

# Wan technologies

Technology, Information Technology



Computer science and information technology Computer science and information technology Novell Windows Mac UNIX Linux General Novell introduced powerful concepts like hierarchical directory structure. The latest version of Novell allows the use of protocol by the administrator.

Windows newest version comprises of active directory with enhanced management tools. The server has self healing abilities to fix corrupted files as well as advanced network security with enhanced processing speed.

Mac OS is very stable and powerful but primarily installed in Apple networks. It is however capable of supporting non-Apple networks.

Unix is an old but popular multitasking operating system that is capable of supporting large network operations.

Linux is based on the principles of UNIX and available for free. It is very stable for multitasking. It can be incorporated with other software products to increase its functionality.

System performance

High performance

High performance

High performance

High performance

High performance

Range of compatible hardware

Moderate

Moderate

Moderate

Very wide

wide

Market Share

Wide

Wide

Wide

Very wide

moderate

Cost

Moderate

Moderate

Low

Moderate

Low

Stability

Very stable

Very stable

Very stable

Very stable

Very stable

Strength

Effective file server

Effective application server

Fast and stable

Fast, flexible and stable

Affordable, fast, flexible and stable

## LAN and WAN

### Media and devices used

While WAN needs a router and a modem to connect to the internet, LAN needs network interface card, a hub and a switch this is used to share resources like files, games and a printer. This makes it easier to expand LAN than WAN (Muller 2003).

### Distance over which they operate

Since LAN uses Ethernet cables, network adapters and hubs to connect, it cannot be used in a wide area as compared to WAN (Muller 2003). WAN uses private or public network transport like internet to connect to the network. WAN can be used to transmit data across different LANs on a global scale.

### The network and subnet topology

WAN uses the internet to connect different systems while LAN uses different forms of topology like star, ring and bus topology to connect the systems (Muller 2003).

### The dominant communication protocols

Types of protocol are distinguished by their capacity to convey data across different distances (Muller 2003). Ethernet is the most common LAN protocol mostly used in offices and homes. Internet protocol on the other hand is the most common WAN protocol used universally.

### Threats of a client/server system

#### The client

Since the client's machine can connect to the server with ease, physical protection is needed to protect the organizational data and prevent viruses as well as loading unauthorized data (Ray 2009).

### The network

Data encryption should be used to protect computer systems from intruders using networks to access packets of information.

### The server

There should be the use of passwords and data needs to be encrypted so that the server can abort trial and error log in attacks.

### The user

The users need to use strong passwords and implement proper security policy to prevent leaking out passwords to UN authorized users who may use the passwords to access sensitive information in the system (Ray 2009).

### System security

The system security needs to be enhanced to ensure safe transmission of data between the client and the server.

### Challenges of setting WAN in global scale

The major challenges of setting up a global WAN connection are the difference in time zones and language barrier. By optimizing the WAN, the time taken to conduct different processes like downloading important data will be hugely reduced and enhance the productivity of the organization.

According to Marcus (1999), the security of data also needs to be enhanced to safeguard the data from people that might want to corrupt the data of use it for unauthorized purposes.

### References

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