Types by Geographical Distance

In this lesson, we'll discuss the types of networks based on geographical distance.

We'll cover the following

Introduction

Computers or end systems are generally connected together to share resources and information such as an Internet connection and devices such as printers. These networks can be classified by the geographical distance that they span. Have a look.

Local Area Networks (LANs)

A Local Area Network, or a **LAN**, is a computer network in a small area like a home, office, or school.

> **Note** 'small area' does not imply anything about the number of end systems connected together – just the geographical area. A LAN can consist of hundreds or even thousands of systems.

Let's discuss some examples of LANs which also are access networks that we skipped previously.

Ethernet

Most LANs consist of end hosts connected using Ethernet network adapters to Ethernet switches. Every Ethernet switch has a limited number of ports, and therefore can interconnect a limited number of end hosts. Larger networks within a building are built using multiple Ethernet switches interconnecting different sets of end hosts. These switches may then be connected to each other and the Internet

WiFi

Increasingly, however, wireless Internet access has become very common. In Wireless LANs or WLANs, a wireless router interconnects different "subnets" and/or may have connectivity to the Internet, which it can extend to the hosts connected to it.

Metropolitan Area Network (MAN)

A **metropolitan area network (MAN)** is a computer network that spans the geographical distance of a metropolitan area, such as a city. A MAN may also refer to a set of interconnected LANs via point-to-point links, for example, on a university network. Recently, wireless MANs have become increasingly common.

Wide Area Networks (WAN)

Wide Area Networks or **WANs** refer to networks that allow interconnection across large distances. They may span over cities or even countries.

WANs are typically optical fiber-based. **Frame relay, ATM, and SONET/SDH** are examples of technologies that may be in use.

>  **Note** The Internet itself is a whole lot of LANs, interconnected by means of MANs and WANs.

SONET/SDH

Synchronous optical networking (SONET) and the international equivalent, **Synchronous Digital Hierarchy (SDH)** carries data as optical signals over optical fiber, which means that they can cover large distances. These technologies are incredibly prevalent today.

Frame Relay

A frame relay was a popular way to connect your LAN to the Internet or to provide an interconnection between LANs at two or more company sites.

Quick Quiz!

1

A computer network that spans a large geographical area connecting several sites of an organization, such as a university or company, possibly across many countries is called a _____

- A) LAN
- B) WAN
- C) MAN
- D) WLAN

COMPLETED 0%

1 of 2

In the next lesson, we'll study some common network topologies!