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REVIEW OF: Carl-Mitchell Smoot and John S. Quarterman. Practical Internetworking with TCP/IP and UNIX. Reading, MA: Addison-Wesley Publishing Company, 1993.

REVIEW OF: John S. Quarterman and Carl-Mitchell Smoot. The Internet Connection: System Connectivity and Configuration. Reading, MA: Addison-Wesley Publishing Company, 1994.

by Bill Britten

Practical Internetworking with TCP/IP and UNIX is for readers with more than a casual interest in the TCP/IP protocols which form the foundation of nearly all Internet activity, and some familiarity with these protocols is assumed. The Preface refers to the book as a "practical guide for building networks," but it is more of a treasure-trove reference on the history, theory, and technical details of TCP/IP. In a surprisingly readable style, the authors demystify the theory of the Internet Protocol and Transmission Control Protocol and all of their support protocols.

Topics covered include routing, address resolution, domain name services, transmission control, and many other familiar network service protocols, such as FTP, Telnet, and SMTP. The book is highly focused and densely packed with information, but the reader who perseveres will be rewarded with an understanding of how data moves from a software application such as Netscape, down through various protocol layers. It is then disassembled into a series of small packets and moves out onto the Internet in a two-way byte stream that is able to find its way to a specific destination among millions, arriving intact and reassembled ... all in a time span measured in milliseconds.

In addition to the technical details of Internet routing, the authors include background information on the Internet's history, standards and technical bodies (e.g., the Internet Architecture Board and the Internet Engineering Task Force), the Request for Comment (RFC) process, and other topics related to the formal processes that continue to shape the evolution of the Internet.

Later chapters deal with such "advanced topics" as TCP/IP in a PC or Macintosh environment. These chapters are not as strong, partly because the 1993 publication date excludes nearly all of the recent explosion of Windows (Winsock) TCP/IP applications. The authors are very much UNIX-oriented, but the value of this highly recommended book is its clear and thorough explanation of the basic TCP/IP protocols.

The Preface to *The Internet Connection: System Connectivity and Configuration* states that "this book is for readers who know they want a connection to the Internet. The computer might be in someone's house or office, in a company or a university." With that broad sweep of readership in mind, the initial chapters offer overviews of Internet services and resources, the history and protocols of the Internet, and types of Internet access. These chapters constitute an excellent and thorough grounding in the origins and culture of the Internet.

Later chapters delve into the specifics of setting up the basics of Internet connections: IP numbering, domain name systems, Usenet and e-mail. Unfortunately, in these chapters the promise of the Preface is not entirely kept. The information is often presented in a difficult style suited to engineers which is not appropriate to the practical needs of one actually making an Internet connection. For example, from the section on dial-up access through a computer serial port using SLIP or PPP (p. 79):

IP packets sent out on the serial interface are encapsulated in a SLIP or PPP frame and sent as a serial bitstream using the standard RS-232 serial driver. When a SLIP or PPP frame is received, the frame header and trailer are stripped and the IP packet is sent to the IP input routine. Using this basic paradigm, you will find it relatively easy to configure a serial interface for use either by PPP or SLIP.

Well, I guess it's all relative, but to me this is something like Einstein saying, "using the basic paradigm of E=3DMC2 you will find it relatively easy to build an atomic bomb." I've configured several computers for SLIP access to the Internet, and the above paragraph would not have been helpful.

On the other hand, there is an extensive amount of specific information in this book on how the Internet actually works. The chapter on setting up a Usenet News server is typical of where the strength of this title lies. The detailed history of the origins of Usenet and a general overview of what is involved in setting it up are superb.

As with any monograph covering a rapidly-evolving topic, this one suffers from some obsolescence. For example, while coverage of the WAIS, FTP, and Gopher protocols is good, the authors pass over World Wide Web servers, saying that the reader would probably not want to set one up at this time.

Of the two titles, Practical Internetworking is recommended for TER readers. Its main goal of elucidating the TCP/IP protocols is reached successfully through a logical progression of information and an appropriate level of detail. The more recent title, The Internet Connection, also devotes a significant number of chapters to explaining TCP/IP, but it is a subset of what had been covered in greater detail in the older publication. The Internet Connection never completely fulfills its goal of providing practical information for general readers desiring a connection to the Internet.

Bill Britten (wbritten@utk.edu (mailto:wbritten@utk.edu)) is the Systems Librarian at the University of Tennessee Libraries. He has done a number of articles and presentations on electronic information.

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REVIEW OF: Reva Basch. Secrets of the Super Searchers. Wilton, CT: Eight Bit Books, 1993.

by Steve Hardin

The cover of this book calls it "the accumulated wisdom of 23 of the world's top online searchers." That sentence represents a very accurate description of the book and its contents. The bulk of its 235 pages is a series of 23 question-and-answer interviews with some of the best-known searchers in the business.

Author Basch is well-qualified to write this sort of book. No mean searcher herself, she asks good, informed questions of the 23 interview subjects: Susanne Bjorner, Karen Blakeman, Steve Coffman, Lucinda Conger, Carol Ginsburg, Terry Hanson, Robert F. Jack, Roger Karraker, Tom Koch, Nancy Lambert, Anne Mintz, Marydee Ojala, Ruth Pagell, Nora Paul, Barbara Quint, Ellen Reinheimer, Lee Sapienza, Bonnie Snow, N. J. Thompson, Ann Van Camp, Wendy Warr and Sherry Willhite. An experienced and well-read searcher will almost certainly recognize some of those names. They are indeed searchers with "accumulated wisdom" worth sharing.

Each of the 23 interviews is in the same general format. Basch asks several questions to establish the searcher's credentials and the area in which he or she works most frequently: business, medicine, education, etc. Basch then explores the type of software and hardware the searcher uses. This sort of information is probably the least useful in the book; the configuration has no doubt changed for many of these searchers since the interviews were conducted in mid-to-late 1992.

The book's age, however, is not a serious handicap. In the introduction, Basch alludes to the difficulties of trying to capture relevant information in a field which changes as rapidly as online searching. She notes, "Since the book focuses on the essence of the search process itself, my hope is that its worth won't be materially affected by the ongoing evolution in system features, database structure and content." (p. 2). She has accomplished her purpose in this regard.

The interviews delve into the searchers's favorite databases and online vendors, the time constraints under which they work, the reference interviews they do for search requests, the manner in which they post-process and deliver their results, and a variety of other questions related to their jobs and how they do them. This reviewer found it fascinating to read how different searchers take opposite sides of the same question and justify their positions well. For example, Terry Hanson reported that he and his colleagues at the University of Portsmouth in the United Kingdom prefer to conduct their online searches with their requestors present "so we can get immediate feedback before it's too late." (p. 78). On the other hand, Robert F. Jack of the NASA Center for Aerospace Information prefers not to have his clients sitting with him while he is online. He does not want to be second-guessed: "The meter's running and I don't need somebody to ask, 'Why did you put a question mark there?' I'm sorry, it just cost \$35 to explain what the question mark means." (p. 87).

Basch also asks the searchers to relate stories about their best and worst searches, creating interesting tales to which nearly everyone who does much online searching can relate. She also queries them on their ideas about what makes a good online searcher. Many of them enjoy the "detective" aspect of the work, the thrill of the hunt, and the satisfaction of a job well done.

At the conclusion of each interview is a quick summary of its contents, labelled "Super Search Secrets." Here, Basch repeats from the text a few choice sentences and phrases which capture the most significant or interesting parts of the interview. For the most part, this reviewer agreed with her selections.

The most useful part of the book is its introduction. Here, Basch synthesizes the thoughts and tips of all 23 of the searchers she interviewed. A reader wanting a good distillation of the book's "accumulated wisdom" would be well-advised to look here. Casual readers who skip introductions will do themselves a disservice in this case. Perhaps the essentials of this introduction should have been organized into a concluding chapter which would be read by more people.

The book's format is its greatest strength. By presenting interviews in question-and-answer format, instead of summarizing them, the author gives the reader a good feel for the flow of the conversation. He or she can see how the ideas fit together and how various searchers come up with quite different approaches to the same problem. In short, the format provides the context necessary for a fuller understanding of the information being provided.

But the book's format is also its greatest weakness. The interview contexts are provided at the expense of reference convenience and utility. It is difficult to see how various searchers approach the same problem because that information is buried within each individual interview. This book cries out for an index; the

discipline-related index of the searchers interviewed hardly makes up for this omission. A comprehensive index would permit the reader to see, with very little effort, what various searchers had to say about a particular database, pricing policies, database vendors, or a host of other useful items.

Although crippled by the lack of a good index, *Secrets of the Super Searchers* should be of interest to anyone who does much online searching. This reviewer picked up a few useful tips while reading it and believes most searchers will do likewise. It would make a good addition to the personal library of any online searcher who takes the job seriously.

Steve Hardin (LIBHARD@cml.indstate.edu (mailto:LIBHARD@cml.indstate.edu)) has worked as a holistic librarian at Indiana State University since 1989. He spends his time split between Electronic Information Services and Technical Services. His publications and presentations cover various aspects of electronic resources and holistic librarianship.

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REVIEW OF: Brent Heslop and David Angell. *The Instant Internet Guide: Hands-On Global Networking*. Reading, Mass.: Addison-Wesley Publishing Co., 1994.

by Kristin D. Vogel

Guiding users through the Internet using metaphors of surfing, mining, and television, the authors of this book provide information on applications of the Internet--Telnet, FTP, Archie, pine, tin, Gopher, and more. The book is structured around seven chapters with subsections in each. Beginning broadly with definitions of the Internet and etiquette rules, the authors then move through the various applications. The *Instant Internet Guide* ends with a chapter on UNIX and its basic commands. Wrapping up the entire book is an appendix detailing service providers and how to get current listings from the Internet itself.

Summary

The *Instant Internet Guide* has a total of 209 pages including an index. In the "Read Me First" section of the book, the authors indicate that this book should enable anyone to use the Internet. Describing their book, the authors state that the book "teaches anyone how to catch the Internet wave" and "delivers concise, hands-on techniques to make your Internet ride as fast and smooth as possible." They lay out the conventions used in the book that allow the user to recognize commands, programs, and keystrokes as they appear in the text.

Chapter one, "Merging onto the Internet," is divided into seven subsections ranging from "Preparing Yourself for the Internet" to "Rules of the Internet Road." Providing information giving a context to the Internet, this chapter defines the Internet and the concept of networking, three levels/types of connections to the Internet, and applications commonly used. The Internet etiquette section describes the major guidelines for user behavior in electronic communication.

Following logically from the conclusion of the first chapter, chapter two is called "Communicating via Electronic Mail" and concentrates on the electronic communication aspect of the Internet. The chapter is divided into eight subsections. Examples of these are "E-mailing with pine," "Composing and Sending E-Mail," "Keeping Your Little Black Book of E-mail Addresses," and "Working with pine Utilities." The pine software is described as being a "friendly, menu-based e-mail program" and dominates the chapter since the authors note it is "offered as a mail program option by most service providers."

"Turning On Network News," chapter three, introduces the reader to newsgroups. Some of the eight subsections are called "What Is Network News?," "Thread Fundamentals," and "Customizing tin." This chapter provides detailed information on the tin newsreader software and the hierarchy of newsgroup names.

Chapter four, "Interactive Internet," includes subsections on using Telnet, Internet Relay Chat (IRC), and Multi-user Dungeons (MUDs). Headings range from "Surveying the Telnet Services Terrain" and "Pinpointing Telnet Sites" to "Help, I've Connected and Can't Get Out" and "Internet CB Using IRC." Services accessible via Telnet are categorized and described. Some sample services and addresses are provided. The sections on IRC and MUDs point to locations for more information as well as giving general information on the concepts.

The fifth chapter of the book is titled "Mining Files on the Internet" and focuses on File Transfer Protocol (FTP) in its subsections. The eight subsections have headings such as "Getting Started with ftp," "Identifying Files on an ftp Host Computer," "Quitting an ftp Session," and "Getting Files via an ftpmail Server." This chapter is filled with explanations of the technical information provided in directory trees and in file names. Compression software suffixes/abbreviations are clarified. Locations of sites of particular types of files are provided as well as ways to identify other sites that aren't listed.

"Finding What You Want on the Internet," chapter six, is divided into five subsections and focuses on search tools such as Archie, Veronica, and WAIS. Also included are subsections on Gopher, "Tunneling Through the Internet with gopher," and "Using the World-Wide Web." Gopher and Veronica information fills a large portion of this chapter with additional information on the mechanics of both Archie and WAIS. The World Wide Web section defines the term and provides the Telnet address for WWW at CERN.

Chapter seven is called "UNIX in About an Hour" and is separated into "Getting Started with UNIX," "Working with Directories," and "Working with Files." Additionally, the chapter subsections include "Creating and Editing Files with pico" and "Creating and Editing Files with vi." This final chapter delineates the various shell programs that are often provided as a layer between the user and the UNIX system. The syntax for many basic commands is provided, with examples to assist the reader in understanding the purpose of the command.

The book concludes with an appendix that provides information on establishing a dial-up connection to the Internet. The five subsections are titled "Before You Start Shopping," "Types of Internet Access," "The Cost of Getting There," "Service Provider Checklist," and "Service Providers."

Evaluation

This is a well-written, well-organized book that overflows with great information about the Internet--how to connect, find information, and navigate. Easily read, the book explains jargon in a concise and straightforward way. The authors have done a very good job of providing information that would enable readers to successfully use the various software packages that are described. The basics of navigation are arranged in logical and easy-to-follow structures. Additionally, the applications described have not

undergone major transformations since the book was published which enables the book to retain much of its value at a time when many books on the Internet are useless after the next software release has been issued.

This strength, however, also illustrates a weakness of the book. The time of the book's development is forever imprinted into the sixth chapter. The relative size of the sections on Gopher and Veronica compared to the length of the section on the World Wide Web indicates that the rush of WWW growth that has occurred was not foreseen when the book was written. This makes it hard for the book to achieve today its goal of teaching anyone how to "catch the Internet wave."

This book also unnecessarily overuses Internet catch-phrases and metaphors. Many sections of the book are written without relying on media-hyped phrases, and more sections could have been done this way as well. While some novice users of the Internet may be amused and hooked with the use of the surfing metaphor, it may be a detraction for many other readers. One metaphor that I applaud is the description of the current levels of access to the Internet as being similar to airline passenger classes. It is used in a way that simplifies differences without sacrificing details.

My final concern about the Instant Internet Guide is that the heavy reliance on describing the mechanics of the software may leave portions of the book useless to a reader who doesn't have access to the software listed. A helpful hint may be for readers to make a list of the applications covered in the book before deciding which service provider to use and then use the list as one criteria for selection along with the others that are provided in the appendix.

In conclusion, the authors have done well at providing useful information for anyone connecting to the Internet. For the novice user the book gives details, examples, and guiding directions; for the long-time user it serves as a quick reference for commands and often used programs. Subsequent editions would be valuable if they provided, in the same easy-to-read format, information about the applications developed since this book was published.

Kristin Vogel (kvogel@titan.iwu.edu (mailto:kvogel@titan.iwu.edu)) is Access Librarian and Assistant Professor at Illinois Wesleyan University. For the past four years she has worked on information technology issues and implementation for liberal arts colleges.

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