interconnect heterogeneous networks

TLC Software

Variety of communication support services including connecting & disconnecting links & parameters.

Manages: traffic, security, network, capacity

Network Topologies

Star: least reliable. rely on a central computer

Ring: more reliable and cheaper; uses tokens.

Bus: sharing of a bus. (Tree: ties several buses)

Network Architectures

Promote an open, simple, flexible, efficient tlc env.

Protocols

stand. set of rules & procedures for the control of communications