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**REVIEW OF: Kenneth L. Spencer. *A Practical Guide to Windows NT*.
Horsham, PA: CBM Books, 1994.**

by Thomas Dowling

Outside of used book stores, it is no longer commonly possible to buy books specific to MS-DOS 5.0, Macintosh System 6, or Netware 3.11. These were all solid versions of important operating systems, but they have all been superseded. When newer versions appeared, good third-party books were published which provided coverage for the upgrade. More recently than these examples, the first books on Windows 95 came out months before the official release date.

It is therefore frustrating to realize that the majority of books supporting Windows NT describe only the initial release, version 3.1. As of this writing in September 1995, roughly a year has passed since Microsoft released a major upgrade to NT 3.5. Now an incremental, but still important, upgrade to version 3.51 is available, and version 3.52 is due within a few months.

Kenneth Spencer's "A Practical Guide to Windows NT" describes NT 3.1. This by itself is not a fatal problem, although it does not help that the forward states the book was largely written using beta versions of NT 3.1. More features have stayed the same than have changed, but readers should be aware that the book will be unable to address some substantial modifications in current versions. Notably, the book cannot address NT's current mechanisms for interconnecting with Netware networks, network domain management, management of 16-bit Windows applications, on-the-fly disk compression, or many of its Internet connectivity options. With version 3.51, Microsoft released a preview version of the Windows 95 interface, to be fully incorporated in 3.52; this impending change to the user interface adds to the number of important features that this book cannot address.

A greater failing is the book's ambiguity about its target audience. Spencer's stated intent is to address "the vast majority of NT users and managers. Topics are geared to a level that most people will use..." However, it is unclear just who the majority of NT users are. The book makes a point of being chatty and enthusiastic in tone--"NT supports up to 256 serial ports!"--and is a comparatively short book at 217 pages (by way of comparison, Microsoft's NT Resource Kit tops 2700 pages, and includes six floppies and a compact disc); this might suggest an introductory book for new users. On the other hand, it delves into processes such as adding users and groups, file system support, and configuring uninterruptible power supplies, which would seem to be aimed at technical users and network administrators. In the end, neither extreme of the user spectrum is adequately served and it is difficult to gauge whether there are many users in the middle who will benefit from this book.

The book follows a straightforward tourguide approach to NT, starting with an introduction to the NT interface, which is largely the same as the Windows 3.1 interface, with some modifications to handle shared resources, logging on and off, and multitasking. A fairly substantial chapter discusses the NT command prompt. Since NT is not built on top of MS-DOS, it cannot simply open a DOS session; instead, it opens a window that provides a command prompt. Most DOS commands are available, but the command prompt offers a greater degree of flexibility in batch files and also allows the user to launch Windows programs.

Subsequent introductory chapters deal with printing and networking. It is fair to point out that CBM Books publishes a number of titles dealing with VMS and Pathworks, and the book jacket mentions Spencer's experience with Pathworks and DECnet. It will not surprise the reader, then, to discover that NT-Pathworks connectivity is handled in detail, but it is disappointing that NT-Internet and NT-Netware connectivity is largely glossed over (although the reader should bear in mind that these two features are among those that have changed the most in recent NT updates).

Chapters on NT architecture and management follow, management here dealing primarily with user accounts and permissions. This section begins the part of the book directed more squarely at system administrators, and it does get into some fine points of running NT, but it also raises a number of topics

without following through. Installing NT, for example, is covered in two pages, starting with "Installing NT should be a simple task for most users...". Unfortunately, it can sometimes be a baffling and convoluted task; that is when a user most needs detailed instructions and help. Similarly, the importance of disk defragmentation is raised, but NT has no defragger built in, and no third-party utility is recommended or even mentioned by name.

The final section of the book outlines three administrative applications bundled with NT and touches briefly on security issues. The three applications--Performance Monitor, Event Viewer, and User Manager--are essential tools for anyone administering an NT network. These chapters are substantial and informative, describing not only how to use them, but why to use them and what problems they solve. It is unclear why these three applications are singled out; why, for example, is there not a comparably thorough treatment of the Control Panel's Network or Services applets. These are the main points of control for NT network connections and system services (roughly comparable to Unix daemons or Netware NLMs), and are common problem areas for new NT administrators.

The final chapter, on security, would benefit from a greater degree of skepticism on the author's part. Many experienced computer users recoil from blanket statements like "[password] encryption is one-way--a password can't be deciphered" or "Authenticating programs by user...eliminates back-door entry to the operating system for privileged accounts." In fact, NT security is very strong, but these risk-free assessments read like a Microsoft brochure. The remainder of this chapter would have been a good forum for discussing in detail security issues like passwords and viruses, but it is instead used as a tutorial in setting file permissions.

While "A Practical Guide to Windows NT" is not a perfect tool for either new users or NT experts, it is more useful for new users, especially as a complement to version-specific documentation or more in-depth introductions like "Windows NT Instant Reference" by James Powell (Sybex, 1993). Administrators will probably want to consider "Mastering Windows NT Server 3.5" by Mark Minasi, Christa Anderson, and Elizabeth Creegan (Sybex, 1995), or the four-volume "Windows NT Resource Guide" (Microsoft Press, 1995).

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REVIEW OF: NRENAISSANCE Committee, Computer Science and Telecommunications Board, Commission on Physical Sciences, Mathematics, and Applications, National Research Council. Realizing the Information Future: the Internet and Beyond. Washington, DC: National Academy Press, 1994.

by Pat Ensor

The product of a special committee designated by the Computer Science and Telecommunications Board of the National Research Council, *Realizing the Information Future* revisits and updates issues raised by a 1988 report on networking for the research and education communities (*Toward a National Research Network*). This effort was requested by the National Science Foundation, since there have been so many changes in the wider networking picture. The committee that produced this report, chaired by Leonard Kleinrock of the University of California at Los Angeles, included many of the writers of the earlier report. Representatives of universities, research laboratories, the computing industry, and an educational network were included on this committee, and in doing its work, the committee consulted very widely, throughout the networking world. The bulk of the work of the committee was done in 1993 and early 1994.

Summary

This book of approximately 300 pages is the committee's final report, and begins with a summary of recommendations. This is followed by six chapters which expand on the recommendations and the issues related to them. Closing the book are six appendices which provide background information and key terms, and an index.

In the "Summary and Recommendations" which begin the book, in fifteen pages the conclusions of the committee are encapsulated. The committee calls for an open data network--open to users, open to service providers, open to network providers, and open to change. In technical terms, they call for the establishment of a nonproprietary four-layered protocol which will allow access and use by any compliant applications, hardware, formats, etc. This section briefly defines the committee's vision of deployment of the Open Data Network, with special attention to the research and education communities. It also defines what the committee sees as a desirable and realistic governmental role. The section closes with specific recommendations in the areas of leadership and guidance, technology deployment, transitional support, K-12 education, and network research; these recommendations are repeated at appropriate points throughout the book.

The first chapter, "U.S. Networking: the Past is Prologue," gives a general overview of the history of communications networking, focusing on the reasons different developments came about, and how they relate to future visions of the National Information Infrastructure. Interesting despite ungrammatical and discordant subsection headings like "How Can We Converge the Visions?" this chapter is a good general summary; more specific details of Internet history are given in an appendix.

The second chapter, entitled "The Open Data Network: Achieving the Vision of an Integrated National Information Infrastructure," is almost sixty pages long, and is the technical heart of the book. The proposed Open Data Network is described and specified in detail, with issues of standards, security, and convergence with other telecommunications media also being discussed. The chapter finishes with a description of the research needed for development and extension of the NII and the Open Data Network.

The Committee had as one of its major concerns preserving and extending the use of the NII by its "traditional" communities, researchers, libraries, and education. The third chapter describes these communities' experience with the Internet, and notes that much can be learned from this. Recommendations are made for preserving the place of these non-profit communities in the NII, as it becomes more commercialized and less government supported. The fourth chapter considers such issues as equitable access, privacy, freedom of information, and protection of intellectual property.

The fifth chapter covers financial issues--cost of network infrastructure, how it will be funded, roles of the government and users, pricing structures, subsidies for certain areas. The final chapter is called "Government Roles and Opportunities," and it has three sections. The first discusses leadership in

developing the infrastructure and involving education. The second describes the needed government roles in balancing various interests. The third sketches out desirable roles for the government in influencing architecture and standards, future Internet oversight, deployment, and research and development.

The book closes with six appendices; they provide the history of federal networking, samples sets of organizations' NII access principles, a description of user support services, an overview of state and regional networks, a discussion of international issues, and a glossary of key terms.

Evaluation

This book brings to mind the time period earlier in the Clinton administration when it seemed that there was a hope that the government might be involved with the intelligent direction of the National Information Infrastructure. Few of us wanted the government to run the whole thing. Rather, we hoped for a gradual, thoughtful transition to a structure that had many privatized, commercial aspects, along with continued support of the research, education, and library communities. Of fundamental importance was the vision of truly widespread access to the NII. So, reading this text evokes much sadness in these days of obsession with communication decency and overwhelming commercialization of the first truly "killer resource" available through the Internet, the World Wide Web.

The book is well written and quite clear; despite the fact that it is the product of a committee. It is fairly readable, and the committee did not hesitate to make recommendations which would have moved the country forward in a more definite direction than was even envisioned in 1993 and 1994. The recommendations tend to be vague as to means, but the book itself is very clear as to the array of possibilities that the committee is aware of in areas like research, pricing, security, and so on.

The appendices give a useful history of the Internet and some idea of the roots of the international connection to this vast communications network. The endnotes for each chapter are invaluable for their referrals to other written materials, and for giving the names of people and organizations who might provide more information. The "key terms" list is disappointing, however, and indicates that this book should not be considered an introduction to the Internet. Only necessary background is provided.

As the reader may have gathered by this point, currently this book's recommendations are largely irrelevant; however, the book is not. It gives a very useful picture of the issues involved in building the NII. When one looks at current information sources about the NII, such as those described in Tom Wilson's NII Urlography in a past issue of TER [1], one realizes that now the picture is much more that of the GII--the Global Information Infrastructure. Its appeal is made not on the basis of equal access and the need for education, but in the name of competitiveness in the commercial arena. This report recognizes the seeds of these recent developments, and the valuable ideas included in it may yet become relevant. The American political scene is consistently one thing, and that is surprising.

This is a worthwhile read for an intermediate audience (because full understanding of much of the technical information is beyond beginners) that wants to see where we stood in NII hopes last year and wants to be prepared when the wheel turns.

Notes:

1. Wilson, Thomas C. (1994). Selective NII URLography. Telecommunications Electronic Reviews, 1(3).

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REVIEW OF: Gary Scott Malkin. Comprehensive Networking Glossary and Acronym Guide. Greenwich, CT: Manning Publications Co., 1995.

by Rebecca A. Ladew

Most computer books/guides found in bookstores or libraries have glossaries that deal with common computer terminologies--usually located toward the end of the book--but this book, *Comprehensive Networking Glossary and Acronym Guide*, is strictly focused on defining the terminologies used in networking. This book also functions as a guide to networking acronyms (e.g., POP, ACK, BGP, RARP, etc.). This book is an excellent choice for looking up an acronym as Mr. Malkin not only gives the full words that are associated with the initial letters, but gives the definition of the networking terminology associated with the acronym.

The cover of this guide is rather amusing. It depicts cavemen walking around talking in networking terminology and acronym lingo. One of the terms spoken is flame. This word is a noun meaning "fire" in non-computer terminology, but in networking terminology, "flame," as Mr. Malkin puts it, means "a strong opinion and/or criticism of something, usually as a frank inflammatory statement, in an Electronic Mail message."

One acronym that appears on the book's cover is POP. POP in small initials in common computer language has to do with the way data is stacked or arranged to be retrieved. There are two different POPs in capital letters in networking terminology, according to Mr. Malkin--Point Of Presence and Post Office Protocol. Point Of Presence has to do with a site's collection of telecommunications equipment. Post Office Protocol is used in Electronic Mail.

This glossary has 1501 entries for technical terms and acronyms used in the networking industry. General networking terminology is covered, as well as specific terminology used in the Internet, and terms and acronyms specific to AppleTalk, IP, IPX, SNA, and OSI. Included in this guide are the national and international networking organizations and several major networks.

Entries in the guide are in alphabetical order, acronyms appear in capital letters, and definitions are written in clear, simple language that should be understandable to the novice reader and useful to experts. On the whole, the glossary and the glossary entries are verified, cross-referenced, comprehensive, concise, and understandable.

At the beginning of the guide there is a section explaining some networking symbols (e.g., :-) which is a symbol to express emotion, in this case happiness). At the end of the guide three appendices appear, each listing the guide's entries in one of three subject areas: networks and organizations, security, and applications and protocols. Plus there are two dozen illustrations. These are used to make a specific point clearer, and are self-explanatory.

Computer networking is fast growing, and in essence, the Comprehensive Networking Glossary and Acronym Guide is a valuable, single-source reference for the practical terminology of networking as well as a guide to networks and networking organizations.

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REVIEW OF: Heinz-Gerd Hegering and Sebastian Abeck. Integrated Network and System Management (S. S. Wilson, Trans.). Wokingham, England: Addison-Wesley Publishing Company, 1995.

by Tony Toyofuku

After having read the outstanding work edited by Heinz-Gerd Hegering, Integrated Network Management III [1], a collection of papers presented at the Third International Symposium on Integrated Network Management, I was excited to have the opportunity to review Integrated Network and System Management, co-authored by Hegering and Sebastian Abeck.

The work, a translation of the German title Integriertes Netz-und Systemmanagement, is geared toward a technically advanced audience; it would be appropriate as a textbook for an advanced undergraduate, or graduate level university course in internetworking management. As the authors state in the preface (pp. v-vi), it "is both a textbook and a reference book for the state of the art in the area [of integrated management], and is intended both for network and systems planners in practice and for students of the relevant disciplines."

As the title implies, the book focuses on managing heterogeneous computer networks. The authors define "network management" in liberal terms; it includes topics ranging from ideas on planning and implementing a new network, to the Internet Activities Board and the "management" of the Internet, to systems administration tools for managing one's own network.

The book is divided into five broad categories: "Foundations," "Management Architectures," "Management Tools", "Tried and Tested Management Scenarios," and "Future Management Scenarios, Open Questions." In the first chapter, the authors discuss "Foundations of Communication Systems and Distributed Systems."

In this section they give a short overview of communications protocols and architectures and then mention network hardware, such as routers, bridges, modems, and multiplexors. As the goal of chapter one is to provide an overview of networking, it is not surprising that detail is sparse. Chapter two, "Network Management from the Provider's Point of View," offers a broad perspective on network planning that would be helpful for an MIS manager attempting to design and lay out a new network. Throughout this chapter, and indeed throughout the entire book, there are bulleted sections that offer relevant tips, such as: "Large networks should be introduced in steps," or "Specific introductory plans should not become a rigid maxim." Although many of these hints are truisms, overall they get to the point, and they are useful.

In the second section of the book, "Management Architectures," the authors discuss specific networking software packages, including OSI, Simple Network Management Protocol (SNMP) and other Internet management tools, IBM's Systems Network Architecture (SNA), Siemens-Nixdorf TRANSVIEW system (the TRANSVIEW software only became available in the United States in October, 1994), IEEE LAN/MAN, Hewlett-Packard's OpenView, and a host of other manufacturer's architectures. For each of these products, the authors briefly discuss system design of the software, and key features and concepts of the packages.

The third section of the book concerns itself with software tools for network management. In contrast to section two, where the authors focused on specific products, in this section the authors primarily examine generic tools, such as performance measurement software, documentation systems, and protocol analyzers. It would seem out of place, but there is even a section on writing user interfaces in C++, using Stanford University's InterViews GUI builder.

Part four of the book concentrates almost exclusively on systems administration in a UNIX environment. Perhaps because it is narrow in scope, I found this section of the book to be the most cohesive. The last, and shortest, portion of the book, titled "Future Management Scenarios, Open Questions," serves to wrap up the book.

Technical literature is never as light as a John Grisham novel, nor is it expected to be, but reading Integrated Network and System Management is exceedingly difficult; the work is poorly written and/or translated, and it is poorly edited. The last chapter, "Open Questions in Network and System Management," would have served as a nice introductory chapter; in this section, the authors actually define what "integrated management" is. Chapter one, on the other hand, begins with no introduction at all, making it difficult to understand the ideas that the authors are trying to convey.

For a textbook, though it is jammed with information, the authors have simply touched on too many subjects in one 500 page book. They mention so many systems and protocols that it is impossible to go into much detail. Furthermore, with so many topics covered, sorting out the myriad subjects quickly becomes confusing. In several places throughout the book, I was left saying to myself "And, what else?" For example, a more in-depth treatment of information retrieval software would have been helpful. The authors state (p. 417):

Since there are now numerous such [information] archives, some of which are of a tremendous size, there is an increasingly urgent need for retrieval and enquiry systems which will enable one to find one's way in this flood of data. The WAIS (wide area information servers), WWW (world-wide web) and gopher systems were developed in research projects.

This information, though all true, reads like the EMACS version of a Zippy the Pinhead dialogue. It is as if two people got together and completed each other's sentences, without any regard for what the previous person had just written; the resulting paragraph becomes nearly incoherent. It would have been useful had

the authors elaborated their thoughts on WAIS, WWW, and Gopher, perhaps explaining why the development of these packages as research projects is significant.

Instead of giving an overview of so many protocols, architectures, and tools, they could have given a theoretical framework for managing distributed systems and then concentrated on one example, such as SNA or SNMP. This would have made the work clearer and easier to understand, without sacrificing the content.

As a reference work, *Integrated Network and System Management* also falls short. There are more than ten pages devoted to Abstract Syntax Notation One (ASN.1), yet this important topic did not make it into the index. Similarly, TCP/IP is discussed in several places in the book, but it too is not mentioned in the index. Though this is probably not the fault of the authors, it does make it difficult to use this text as a reference source.

On the positive side, the book has nice illustrations. Although they are rudimentary, they are useful when visualizing the complex concepts they present. The bibliography is also substantial. Despite missing Marshall Rose's *The Open Book: A Practical Perspective On OSI* [2], the authors have given a relatively complete list of titles for further readings. In all, if you can overlook the structural problems, then you will appreciate the information contained in the book.

Notes:

1. Hegering, H. G., & Yemini, Y. (Eds.). (1993). *Integrated Network Management, III: Proceedings of the IFIP TC6/wG6.6 Third International Symposium on Integrated Network Management*. Amsterdam: North-Holland.
2. Rose, M. T. (1990). *The Open Book: A Practical Perspective on OSI*. Englewood Cliffs, NJ: Prentice-Hall.

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