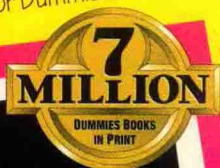




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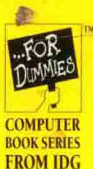
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About the Authors

John Levine and **Margaret Levine Young** were members of a computer club in high school (this was before high school students — or even high schools — *had* computers). They came in contact with Theodor H. Nelson, the author of *Computer Lib* and the inventor of hypertext, who fostered the idea that computers should not be taken seriously. He showed them that everyone can understand and use computers. John would like to thank Ted for letting him hole up on his houseboat during the final editing for this book.

John wrote his first program in 1967 on an IBM 1130 (a computer roughly as powerful as your typical modern digital wristwatch — only more difficult to use). His first exposure to the Internet was while working part-time for Interactive Systems, the first commercial UNIX company, and his system was listed in the earliest map of Usenet (see Part 3 of this book) published in *Byte* in 1981. He used to spend most of his time writing software, but now he mostly writes books because it's more fun. He wrote *UNIX For Dummies* and *Unix For Dummies Quick Reference* with Margy and *The Internet For Dummies* with Carol Baroudi. He also teaches some computer courses and publishes and edits an incredibly technoid magazine called *The Journal of C Language Translation* for which all of the authors submit their articles by e-mail via the Internet. He has a B.A. and Ph.D. in computer science from Yale University.

Margy has been using small computers since the 1970s. She graduated from UNIX on a PDP/11 to Apple DOS on an Apple II to MS-DOS and UNIX on a variety of machines. She has done all kinds of jobs that involve explaining to people that computers aren't as mysterious as they might think, including managing the use of PCs at Columbia Pictures, teaching scientists and engineers what computers are good for, and writing computer manuals. She has been president of NYPC, the New York PC Users' Group. Margy has written several computer books, including *Understanding Javelin PLUS* (John also wrote part of it), *The Complete Guide to PC-File*, *UNIX For Dummies* (with John) and *WordPerfect For Windows For Dummies* (with David C. Kay). She has a degree in computer science from Yale University.

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Conventions

Because the Internet is made of so many different kinds of systems, computers, software, commands, and so forth, this book uses different typefaces and other tricks to mean different things and to (hopefully) clarify stuff.

In a paragraph of regular text, sometimes we tell you to type something — whatever you are to type appears in bold: **like this**. Be sure to type it just as it appears. Use the same capitalization as we do that because sometimes the Internet — in particular, the UNIX parts of it — considers uppercase and lowercase versions of the same letter to be totally different beasts.

Filenames, host names, Internet programs, and commands are presented in a special typeface: `like this`.

Information that you provide appears in italic: *like this*. For example, if you see something like *yourname* or *your.computer's.name*, fill in those parts with the actual information.

Sometimes, we describe something that is (or should be) happening on your screen. Things that happen on-screen appear separated from the regular text:

Cryptic Internet stuff that pops up on your screen looks like this.

Sometimes, stuff appears on your screen, and you have to type something.

In that case, the thing you are to type appears in bold: **like this**.

Don't worry, it'll become clearer as you go along.

Contents at a Glance

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Introduction

At last — an Internet reference book that includes only the services and options you might conceivably have some interest in! In this book, you'll find information about lots of Internet services — over a dozen — along with how to use them. But we've left out a million boring features and warts that only nerds love.

How to find things in this book

It's divided into seven sections so you can find things fast:

- Part 1, "Internet Basics," contains information on connecting to the Internet and network names and addresses.
- Part 2, "Electronic Mail," discusses how to send, receive, file, answer, discard, and otherwise deal with the electronic lifeblood of the Net.
- Part 3, "Network News," tells you how Usenet news can help you stay in touch, answer questions, and waste incredible amounts of time.
- Part 4, "On-Line Communication," shows you how to use the Net to find out about and chat with people *right now!*
- Part 5, "Moving Files," covers transferring files, particularly from one of the thousands of public repositories to your own computer where you can use them.
- Part 6, "Finding Resources," explores on-line features that can help you find the locations of the resources you want.
- Part 7, "Interactive Information Facilities," shows you modern, way-cool network facilities that help you search and retrieve material with amazing ease.

What the icons mean

For each task or command, we include the following icons:



Easy for just about anyone to use.



Requires some attention and care and/or can be somewhat tricky.



Requires full attention and care and/or is very tricky.



Points out stuff you'll want to remember.



A tip that can save you time or impress your local Internaut.



Watch out for this! Something about this can make trouble for you.



A tip on where to find something on the Net — usually flags Internet addresses where you can get stuff.



A handy cross-reference to the sections in *The Internet For Dummies* that cover this topic in more detail.



Points out references to other places in this book where you can learn more about the topic at hand.

Part 1



Internet Basics

Before you can do anything interesting on the Internet, you need a few basic items. Specifically, you need some sort of hookup to the Net and an idea of the names of the things you want to use. This Part deals with basics such as connection, names, numbers, protocols, and zones.

Accessing the Internet



Connecting your computer to the Internet so that you can use its services.

You can connect to the Internet in several different ways. The services available on the Net are pretty much the same regardless of how you connect.

Direct connection

If you work at an organization whose computer networks are connected to the Internet, your computer is *on the Net*, and you can use Internet facilities directly.

UNIX workstations: If you're using a UNIX workstation, you're probably ready to start networking, because network software is a standard part of the UNIX system.

PCs and Macs: If you're using a PC or a Mac, you may have to do some configuration work — in fact, you may even have to install network hardware and software. Talk to your network administrator to find out what you must do.



See *The Internet For Dummies*, Chapter 3, “Starting Off, If You’re a DOS User,” for DOS hints; Chapter 4, “Starting Off, If You’re a UNIX User,” for UNIX workstation hints; and Chapter 5, “Starting Off, for Everyone Else,” for Macintosh hints. Also see Chapter 28, “Sources of Internet Software,” for advice on getting DOS and Mac Internet network software.

SLIP and PPP: dial-up networking

It’s possible to use a dial-up connection as a network link so that your computer is considered to be on the Internet during the time you are connected on-line. The two schemes used for dial-up links are

- SLIP (Serial Line Internet Protocol)
- PPP (Point to Point Protocol)

Some organizations use SLIP or PPP to connect PCs or Macs to the Internet, whereas others use a SLIP link to connect the local network to the outside world. In the former case, it’s up to you to start up and shut down the connection; in the latter case, the connection is made on demand or when scheduled.



See *The Internet For Dummies*, Chapter 3, section “SLIP sliding away.” Some public Internet service providers offer SLIP service — see Chapter 27, “Public Internet Service Providers,” for more information. See Chapter 28 for information about software.

Terminal dial-up

You can use a terminal or a PC running a terminal program to dial into a public Internet service provider. After you’re connected, you can access whatever services the provider offers. The provider usually charges a set fee for these services, either per month or per connect hour.



See *The Internet For Dummies*, Chapter 27, “Public Internet Service Providers,” for a list of providers and their phone numbers.

Communications Protocols



Methods that computers use to talk to each other.

The Internet has an endless list of communications protocols. In case you need to communicate (in English or Geek-speak) with an

Internet guru, the following table lists some of the more important protocols:

<i>Protocol</i>	<i>What It Is</i>
IP (Internet Protocol)	The underlying protocol used to pass data from one Internet host to another.
TCP (Transport Control Protocol)	Used for applications that need a continuing connection between two computers, such as remote login. Always used in connection with IP; often known as TCP/IP.
UDP (User Datagram Protocol)	Parallel to TCP, used for applications that send one-shot messages to each other.
SMTP (Simple Mail Transfer Protocol)	Misnamed protocol used to transfer e-mail from one host to another.
ARP (Address Resolution Protocol)	Specialized protocol used to identify hosts on an Ethernet local network.
ICMP (Internet Control Message Protocol)	Used to pass control and error messages.
FTP (File Transfer Protocol)	Used by the <code>ftp</code> program to transfer files from one host to another.



See *The Internet For Dummies*, Chapter 6, sections “Defining the Internet” and “TCP: The Rocket-Powered Mailman.”

Host Names



Names given to Internet hosts.

Hosts are machines that are directly attached to the Internet — as opposed to those machines only connected indirectly for e-mail.

Host names have several parts strung together with periods, like

`xuxa.iecc.com`

You decode a host name from right to left. The rightmost part of a name is its *zone* (in the example, `com`). To the zone’s left (`iecc`) is the name of the company, school, or organization. The part left of the company name identifies the particular machine within the organization. In large organizations, host names are further subdivided by site or department.

A partial name is known as a *domain*. For example, `xuxa` is in the `iecc.com` and `com` domains.



On the Internet, not all names are created equal. In particular, many names are valid only for mail.

Host Numbers



Numbers assigned to Internet hosts.

Network software uses the host number, which is sort of like a phone number, to identify the host. Host numbers are written in four chunks separated by periods, such as

140.186.81.6

Host numbers consist of two parts:

- The *network number* indicates the network that a host is connected to.
- The *local host number* identifies the particular computer on the network.

The network number comprises the first one, two, or three chunks, depending on the first chunk. The rest of the host number is the local host number, as shown in the following table:

Class Number	First Chunk	Length of Network	Maximum No. Hosts on Network
A	1–126	1 chunk	16,387,064
B	128–191	2 chunks	64,516
C	192–223	3 chunks	254

Sample

What does host number 140.186.81.6 mean? The first chunk (140) means that it is a Class B network; the network number, therefore, is in two parts: network 140.186, host 81.6.



There is no particular relationship between host names and host numbers. A computer can have a host number but no host name — for example, a computer used by other computers but not by humans — and it can have multiple host numbers if it's connected to multiple networks.



The most important computer number to know is the host number of the computer you use, for two reasons:

- A few systems on the Internet, notably those run by the U.S. military, don't handle names very well, so some users may need your number to contact you.

- If things get fouled up, the number will help the guru who fixes your problem.



See *The Internet For Dummies*, Chapter 2, section “What’s in a Number?”

Port Numbers



Numbers that identify the program that a host computer uses to connect to the Internet.

Internet hosts usually can run many programs at once, and they can have simultaneous network connections to lots of other computers. The different connections are kept straight by *port numbers*, which identify particular programs on a computer. For example, file transfer uses port 21, e-mail uses port 25, and network news uses port 119.



Most of the time, programs automatically select the correct port to use. Now and then, though, a service will use a nonstandard port. In this book, when we describe a service that uses a nonstandard port, we tell you the port number.



See *The Internet For Dummies*, Chapter 6, section “Any Port in a Storm.”

Zones



The last two or three letters in a host name.

There are two main kinds of zones:

- Organizational names
- Geographic names

Organizational names

If the zone is three letters long, it is an *organizational name*. The three-letter code indicates the type of organization, and the part just before the zone indicates the specific organization.

Although organizational names don’t tell you anything about a system’s physical location, most systems that use organizational names are in the United States. The following table describes currently used organizational names.

Zone	Type of Organization
com	Commercial organization
edu	Educational institution
gov	Government body or department
int	International organization (mostly NATO, at the moment)
mil	Military site
net	Networking organization
org	Anything that doesn't fit elsewhere, such as a professional society



See *The Internet For Dummies*, Chapter 2, section “The Twilight Zone?”

Geographic names

If the zone is two letters long, it is a *geographic name*. The two-letter code specifies a country, and the stuff in front of the zone is specific to the country. The `us` domain, used by some schools and small organizations in the United States, is set up strictly geographically. For example, my machine in Cambridge, Massachusetts, is called `chico.iecc.cambridge.ma.us`.

Note: A host can have more than one name. My machine is also known as `chico.iecc.com`.

The following table lists popular geographic names.

Zone	Country
at	Austria, Republic of
be	Belgium, Kingdom of
br	Brazil, Federative Republic of
ca	Canada
fr	France (French Republic)
jp	Japan
mx	Mexico (United Mexican States)
nl	Netherlands, Kingdom of the
no	Norway, Kingdom of
ru	Russian Federation
es	Spain, Kingdom of
se	Sweden, Kingdom of
ch	Switzerland (Swiss Confederation)
uk	United Kingdom (official code is <code>gb</code> but <code>uk</code> commonly used)
us	United States of America