

# Everybody's Guide to the Internet

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Adam Gaffin



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EVERYBODYS GUIDE**



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## Foreword

Welcome to the world of the Internet.

The Electronic Frontier Foundation (EFF) is proud to have sponsored the production of *Everybody's Guide to the Internet*. EFF is a nonprofit organization based in Washington, D.C., dedicated to ensuring that everyone has access to the newly emerging communications technologies vital to active participation in the events of our world. As more and more information is available online, new doors open up for those who have access to that information. Unfortunately, unless access is broadly encouraged, individuals can be disenfranchised and doors can close, as well. *Everybody's Guide to the Internet* was written to help open some doors to the vast amounts of information available on the world's largest network, the Internet.

The spark for *Everybody's Guide to the Internet*, and its companion electronic version, *EFF's Guide to the Internet*, was ignited in a few informal conversations that included myself and Steve Cisler of Apple Computer, Inc., in June of 1991. With the support of Apple Computer, EFF engaged Adam Gaffin to write the book and actually took on the project in September of 1991. The guide was originally published electronically in July of 1993 as the *Big Dummy's Guide to the Internet*.

The idea was to write a guide to the Internet for people who had little or no experience with network communications. We intended to post this guide to the net in ASCII and HyperCard formats and to give it away on disk, as well as have a print edition available. We have more than realized our goal. Individuals from as geographically far away as Germany, Italy, Canada, South Africa, Japan, Scotland, Norway, and Antarctica have all sent electronic mail to say that they downloaded the guide. *Everybody's Guide to the Internet* is now available in a wide array of formats, including ASCII text, HyperCard,

World-Wide Web, PostScript, and AmigaGuide. And the guide is finally available in a printed format, as well.

You can find the electronic version of *Everybody's Guide to the Internet* by using anonymous ftp to ftp.eff.org and accessing pub/Net\_info/Guidebooks/EFF\_Net\_Guide/netguide.eff. Or send an e-mail message to info@eff.org. The electronic version is entitled *EFF's Guide to the Internet* and is updated on a regular basis.

EFF would like to thank author Adam Gaffin for doing a terrific job of explaining the Net in such a nonthreatening way. We'd also like to thank the folks at Apple, especially Steve Cisler of the Apple Library, for their support of our efforts to bring this guide to you. Finally, we'd like to thank our publishers at MIT Press, especially Bob Prior, for working out an arrangement with us where we can continue to distribute the text in electronic format and forego our royalties in order to keep the price of the book low.

We invite you to join with EFF in our fight to ensure that equal access to the networks and free speech are protected in newly emerging technologies. We are a membership organization, and through donations like yours, we can continue to sponsor important projects to make communications easier. Information about the Electronic Frontier Foundation and some of the work that we do can be found at the end of this book.

We hope that *Everybody's Guide to the Internet* helps you learn about whole new worlds, where new friends and experiences are sure to be yours. Enjoy!

Mitchell Kapor  
Chairman of the Board  
Electronic Frontier Foundation  
mkapor@eff.org

For comments, questions, or requests regarding EFF or *Everybody's Guide to the Internet*, send a note to ask@eff.org.

## Preface

Welcome to the Internet! You're about to start a journey through a unique land without frontiers, a place that is everywhere at once—even though it exists physically only as a series of electrical impulses. You'll be joining a growing community of millions of people around the world who use this global resource on a daily basis.

With this book, you will be able to use the Internet to

- stay in touch with friends, relatives, and colleagues around the world, at a fraction of the cost of phone calls or even air mail;
- discuss everything from archaeology to zoology with people in several different languages;
- tap into thousands of information databases and libraries worldwide;
- retrieve any of thousands of documents, journals, books, and computer programs;
- stay up-to-date with wire-service news and sports and with official weather reports;
- play live, "real-time" games with dozens of other people at once.

Connecting to "the Net" today takes something of a sense of adventure, a willingness to learn, and an ability to take a deep breath every once in a while. Visiting the Net is a lot like journeying to a foreign country. There are so many things to see and do, but everything at first will seem so, well, foreign.

When you first arrive, you won't be able to read the street signs. You'll get lost. If you're unlucky, you may even run into some locals who'd just as soon you went back to where you came from. As if this weren't enough, the entire country is constantly under construction; every day, it seems like there's something new for you to figure out.

Fortunately, most of the locals are actually friendly. In fact, the Net has a rich tradition of helping out visitors and newcomers. Until very recently, there were few written guides for ordinary people, and the Net grew largely through an "oral" tradition in which the old-timers helped the newcomers.

So when you connect, don't be afraid to ask for help. You'll be surprised at how many people will lend a hand!

Without such folks, in fact, this guide would not be possible. My thanks to all the people who have written with suggestions, additions, and corrections since the guide (originally titled *Big Dummy's Guide to the Internet*) first appeared on the Internet in 1993.

Special thanks go to my loving wife, Nancy. I would also like to thank the following people, who, whether they know it or not, provided particular help: Rhonda Chapman, Jim Cocks, Tom Czarnik, Christopher Davis, David DeSimone, Jeanne deVoto, Phil Eschallier, Nico Garcia, Joe Granrose, Ronda Hauber, Joerg Heitkoetter, Joe Ilacqua, Jonathan Kamens, Peter Kaminski, Thomas A. Kreeger, Stanton McCandlish, A. Richard Miller, Leanne Phillips, Nancy Reynolds, Helen Trillian Rose, Barry Shein, Jennifer "Moira" Smith, Gerard van der Leun, and Scott Yanoff.

If you have any suggestions or comments on how to make this guide better, I'd love to hear them. You can reach me via e-mail at [adamg@world.std.com](mailto:adamg@world.std.com).

# **Everybody's Guide to the Internet**

## 1.1 Ready, Set . . .

The world is just a phone call away. With a computer and modem, you'll be able to connect to the Internet, the world's largest computer network (and if you're lucky, you won't even need the modem; many colleges and companies now give their students or employees direct access to the Internet).

The phone line can be your existing voice line—just remember that if you have any extensions, you (and everybody else in the house or office) won't be able to use them for voice calls while you are connected to the Net.

A modem is a sort of translator between computers and the phone system. It's needed because computers and the phone system process and transmit data, or information, in two different and incompatible ways. Computers "talk" digitally; that is, they store and process information as a series of discrete numbers. The phone network relies on analog signals, which on an oscilloscope would look like a series of waves. When your computer is ready to transmit data to another computer over a phone line, your modem converts the computer numbers into these waves (the conversion sounds like a lot of screeching)—it "modulates" them. In turn, when information waves come into your modem, it converts them into numbers your computer can process, by "demodulating" them.

Increasingly, computers come with modems already installed. If yours didn't, you'll have to decide what speed of modem to get. Modem speeds are judged in "bps rate" or bits per second. One bps means the modem can transfer roughly one bit per second; the greater the bps rate, the more quickly a modem can send and receive information. A letter or character is made up of eight bits.

You can now buy a 2400-bps modem for well under \$60—and most now come with the ability to handle fax messages as well. At prices that now start around \$150, you can buy a modem that can transfer data at 14,400 bps (and often even faster, using special compression techniques). If you think you might be using the Net to transfer large numbers of files, a faster modem is always worth the price. It will dramatically reduce the amount of time your modem or computer is tied up transferring files and, if you are paying for Net access by the hour, will save you quite a bit in online charges.

Like the computer to which it attaches, a modem is useless without software to tell it how to work. Most modems today come with easy-to-install software. Try the program out. If you find it difficult to use or understand, consider a trip to the local software store to find a better program. You can spend several hundred dollars on a communications program, but unless you have very specialized needs, this will be a waste of money, as there are a host of excellent programs available for around \$100 or less. Among the basic features you want to look for are a choice of different “protocols” (more on them in a bit) for transferring files to and from the Net and the ability to write “script” or “command” files that let you automate such steps as logging into a host system.

When you buy a modem and the software, ask the dealer how to install and use them. Try out the software if you can. If the dealer can't help you, find another dealer. You'll not only save yourself a lot of frustration, you'll also have practiced the prime Internet directive: “Ask. People know.”

To fully take advantage of the Net, you must spend a few minutes going over the manuals, or documentation, that come with your software. There are a few things you should pay special attention to: uploading and downloading, screen capturing (sometimes called “screen dumping”), logging, how to change protocols, and terminal emulation. It is also essential to know how to convert a file created with your word-processing program into “ASCII” or “text” format, which will let you share your thoughts with others across the Net.

Uploading is the process of sending a file from your computer to a system on the Net. Downloading is retrieving a file from somewhere on the Net to your computer. In general, things in cyberspace go “up” to the Net and come “down” to you.

Chances are your software will come with a choice of several “protocols” to use for these transfers. These protocols are systems designed

to ensure that line noise or static does not cause errors that could ruin whatever information you are trying to transfer. Essentially, when using a protocol, you are transferring a file in a series of pieces. After each piece is sent or received, your computer and the Net system compare it. If the two pieces don't match exactly, they transfer it again, until they agree that the information they both have is identical. If, after several tries, the information just doesn't make it across, you'll either get an error message or your screen will freeze. In that case, try it again. If, after five tries, you are still stymied, something is wrong with (a) the file, (b) the telephone line, (c) the system you're connected to, or (d) your own computer.

From time to time, you will likely see messages on the Net that you want to save for later viewing—a recipe, a particularly witty remark, something you want to write your congressman about, whatever. This is where screen capturing and logging come in.

When you tell your communications software to capture a screen, it opens a file in your computer (usually in the same directory or folder used by the software) and “dumps” an image of whatever happens to be on your screen at the time.

Logging works a bit differently. When you issue a logging command, you tell the software to open a file (again, usually in the same directory or folder as used by the software) and then give it a name. Then, until you turn off the logging command, everything that scrolls on your screen is copied into that file, sort of like recording on videotape. This is useful for capturing long documents that scroll for several pages—using screen capture, you would have to repeat the same command for each new screen.

Terminal emulation is a way for your computer to mimic, or emulate, the way other computers put information on the screen and accept commands from a keyboard. In general, most systems on the Net use a system called VT100. Fortunately, almost all communications programs now on the market support this system as well—make sure yours does.

You'll also have to know about protocols. There are several different ways for computers to transmit characters. Fortunately, there are only two protocols that you're likely to run across: 8-1-N (which stands for “8 bits, 1 stop bit, no parity”—yikes!) and 7-1-E (7 bits, 1 stop bit, even parity).

In general, many Unix-based systems use 7-1-E, while MS-DOS-based systems use 8-1-N. What if you don't know what kind of system

you're connecting to? Try one of the settings. If you get what looks like gobbledygook when you connect, you may need the other setting. If so, you can either change the setting while connected and then hit enter, or hang up and try again with the other setting. It's also possible your modem and the modem at the other end can't agree on the right bps rate. If changing the protocols doesn't work, try using another bps rate (but no faster than the one listed for your modem). Don't worry, you can't break anything! If something looks wrong, it probably is wrong. Change your settings and try again. Nothing is learned without trial, error, and effort.

There are the basics. Now on to the Net!

## 1.2 Go!

Once, only people who studied or worked at an institution directly tied to the Net could connect to the world. Today, though, an ever-growing number of "public-access" systems provide access for everybody. These systems can now be found in several states, and there are a couple of sites that can provide access across the country.

There are two basic kinds of these host systems. The more common one is known as a UUCP site (UUCP being a common way to transfer information among computers using the Unix operating system) and offers access to international electronic mail and conferences.

However, recent years have seen the growth of more powerful sites that let you tap into the full power of the Net. These Internet sites not only give you access to electronic mail and conferences but to such services as databases, libraries, and huge file and program collections around the world. They are also fast—as soon as you finish writing a message, it gets zapped out to its destination.

Some sites are run by for-profit companies; others by nonprofit organizations. Some of these public-access, or host, systems, are free of charge. Others charge a monthly or yearly fee for unlimited access. And a few charge by the hour. Systems that charge for access will usually let you sign up online with a credit card. Some also let you set up a billing system.

But cost should be only one consideration in choosing a host system, especially if you live in an area with more than one provider. Most systems let you look around before you sign up. What is the range of each of their services? How easy is each one to use? What kind of support or help can you get from the system administrators?

The last two questions are particularly important because many systems provide no user interface at all; when you connect, you are dumped right into the Unix operating system. If you're already familiar with Unix, or you want to learn how to use it, these systems offer phenomenal power—in addition to Net access, most also let you tap into the power of Unix to do everything from compiling your own programs to playing online games.

But if you don't want to have to learn Unix, there are other public-access systems that work through menus (just like the ones in restaurants; you are shown a list of choices and then you make your selection of what you want), or which provide a "user interface" that is easier to figure out than the ever-cryptic Unix.

If you don't want or need access to the full range of Internet services, a UUCP site makes good financial sense. These sites tend to charge less than commercial Internet providers, although their messages may not go out as quickly.

Some systems also have their own unique local services, which can range from extensive conferences to large file libraries.

### 1.3 Public-Access Internet Providers

When you have your communications program dial one of these host systems, one of two things will happen when you connect. You'll either see a lot of gibberish on your screen, or you'll be asked to log in. If you see gibberish, chances are you have to change your software's parameters (to 7-1-E or 8-1-N as the case may be). Hang up, make the change, and then dial in again.

When you've connected, chances are you'll see something like this:

```
Welcome to THE WORLD
Public Access UNIX for the '90s
Login as 'new' if you do not have an account

login:
```

That last line is a prompt asking you to do something. Since this is your first call, type

```
new
```

and hit enter. Often, when you're asked to type something by a host system, you'll be told what to type in quotation marks (for example,

'new'). Don't include the quotation marks. Repeat: Don't include the quotation marks.

What you see next depends on the system but will generally consist of information about costs and services (you might want to turn on your communication software's logging function, to save this information). You'll likely be asked if you want to establish an account now or just look around the system.

You'll also likely be asked for your "user name." This is not your full name but a one-word name you want to use while online. It can be any combination of letters or numbers, all in lower case. Many people use their first initial and last name (for example, "jdoe"); their first name and the first letter of their last name (for example, "johnd"); or their initials ("jxd"). Others use a nickname. You might want to think about this for a second, because this user name will become part of your electronic-mail address (see chapter 2 for more on that). The one exception is the various Free-Net systems, all of which assign you a user name consisting of an arbitrary sequence of letters and numbers.

You are now on the Net. Look around the system. See if there are any help files for you to read. If it's a menu-based host system, choose different options just to see what happens. Remember: You can't break anything. The more you play, the more comfortable you'll be.

What follows is a list of public-access Internet sites, which are computer systems that offer access to the Net. All offer international e-mail and Usenet (international conferences). In addition, they offer the following:

**FTP:** File-transfer protocol—access to hundreds of file libraries (everything from computer software to historical documents to song lyrics). You'll be able to transfer these files from the Net to your own computer.

**Telnet:** Access to databases, computerized library card catalogs, weather reports, and other information services, as well as live, online games that let you compete with players from around the world.

Additional services that may be offered include the following:

**WAIS:** Wide-Area Information Server; a program that can search dozens of databases in one search.

**Gopher:** A program that gives you easy access to hundreds of other online databases and services by making selections on a menu. You'll

also be able to use these to copy text files and some programs to your mailbox.

**IRC:** Internet Relay Chat, a CB simulator that lets you have live keyboard chats with people around the world.

However, even on systems that do not provide these services directly, you will be able to use a number of them through telnet (see chapter 6). In the list that follows, systems that let you access services through menus are noted; otherwise assume that when you connect, you'll be dumped right into Unix (the operating system sometimes known as MS-DOS with a college degree). Several of these sites are available nationwide through national data networks such as the CompuServe Packet Network and SprintNet.

Please note that all listed charges are subject to change. Many sites require new or prospective users to log on a particular way on their first call; this list provides the name you'll use in such cases.

## **Alabama**

**Huntsville.** Nuance. Call the following voice number for modem number. \$35 setup fee; \$25 a month. Voice: (205) 533-4296.

## **Alaska**

**Anchorage.** University of Alaska Southeast, Tundra Services, (907) 789-1314; has local dial-in service in several other cities. \$20 a month. Voice: (907) 465-6453.

## **Alberta**

**Edmonton.** PUCNet Computer Connections, (403) 484-5640. Log on as: guest. \$0 setup fee; \$25 for 20 hours a month plus \$6.25 an hour for access to ftp and telnet. Voice: (403) 448-1901.

## **Arizona**

**Phoenix/Tucson.** Internet Direct, (602) 274-9600 (Phoenix); (602) 321-9600 (Tucson). Log on as: guest. \$20 a month. Voice: (602) 274-0100 (Phoenix); (602) 324-0100 (Tucson).

**Tucson.** Data Basics, (602) 721-5887. \$25 a month or \$180 a year. Voice: (602) 721-1988.

### **British Columbia**

**Victoria.** Victoria Free-Net, (604) 595-2300. Menus. Access to all features requires completion of a written form. Users can "link" to other Free-Net systems in Canada and the United States. Free. Log on as: guest. Voice: (604) 389-6026.

### **California**

**Berkeley.** Holonet. Menus. For free trial, modem number is (510) 704-1058. For information or local numbers, call the voice number. \$60 a year for local access, \$2 an hour during off-peak hours. Voice: (510) 704-0160.

**Cupertino.** Portal. Both Unix and menus. (408) 725-0561 (2400 bps); (408) 973-8091 (9600/14,400 bps). \$19.95 setup fee, \$19.95 a month. Voice: (408) 973-9111.

**Irvine.** Dial N' CERF. See San Diego.

**Los Angeles/Orange County.** Kaiwan Public Access Internet, (714) 539-5726; (310) 527-7358. \$15 signup; \$11 a month (credit card). Voice: (714) 638-2139.

**Los Angeles.** Dial N' CERF. See San Diego.

**Oakland.** Dial N' CERF. See San Diego.

**Pasadena.** Dial N' CERF. See San Diego.

**Palo Alto.** Institute for Global Communications, (415) 322-0284. Unix. Local conferences on environmental/peace issues. Log on as: new. \$10 a month and \$3 an hour after first hour. Voice: (415) 442-0220.

**San Diego.** Dial N' CERF USA. Run by the California Education and Research Federation. Provides local dial-up numbers in San Diego, Los Angeles, Oakland, Pasadena, and Irvine. For more information, call voice (800) 876-CERF or (619) 534-5087. \$50 setup fee; \$20 a month plus \$5 an hour (\$3 on weekends). Voice: (800) 876-2373.

**San Diego.** CTS Network Services, (619) 637-3660. Log on as: help. \$15 set-up fee, monthly fee of \$10 to \$23 depending on services used. Voice: (619) 637-3637.