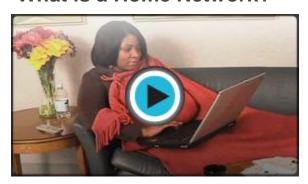What is a network?

Introduction

What is a Home Network?

Watch the video (3:12). [*Need help?*](#)

A **home network** is a method of connecting computers that allows them to **communicate** with one another. If you have two or more computers in your home, a network can let the computers share an Internet connection, devices such as printers and scanners, and files.

Let's explore the different **types of home computer networks** and some of the **terms** you need to know if you decide a home network is right for you.

Why Would You Use a Home Network?

If you have multiple computers in a home and you want to use all of them to access the Internet, print files, and play video games, a home network allows you to do that **without significant extra expense**. With a home network, you can **share** these **resources**.

Imagine This...

If I have a home network, I can use my laptop in the living room to shop online, while my daughter uses the computer in the home office to research her term paper online. We can **share the same Internet connection** at the **same time** and do completely different things. Her brother can even use the third computer to play games online at

the same time, or do something completely different. You can even arrange the home network so it is possible for multiple computers to share the same files. This isn't as common with a basic home network arrangement, but a home network can give you this option.

Home networks aren't just for families! Even if you live alone, a home network may be right for you if you use multiple computers, such as a desktop in the home office and a laptop when you are watching television.

What Do I Need to Create a Home Network?

To create a home network, the two main items you will need are a modem and a router. Depending on your specific computer hardware, there are a few other items you may need, but these are the two main components.

Modem

Example Cable Modem

A **modem** is a device that allows a computer to **send data**over telephone or cable lines. It is the device that basically brings the Internet into the house.

The type of Internet service you use -- dial-up, DSL, or cable, will determine the **type of modem** you use. If you are using DSL or cable Internet access, the modem is usually provided by your Internet Service Provider (ISP).

Router

Example Router

In addition to a modem, you will need a **router**. A **router** is the device that is responsible for making sure the information that is being sent using the Internet makes it to the necessary destination. It allows two people to use the Internet at the same time without the pages being mixed up. The router**directs messages** so that each person is delivered the web page that he or she requested.

This device is **not** supplied by your ISP, so you will need to purchase one if you decide to create a home network.

What Types of Networks Are There?

There are two types of networks, **wired** and **wireless**. Both types of networks have advantages and disadvantages. If you decide to create a home network, you'll have to weight the benefits and drawbacks of both types to determine which is best for your situation.

Wired Networks

Wired networks are **faster than wireless networks**, and are generally very affordable. If the computers are far apart and/or your house is big, you will want to consider the cost of the cable. While cable is not very expensive, the cost of having someone to install it can be.

Wireless Networks

Wireless Router

Wireless networks use **radio waves** instead of wires to transmit information. A wireless router receives the information and then sends it to the Internet using a wired connection, an Ethernet cable.

One of the primary advantages of this type of network is that it offers you a great deal of flexibility. If you have a laptop, you can move it from room to room in the house, and sometimes right outside the house, without having to worry about connecting network cables. Also, installation is really very quick and easy.

The disadvantages of this type of network is that wireless connections are **typically slower** than wired connections, and can also that the connection can sometimes fail due to range issues.

Ethernet Cable

If you compare security between the wired and wireless networks, you might guess that a **wired network is more secure**; however, if you use a wireless network you can take additional steps to ensure that the information you communicate over the network is safe. This is an extra step that is necessary when dealing with wireless networks.

Terms to Know

It would be nearly impossible to show you exactly how to set up a router and a network because there are **many variations** in the process that are dependent on the brand of router your choose and the modem you use. Additionally, if you are creating a wired home network, the size of your house, location of computers, and location of outlets will play a role in how it is set up. Your existing hardware will also play a factor.

Don't worry! The router you choose should come with clear directions as to how to install it, and generally this is a very easy process. Since the modem is usually installed by your ISP, you probably will not have to install that device.

You can become more comfortable with the process and be ready to read any setup instruction guides if you are familiar with a few key terms.

Wireless Adapter

Wireless Adapter for Card Slot

If you want to create a wireless home network with your desktop or laptop, or use your laptop to surf the Internet at a public WiFi hotspot, you will need to check your computer to see if it is **wireless-ready**.

Most new laptops and some desktop computers are preloaded with **wireless transmitters** that will allow you to use the computer on a wireless network. If your laptop or desktop is not wireless-enabled and you want it to be part of a wireless network, you can buy a **wireless adapter** that plugs into the USB port or the card slot.

Firewall

If you have a DSL or cable modem, you will need a firewall for your home network. A **firewall** acts as a **filter** and monitors the information that is being sent over the

network. Luckily, most routers offer firewall protection, so it is a good idea to choose one with this feature.

SSID

A Service Set Identifier, commonly called the SSID, is the **name** of a wireless network. It is a series of alphanumeric characters (numbers and letter) that you can set when you create your wireless network. It is the network's name and how you, or other users of the network, will identify it. You will want to change the default SSID, but avoid using a name that someone might guess.

Encryption passphrase

An encryption passphrase is a **series of words** that is used to control access to the network. It very important that you remember this information once you set it while you are installing your router.

Domain

A specific name for a network of computers.

Encryption

Encryption is the process of **changing** your information so that it is **not readable** to anyone without the encryption key. Basically, it takes your data and codes it so that it is not viewable by unauthorized people. You have to have the encryption key to decode the data. Encryption enhances security on your home network.

On wireless networks, it is very important to encrypt your data so that other people can not use you wireless signal and view your information. There are many types of encryption, but **WEP**, or the Wireless Encryption Protocol, is the type of encryption used in wireless networks.