



## On-Site PC Support Services, Bespoke PC Design & Upgrade Services

We all hear about the Internet, and now you're actually using it -- after all, you've made it to this web site! But how does it work? Do you fully understand how the dialing-up and the network and the browser truly work? What IS the Internet anyway, other than a jumble of company web pages? Well here we go!

In this article, you'll learn about:

- What the Internet is
- How it started
- How the Internet works
- The three things you'll need to use the "web"

### What Is It?

The Internet, very simply, is a network of communications lines similar to phone lines. These communications lines let computers exchange information between each other. When you loaded up the Help2Go site, your computer exchanged information with one of our computers here in Washington DC. The result is that you can read this page of words. The Internet has become an amazingly popular trend because it reduces communications times to the blink of an eye. If I had to fax you this page of words, it would take much longer than it took you to just call up the web page. And thousands of people can be looking at the same page that you are looking at, RIGHT AT THIS MOMENT.

### The End of the World As We Know It

So how did this phenomenon known as the Internet start? Amazingly, it was a military project! Back in the 1960s, at the height of the Cold War, the military knew the importance of communications and computers. They heavily relied on the massive computers of the era that controlled all the sophisticated battle plans, military communications, and of course, the nuclear missiles. The computers transferred information over the communications lines that the government laid down between cities, but what if the line between New York and Washington got bombed? No communications between New York and Washington could occur. And perhaps computers in other cities that relied on New York's line, like Boston and Hartford, wouldn't be able to communicate with the computers in DC either.

A military project called **ARPANet** was born, and they laid multiple lines between every city. They also programmed the computers to find workarounds in case a line was found to be broken. For instance, if the line between New York and Washington was bombed, Washington's computers could send the information to Philadelphia, which would in turn relay the information to New York over its own line. If that was not working, it would try sending through Albany. And so on. This network of redundant lines was supposed to be able to survive a nuclear attack, so communications would remain open at all times.

Soon, universities found that they could establish links between their computers for academic research purposes, so they started to use the lines the military set up. Once the universities were on, it was only a matter of time before companies hooked up computers between their remote sites. More communications lines were needed, and the phone companies responded by laying down lines of their own. Soon, everyone was using these communication lines to send information between their computers, and the Internet as we know it was born!

### How It Works

So how does the information get passed from computer to computer? And why can different computers, like Macs and PCs, talk to each other so easily? The secret is in a networking protocol called TCP/IP. **TCP/IP is the language of the Internet.** If your computer has TCP/IP installed, it is able to talk to any other computer on the Internet. It is a standard that transcends computer types (PCs, Macs) and operating systems (Windows, DOS, UNIX).

When your computer loads TCP/IP, it specifies a network number for itself, called an **IP address**. Every computer on the Internet has a unique IP address. For instance, the IP address for my current computer is 192.168.1.7 -- this is the number assigned to my PC. Think of this number as being like your phone number. When you want to communicate with our web site, your computer needs to know the IP address of our web site. Without it, there is no communication, just like you can't talk to your friend in California without knowing their phone number.

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It would be pretty miserable if we had to memorize numbers for every web site we wanted to visit. That's why the **Domain Name System** was created (DNS). This allows us to translate the number, 209.67.29.15, to a web site, [www.usatoday.com](http://www.usatoday.com). USAToday.com is a whole lot easier to remember than that long number. So now when your computer wants to access web pages from our computer, all you have to know is [www.Help2Go.com](http://www.Help2Go.com)!

### Three Steps to Internet Access

To access the Internet, you need three things: an ISP or network, a web browser, and a web site to visit! We'll take these in steps:

#### ISP

ISP stands for Internet Service Provider. An ISP is a company that has access to one of those big communications lines that the military and phone companies set up between cities. They sell access to the lines to companies and individuals. Some of the really big ISPs include America Online (AOL), Verizon, and Earthlink.

If you access the Internet from home, you are probably using one of these Internet Service Providers, or maybe you are using a local ISP. When you use your modem, DSL or cable modem, you are establishing a connection to your ISP, and they in turn give you access to the Internet through that connection. When you connect, an IP address is automatically assigned to your computer. Don't worry -- you don't have to know what your IP address is, everything will run transparently.

If you access the Internet through work, you are probably already on a network. Your network is connected to an ISP as well, that your company pays for. Usually a workplace will have much faster connections to the Internet than you have at home, because the company can invest in communications lines that connect directly to the ISP, rather than over DSL or a phone line/modem.

#### Web Browser

A web browser is a program on your computer, just like Microsoft Word or Quicken. The web browser's job is to send and receive information through the Internet, in most cases, web pages or images. To use the web browser, you type in the DNS name of a computer on the Internet, i.e. [www.Help2Go.com](http://www.Help2Go.com), and the web browser finds that computer and retrieves information.

The most common web browsers are Mozilla Firefox and Microsoft Internet Explorer (IE). Both are free programs, and Internet Explorer is actually included in the Windows operating systems. If your ISP gave you software, Mozilla was probably included in that CD.

#### Web Site/URL

The last component is the web site you wanted to visit. Web sites are collections of web pages put on the Internet by companies and organizations. At this moment, you are looking at a web page on the Help2Go web site.

The way to load a web site is to use a URL, which stands for Universal Resource Locator. The URL is a combination of "http://", the DNS name for the computer on the Internet, and a specific web page on that computer. The URL of our home page is "<http://www.supporttech.co.uk>", but the URL for a specific page on our site, for instance, the Contact Us page, is "<http://www.supporttech.co.uk/contact.html>".

URLs are advertised everywhere nowadays. A good bet to find a company is to type in the name of the company, surrounded by the "http://www." and ".com". For instance, the CNN television network's URL is "<http://www.CNN.com>".

Have fun using the Internet! Make sure you read the other articles on the Internet -- they can make your web experience much easier to handle and keep the frustration to a minimum!

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