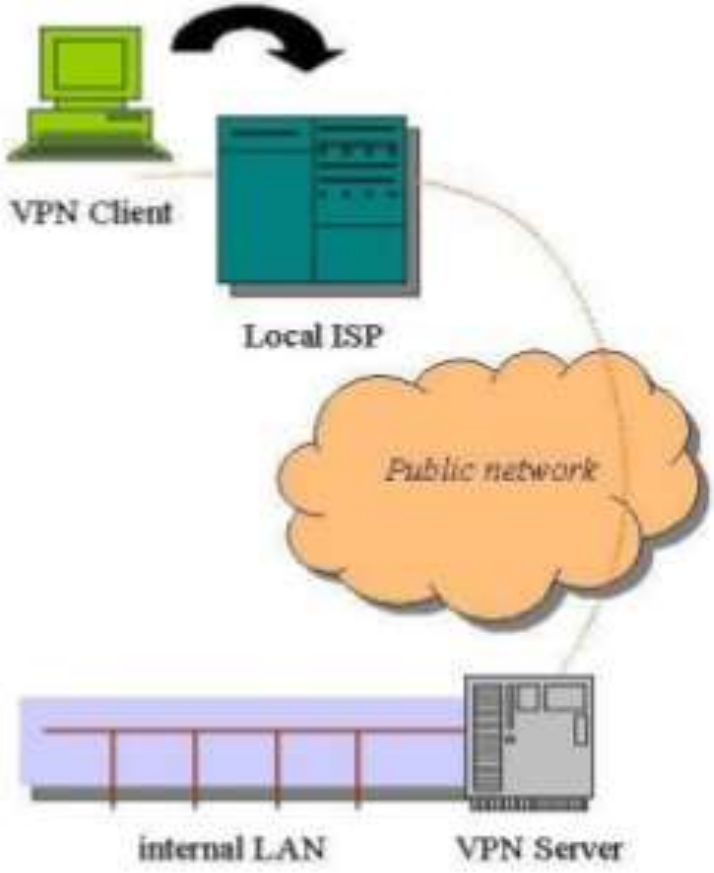
What is VPN

- Virtual Private Network is a type of private network that uses public telecommunication, such as the Internet, instead of leased lines to communicate.
- Became popular as more employees worked in remote locations.
- Terminologies to understand how VPNs work.



Introduction

Virtual. Virtual means not real or in a different state of being. In a VPN, private communication between two or more devices is achieved through a public network the Internet. Therefore, the communication is virtually but not physically there.

Private. Private means to keep something a secret from the general public. Although those two devices are communicating with each other in a public environment, there is no third party who can interrupt this communication or receive any data that is exchanged between them.

Network. A network consists of two or more devices that can freely and electronically communicate with each other via cables and wire. A VPN is a network. It can transmit information over long distances effectively and efficiently.

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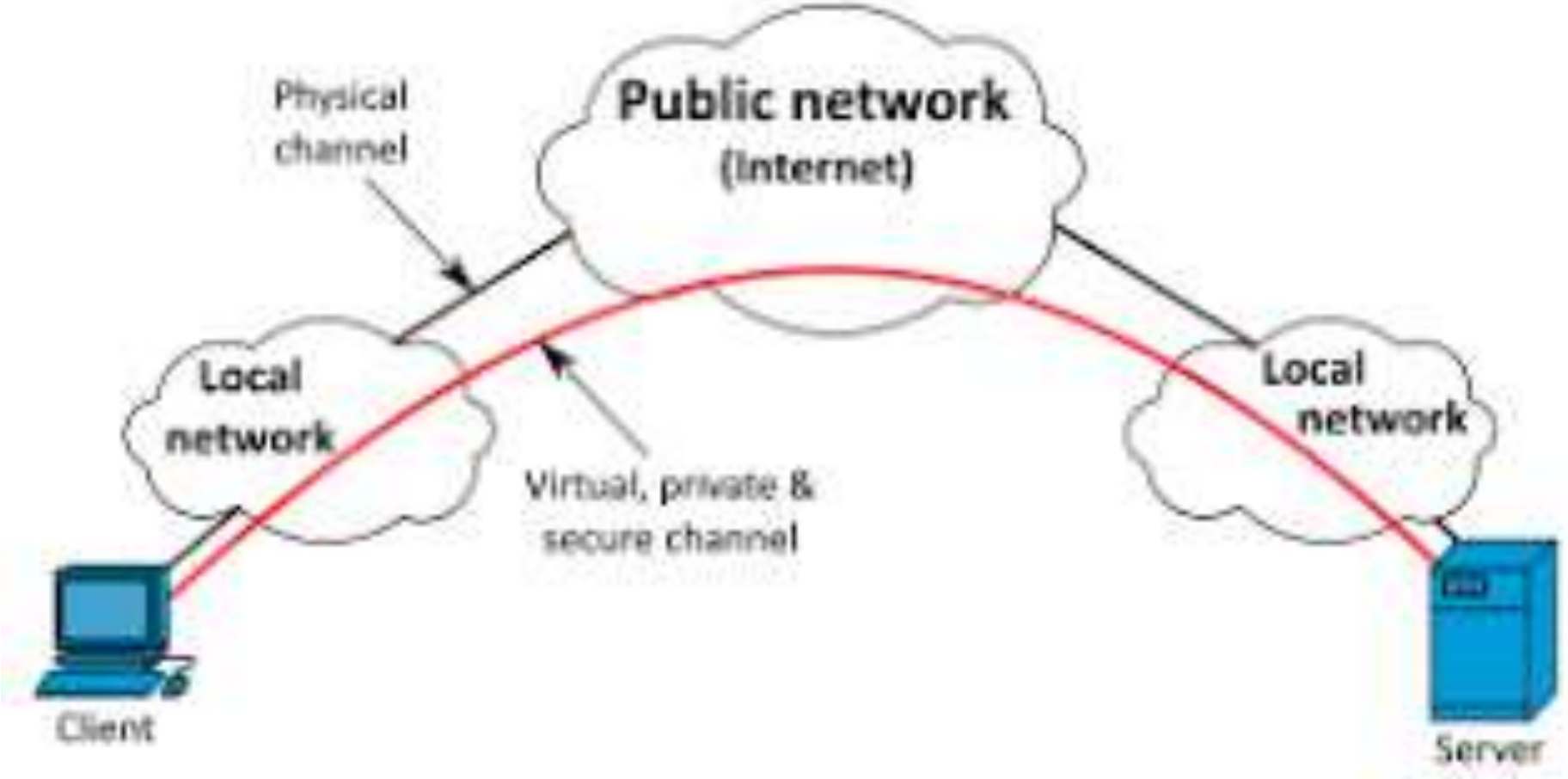
1. A VPN is a combination of software and hardware that allows mobile employees, telecommuters, business partners, and remote sites to use a public or "unsecured" medium such as the Internet to establish a secure, private connection with a host network.

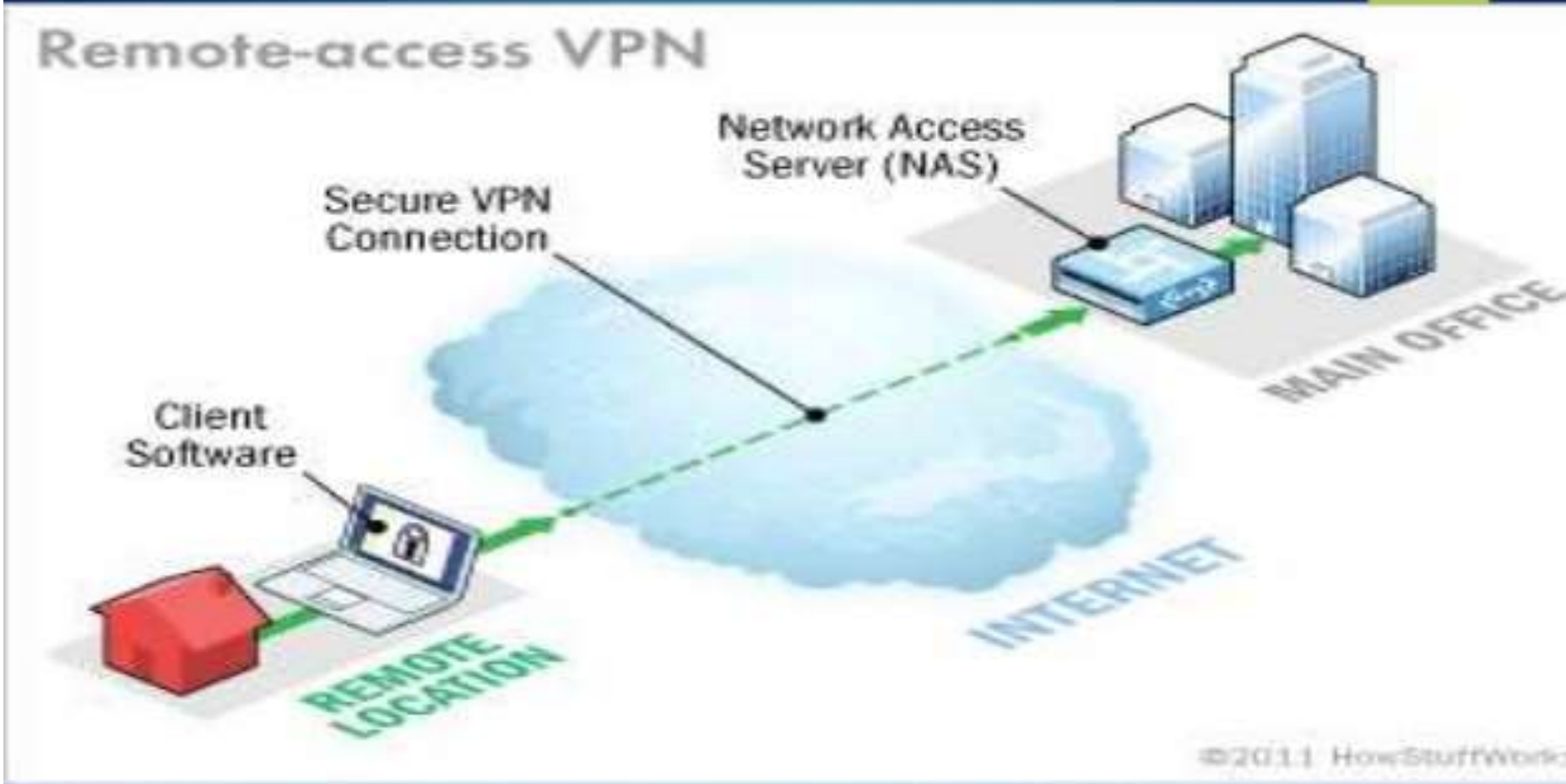
2. It uses "virtual" connections routed through the internet from the business's private network to the remote site.

3. VPN extends a private network and the resources contained in the network across public networks like the Internet.


Physical
channel
Public network
(Internet)
Local
network
Local
network
Virtual, private &
secure channel
Client
Server

What is a VPN ?

Virtual Private Network, is defined as a network that uses public network paths but maintains the security and protection of private networks. For example, Delta Company has two locations, one in Noida, New Delhi (A) and Pune, Mumbai (B). In order for both locations to communicate efficiently, Delta Company has the choice to set up private lines between the two locations. Although private lines would restrict public access and extend the use of their bandwidth, it will cost Delta Company a great deal of money since they would have to purchase the communication lines per mile. The more viable option is to implement a VPN. Delta Company can hook their communication lines with a local ISP in both cities. The ISP would act as a middleman, connecting the two locations. This would create an affordable small area network for Delta Company.



A remote-access VPN connection allows an individual user to connect to a private business network from a remote location using a laptop or desktop computer connected to the internet.

Types of VPNs

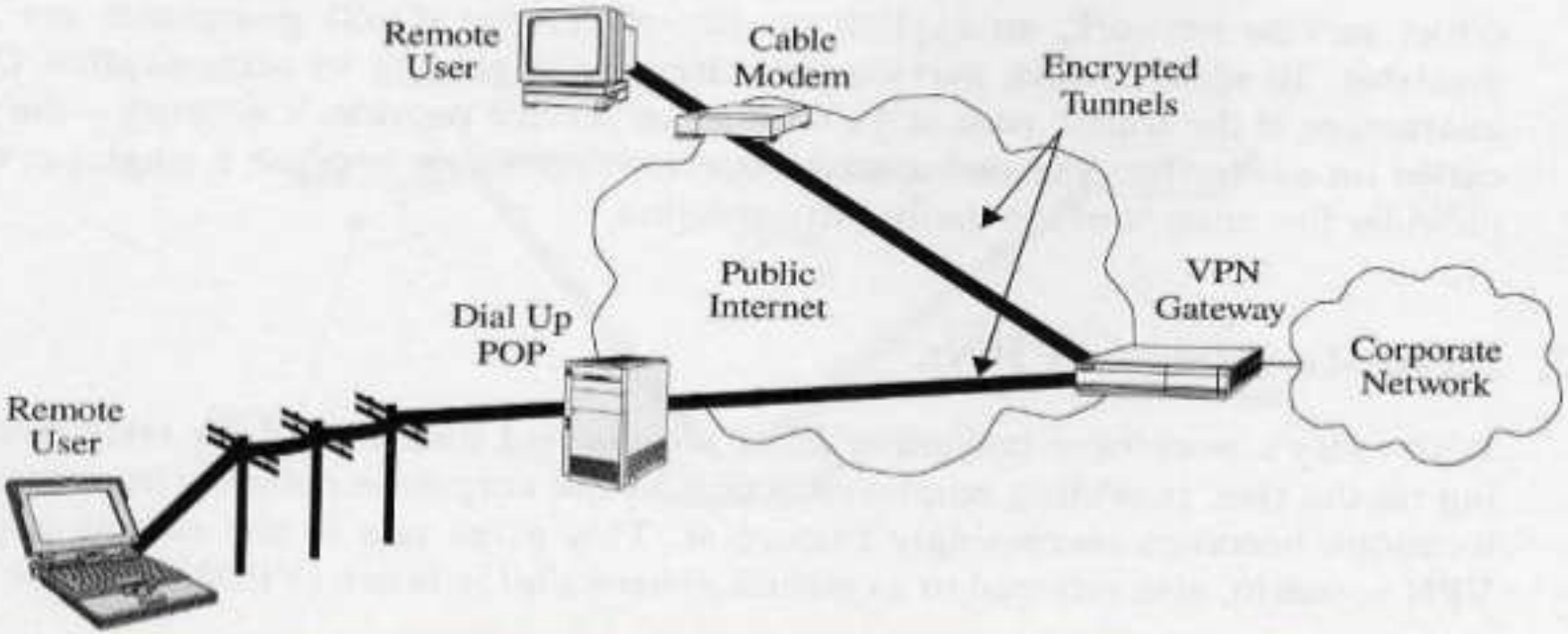
- Remote access VPN
- Intranet VPN
- Extranet VPN

Remote-Access VPN

- A remote access VPN is for home or travelling users who need to access their central LAN from a remote location.
- They dial their ISP and connect over the internet to the LAN.
- This is made possible by installing a client software program on the remote user's laptop or PC that deals with the encryption and decryption of the VPN traffic between itself and the VPN gateway on the central LAN.

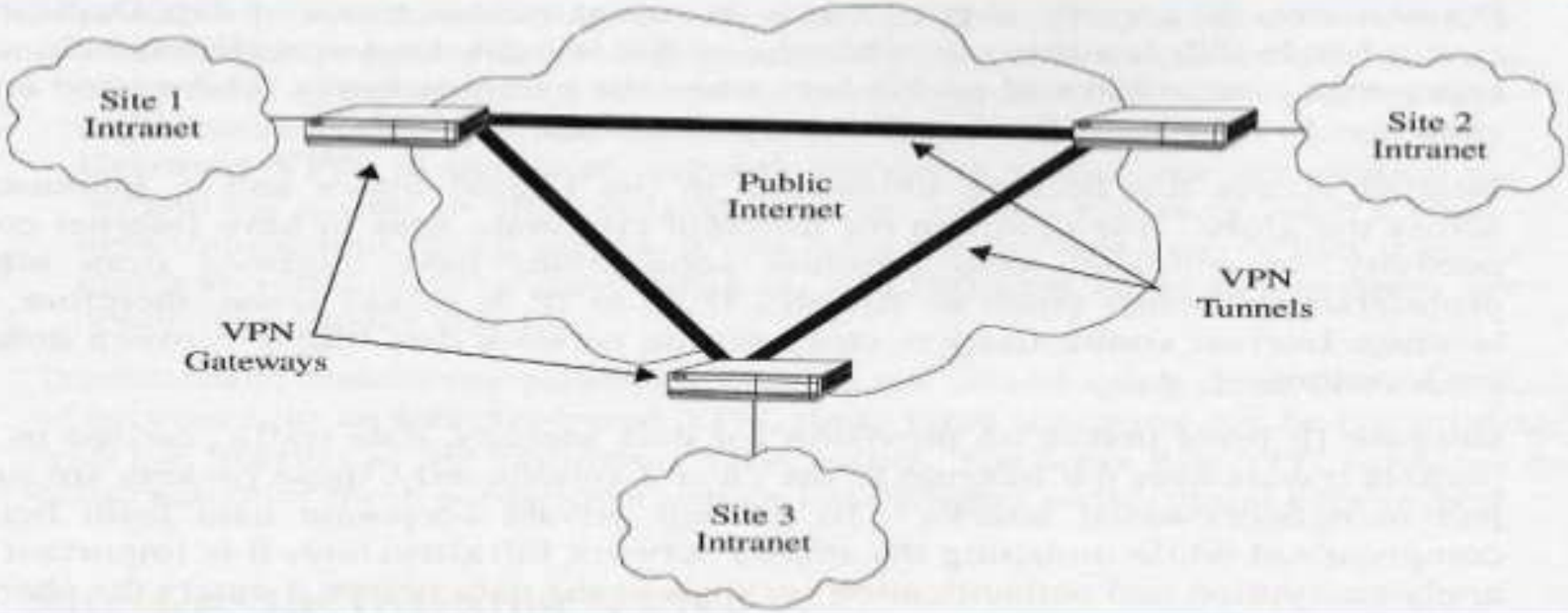
Types of VPNs

Remote access VPNs – Enable remote connectivity using any Internet access technology. The remote user launches the VPN client to create a VPN tunnel to the gateway.



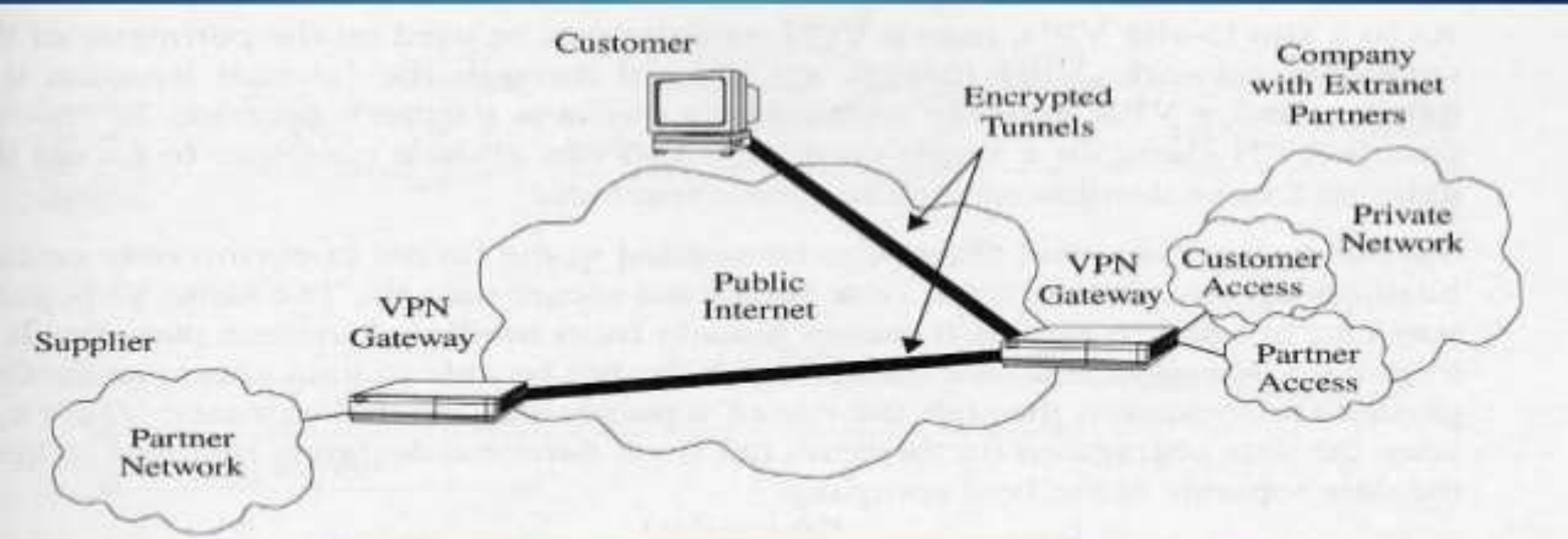
Types of VPNs

Intranet VPNs - If a company has one or more remote locations that they wish to join in a single private network, they can create an intranet VPN to connect LAN to LAN.



Types of VPNs

Extranet VPNs – When a company has a close relationship with another company (for example, a partner, supplier or customer), they can build an extranet VPN that connects LAN to LAN, and that allows all of the various companies to work in a shared environment.



VPNs - Advantages

- Eliminate the need for expensive private or leased lines
- Reduce the long-distance telephone charges
- Reduced equipment costs (modem banks, CSU/DSUs)
- Reduced technical support
- Scalability – easy adding of new locations to the VPN
- Security
- Simple Management
- Lower Cost

VPN Advantages

- Multiple telephone lines and banks of modems at the central site are not required.
- A reduction in the overall telecommunication infrastructure – as the ISP provides the bulk of the network.
- Reduced cost of management, maintenance of equipment and technical support.
- Simplifies network topology by eliminating modem pools and a private network infrastructure.
- VPN functionality is already present in some IT equipment.