**Access**

The Internet and the telephone system are similar – you can connect a computer to the Internet much like you connect a phone to the telephone system. Once you are on the Internet, your computer becomes an extension of what seems like a giant computer – a computer that branches all over the world. When provided with a connection to the Internet, you can use a browser program to search the Web.

**Providers**

The most common way to access the Internet is through an *Internet service provider (ISP).* The providers are already connected to the Internet and provide a path or connection for individuals to access the Internet. Your college or university most likely provides you with free access to the Internet either through its local area networks or possibly through a **dial-up** or telephone connection. There are also some companies that offer free Internet access. The most widely used commercial Internet service providers are national and wireless providers.

• ***National service providers*** like Comcast, Qwest, and Verizon are the most widely used. They provide access through *standard telephone or cable connections*. Users can access the Internet from almost anywhere within the country for a standard fee without incurring long-distance telephone charges.

• ***Wireless service providers*** offer Internet connections for computers with wireless modems and a wide array of wireless devices. Users connect to ISPs using one of a variety of connection technologies including *DSL, cable, and wireless modems.*

**Browsers**

*Browsers* are programs that provide access to Web resources. This software connects you to remote computers, opens and transfers files, displays text and images, and provides in one tool an uncomplicated interface to the Internet and Web documents. Browsers allow you to explore, or to *surf,* the Web by easily moving from one Web site to another. Four well-known browsers are Mozilla Firefox, Apple Safari, Microsoft Internet Explorer, and Google Chrome. For browsers to connect to resources, the *location* or *address* of the resources must be specified. These addresses are called **uniform resource locators (URLs).** All URLs have at least two basic parts. (See Figure 2-3.) The first part presents the protocol used to connect to the resource. **Protocols** are rules for exchanging data between computers. The protocol *http* is used for Web traffic and is the most widely used Internet protocol. The second part presents the **domain name.** It indicates the specific address where the resource is located. In Figure 2-3 the domain is identified as mtv.com. (Many URLs have additional parts specifying directory paths, file names, and pointers.) The last part of the domain name following the dot (.) is the **top-level domain (TLD).** It identifies the type of organization. (See Figure 2-4.) For example, *.com* indicates a commercial site. The URL *http://www.mtv.com* connects your computer to a computer that provides information about MTV.

Once the browser has connected to the Web site, a document file is sent back to your computer. This document typically contains **Hypertext Markup Language (HTML).** The browser interprets the HTML formatting instructions and displays the document as a **Web page.** For example, when your browser first connects to the Internet, it opens up to a Web page specified in the browser settings. This page presents information about the site along with references and **hyperlinks** or **links** that connect to other documents containing related information—text files, graphic images, audio, and video clips. (See Figure 2-5.) These documents may be located on a nearby computer system or on one halfway around the world. The links typically appear on the Web page as underlined and colored text and/or images. When your mouse passes over a link, the mouse pointer changes to the shape of a small hand. To access the referenced material, all you do is click on the highlighted text or image. A connection is automatically made to the computer containing the material, and the referenced material appears on your display screen. Web pages also can contain special programming to add interest and activity. A language called **JavaScript** is often used to trigger simple interactive features, such as opening new browser windows and checking information entered in online forms. An advanced use of JavaScript called **AJAX** can be found on many interactive sites. This technology is used to create interactive Web sites that respond quickly, like traditional desktop application software. **Applets** are written in the **Java** programming language. These programs can be downloaded quickly and run by most browsers. Java applets are used to present animation, display graphics, provide interactive games, and much more. Today it is common to access the Internet from a variety of mobile devices like cell phones. Special browsers called **mobile browsers** are designed to run on these portable devices. Unlike a traditional Web browser that is typically displayed on a large screen, a mobile browser is displayed on a very small screen and special navigational tools are required to conveniently view Web content. The Apple iPhone, for example, enables you to “pinch” or “stretch” the screen with two fingers to zoom Web content in and out.

CONCEPT CHECK

1. What is the function of an ISP? Describe two types of ISPs.

2. What is the function of a browser? What is the function of a mobile Web browser?

3. What are URLs, HTML, Web pages, hyperlinks, JavaScript, AJAX applets, and Java?