Wide Area Networks (WANs)

A Wide Area Network (WAN) is a network that spans a large area. WANs often cross countries or continents. Typically, WANs connect multiple LANs and other networks. They use long-range transmission media provided by telecommunications companies. WANs can be private, which means that they belong to one company. Or they can be public, meaning they can be used by anyone. The Internet is a public WAN.

When multiple networks form a larger network, we often call them subnetworks, subnets or segments. In that case, the "local network" is the one you're using. The other networks are called "remote." When messages travel through multiple networks, the connections are usually made by routers. That's why we say that messages (traffic) are "routed" through a network.

Typically, WANs are maintained by WAN Administrators. They usually address more complex technical issues than LAN administrators. They tend to focus on resolving network issues rather than user issues. A WAN administrator typically performs the following duties:

- Designs and maintains the connections between remote segments.
- Develops and troubleshoots routing structures.
- Works with both voice and data systems.
- Develops scripts to automate administrative tasks.
- Works on security issues and helps implement recovery schemes.
- Plans, tests, and implements hardware and software upgrades.

More Network Terminology

Intranets:

An intranet is a private network that uses Internet protocols and services to share a company's information with its employees. As with the Internet, the employees can access an intranet via a web browser and navigate a company's web pages. An intranet contains information that is segregated from the Internet for confidentiality and security reasons.

Extranets:

An extranet is a private network that grants controlled access to users outside of the network. It is an extension of an organization's intranet. With the help of an extranet, organizations can grant access to users such as vendors, suppliers, and clients to connect to resources on the network.

For example, suppose Akamai contracted with Acme Computer Corp (a fictitious company) to provide all their desktop machines. Acme has a private network with a web server that hosts a web application that can be used to make and track orders and open service tickets. After the contract is signed, Acme makes this network available to employees of Akamai. This network would be most properly called an extranet.

Enterprise Networks:

An enterprise network is a network that includes elements of both local and wide area networks. Owned and operated by a single organization to interlink its computers and resources, it employs technologies and software designed for fast data access, email exchange, and collaboration. Enterprise networks are scalable and include high-end equipment, strong security systems, and mission-critical applications.

In practice, the term “enterprise network” is sometimes used to mean all the networking technologies that belong to one company, or all the networking technologies that belong to one large company. The term "enterprise" generally means either "the whole company" or "a large company."

Small Office Home Office (SOHO) Networks:

A Small Office/Home Office (SOHO) network is a small network that can comprise up to 10 nodes. SOHO networks can either be wired or wireless. It is necessary that all the computers in a SOHO network be present at the same physical location. A SOHO can include devices such as switches or routers, but typically they are connected using multifunction devices that most people just call “home routers.” Routers technically connect two or more networks and can pass information between them. SOHO routers usually do a lot more. They often incorporate switches, devices that can connect multiple devices on the same network to each other using a common media. They also usually provide services to give out IP addresses and secure the SOHO network. Most SOHO routers have a web-based interface that allows the owner to configure and monitor the network.