

;login:

THE MAGAZINE OF USENIX & SAGE
December 2002 • volume 27 • number 6

Focus Issue: Security

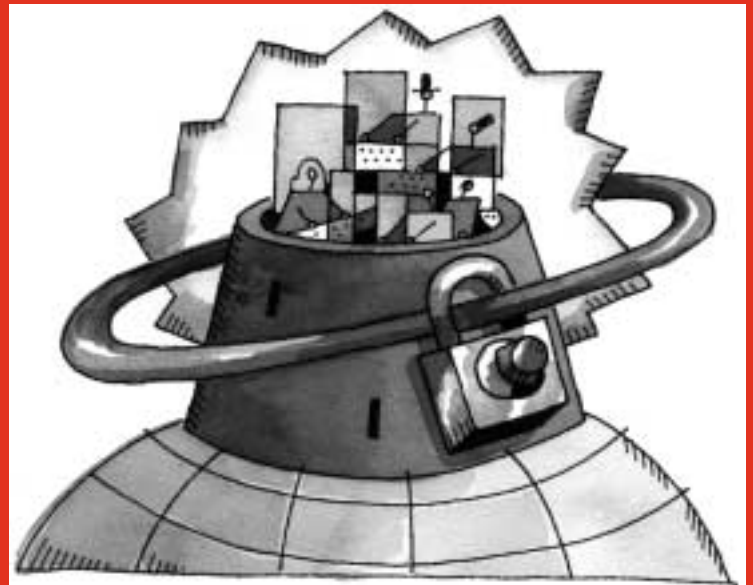
Guest Editor: Rik Farrow

inside:

BOOK REVIEWS

The Bookworm by Peter Salus

Reviews of *The Qmail Handbook* and *Ruby in a Nutshell*



USENIX & SAGE

The Advanced Computing Systems Association &
The System Administrators Guild

the bookworm

by Peter H. Salus

Peter H. Salus is a member of the ACM, the Early English Text Society, and the Trollope Society, and is a life member of the American Oriental Society. He is Chief Knowledge Officer at Matrix NetSystems. He owns neither a dog nor a cat.

peter@matrix.net



December already!

I know that all of you are eagerly awaiting Christmas/Chanukkah or something. So I thought I'd begin with two items you might want someone to buy for you.

Gift Suggestions

First, a *perfect* gift for anyone who works with/on the Internet: Addison-Wesley has brought out a boxed set of *TCP/IP Illustrated* – three volumes by Rich Stevens (and in vol. 2, Gary Wright) that are invaluable. The boxed set comes with a poster of the 4.4BSD TCP/IP Networking Data Structures. I tacked mine above my desk. While the set runs \$169.95, that's 15% less than buying the volumes separately. I've seen it discounted, too. ISBN 0-201-77631-6.

The second is far smaller and cheaper, but it's worth reading and thinking about. This is *Free Software, Free Society: Selected Essays of Richard M. Stallman*. At just over 200 pages, it's a "light-weight," but it's not at all light conceptually. The contents are divided into four sections: history and philosophy of the GNU Project and free software; the politics of copyright and patents; freedom, rights, and the threats of globalization and proprietary software; and "The Licenses" – containing the GPL, the "Lesser" GPL, and the "Free Documentation License." Larry Lessig has written an Introduction to the volume. Whether you're a GNU lover or not, these are sin-

gular essays; no one but RMS could have written them. And even when RMS is at his most irritating, what he says is important and valuable.

Command Guide

Last column I lauded the *Universal Command Guide*. I've learned that there's a Web site: <http://www.allcommands.com>.

It is a Web version of the command finder which helps you find the command in any operating system by typing in the task you want to perform. Guy Lotgering also informs me: "We will also be putting the entire book in a searchable online database available on my Web site."

Really laudable.

Reading and Reference

Once you've read and internalized the 2000-plus pages of Stevens, you'll want to move over to Pike's volume on network security. Pike covers the PIX firewall; the implementation of IPsec in the Cisco environment; etc. I enjoyed reading Pike's exposition, but I was irritated by the sparseness of his references. Encryption is limited to Diffie-Hellman, Stallings, and Schneier. Talking about firewalls without a mention of Bellovin is bizarre. You'll search in vain for many other notables, too.

Staying within networking but broadening your horizon beyond Cisco, you should look at Edwards et al. This book provides you with solid bases for examining the rationale and benefits of multicasting on the Internet. I happen to think that multicasting is an important technology, but I'm unconvinced that it is the killer app some people think it is. The descriptions of the protocols are fine. And this book has a bibliography.

VoIP

I'm not sure whether VOCAL (Vovida Open Communication Application Library) is the "answer" to VoIP, but it's certainly a good beginning. Two of the authors of *Practical VoIP* are at Cisco, and Cisco sponsors the Web site, <http://www.vovida.org>, but VOCAL is an open source product. Calling, routing, billing, etc., are all covered in this book. It's another example of the excellence I've come to expect from O'Reilly.

Revisiting

Bradley's second edition of his XSL volume is quite excellent. XSLT is a companion to XML, one of the "standards" promulgated by the W3 Consortium. If you work with XML and stylesheets, this is a definite must have.

Top Ten for 2002

The Stevens trilogy doesn't qualify for this year's top ten, as the volumes were originally published too long ago, but Stallman's volume certainly belongs here. (As I say each year, these ten are not in any particular order.)

See you all next year!

Evi Nemeth et al., *Linux Administration Handbook*. Upper Saddle River, NJ: Prentice Hall, 2002. 889pp. ISBN 0-13-008466-2.

Richard M. Stallman, *Free Software, Free Society...* Boston, MA: GNU Press, 2002. 224pp. ISBN 1-882114-98-1.

Thomas Sterling, ed., *Beowulf Cluster: Computing with Linux*. Cambridge, MA: MIT Press, 2001. 496pp. ISBN 0-262-69274-0.

Nick Christenson, *Sendmail Performance Tuning*. Boston, MA: Addison-Wesley, 2002. 228pp. ISBN 0-321-11570-8.

Martin McCarthy, *The Procmail Companion*. Edinburgh, Scotland: Addison-Wesley, 2002. 235pp. ISBN 0-201-73790-6.

book reviews

Brian Ward, *VMWare*. San Francisco, CA: No Starch Press, 2002. 249pp. ISBN 1-886411-72-7.

Robert J. Chassell, *Introduction to Programming in Emacs Lisp*. 2nd ed. Boston, MA: FSF, 2001. 292pp. ISBN 1882114-43-4.

Gary McGraw & John Viega, *Building Secure Software*. Boston, MA: Addison-Wesley, 2001. 528pp. ISBN 0-201-72152-X.

Guy Lotgering & the UCG Training Team, *Universal Command Guide*. New York: Hungry Minds, 2002. 1591pp. + CD-ROM. ISBN 0-7645-4833-6.

Michael Lucas, *Absolute BSD*. San Francisco: No Starch Press, 2002. 616pp. ISBN 1-886411-74-3.

Four more that are almost as good:

James Pike, *Cisco Network Security*. Upper Saddle River, NJ: Prentice Hall, 2002. 302pp. ISBN 0-13-091518-1.

Brian M. Edwards et al., *Interdomain Multicast Routing*. Boston, MA: Addison-Wesley, 2002. 356pp. ISBN 0-201-74612-3.

Luan Dang et al., *Practical VoIP Using VOCAL*. Sebastopol, CA: O'Reilly & Associates, 2002. 502pp. ISBN 0-596-00078-2.

Neil Bradley, *The XSL Companion*. 2nd ed. Harlow, UK: Addison-Wesley, 2002. 465pp. ISBN 0-201-77083-0.

THE QMAIL HANDBOOK

Dave Sill
Berkeley, CA: APress, 2002. 492pp.
ISBN 1-893115-40-2.

Reviewed by Dustin Puryear
dustin@puryear-it.com

A popular MTA that has been ported to various UNIX flavors as well as FreeBSD and Linux, qmail was written with security and scalability in mind. Indeed, the software has a record for being rock hard in terms of resiliency to attack and its ability to cope with high loads of mail traffic.

The power and reliability of qmail is great news for the harried network administration staff, but having the qmail software alone does not solve the problem of learning how to best configure and deploy it. That's where *The qmail Handbook* steps in.

The qmail Handbook is written as both a technical introduction to the workings of qmail and a how-to manual detailing the installation and configuration of the software. The book is broken into 12 chapters, with six appendixes, and Sill uses first person throughout to create a book that is quite readable.

He begins with a basic overview by covering architecture and some of the details of the inner workings of qmail. Unfortunately, Sill doesn't really go into as much depth in this chapter as I had hoped – I was looking for more background information about the design decisions made by Bernstein, the author of qmail, but that information was not generally forthcoming. Rather, much of the first chapter is a basic and pretty generic MTA tutorial. Sill rectifies this lack of detail somewhat by discussing the qmail architecture in more depth in later chapters and in Appendix A, "How qmail Works."

As the book progresses, Sill covers installation and basic configuration issues and includes a wide range of important top-

ics such as relaying and virtual domains. By the fifth chapter, Sill has already described how to manually inject messages, provided an overview of each file available for use (qmail is very file-centric in how it is configured), and walked the reader through basic methods for controlling qmail and the qmail queue.

I have one small criticism of Chapter 3, "Configuring qmail: The Basics." Sill does provide a good review of all of the configuration files, but instead of grouping file descriptions into related categories, he simply uses alphabetical order. I would like to see more thought put into grouping the file descriptions into related categories so that readers can quickly jump where they need to go. For example, readers may want to be able to quickly review all files related to virtual domains. Currently, you will need to skim all file descriptions to be sure you catch everything you need.

One of the most helpful chapters for most readers, especially those new to qmail, will be Chapter 6, "Troubleshooting qmail." Sill does a good job of running through various troubleshooting scenarios, and details which tools should be used for each job.

The next several chapters are devoted to covering popular topics, such as send-mail migration, performance issues, junk mail, mailing lists, and accessing mail from remote systems using POP3 and IMAP. In addition, a chapter devoted to virtual domains is included that describes the use of VmailMgr and Vpopmail, two "add-ons" to qmail that make virtual domain support easier.

In the final chapter, Sill tackles some of the more difficult issues, especially those that face administrators of high-volume mail servers. In addition, he reviews customizations of qmail to allow antivirus scanning, patching the source to allow use of a database backend to store user account information, and more.

book reviews

Sill also includes valuable information in the six appendixes: “How qmail Works,” “Related Packages,” “How Internet Mail Works,” “qmail Features,” “Error Messages,” and “Gotchas.” Most users new to qmail will certainly appreciate “Related Packages,” which contains a list of software that can be used to add features to qmail.

I found Dave Sill’s book quite clear and full of good information. Alas, like many books written about specific software, *The qmail Handbook* lacks sufficient focus on management issues. Specifically, I would like to see more information on account management and more in-depth coverage of database back ends used for authentication and perhaps even mail storage (although Maildir works quite well in an NFS environment due to its excellent design) and qmail used for large, clustered environments that handle very large volumes of mail. Certainly Sill addresses some of these concerns, but mostly in a piecemeal fashion. These minor issues notwithstanding, this is a good book for those seeking a solid understanding of how to install, configure, and use qmail.

RUBY IN A NUTSHELL

Yukihiro Matsumoto w/translated text by David L. Reynolds, Jr.
Sebastopol, CA: O’Reilly & Associates, 2001.
204pp. ISBN: 0-596-00214-9.

Reviewed by **Raymond M. Schneider**
ray@securityfoo.net

Here we go, it’s a Ruby revolution. O’Reilly has come out with another text on the jewel scripting language from Japan. Last time around the book was hardly more than a pamphlet, a pocket reference in Japanese. This time it is a Nutshell text. It would seem to the innocent bystander that Ruby is moving up in the world. A quick grep of one of the book-selling Web sites shows at least five texts dedicated to the Ruby language. Ruby is getting mature.

Ruby in a Nutshell is like all the other O’Reilly nutshells: it’s a light desk reference. The reader (most likely a programmer or system administrator) should be familiar with programming on at least a novice level. *Ruby in a Nutshell* is broken down into four distinct sections: language basics, built-ins, standard library, and tools.

In the Language Basics section the book follows the format of the nutshell series, giving the reader an extremely brief overview (30 pages), but it serves its purpose. Readers familiar with other scripting languages will notice some inferred opinions. For instance, the author writes in a section entitled “Whitespace,” “We’ll leave the thorny questions like ‘How much whitespace makes code more readable and how much is distracting?’ for another day.” The reader then discovers that Ruby ignores whitespace. This is sort of poking fun at another scripting language, python, which does make whitespace count. The author’s expressed attitude throughout *Ruby in a Nutshell* is light-hearted and fun.

The Built-In Library Reference section explains exactly what a programmer would expect to find in this section: pre-defined globals, built-in objects, and their methods. This section totals 73 pages in length and is terse in explanations.

The Standard Library section contains those things that are essentially extensions of the Built-Ins. In order to use these libraries a programmer must “require” them in the code. The reader will find things about Basic sockets and TCP sockets here. This section also includes information about CGI and a decent, though short, example.

The final section, Tools, talks about things every programmer using or thinking about using Ruby will want to have around and know how to use. For

instance, the Ruby debugger is addressed here, as is a profiler, a code tracer and interactive Ruby. One of the last things here is “ri.” Ri is to Ruby what perldoc is to perl.

Ruby in a Nutshell delivers a quick and dirty reference for an incredibly fun language to program in. The organization of the book makes sense, so the programmer can quickly find the needed reference. It is a joy for me to read a short (204 pages) book about a programming language that contains a usable reference. *Ruby in a Nutshell* never fails as a quick reference for checking syntax or checking for the right method of an object class.

There are only a couple disappointments with *Ruby in a Nutshell*. The first is that the Ruby C API is not covered. This is disappointing, as extending and embedding Ruby is something that happens quite often. The second is that terse explanations sometimes require the reader to seek out more complete information elsewhere. It is unfortunate that O’Reilly has not given us a full-fledged Programming Ruby text. I hope that’s around the corner.

If you are looking for a desk reference, *Ruby in a Nutshell* is for you. If you want to learn the Ruby language, this is definitely not the text you need. I recommend *Programming Ruby: The Pragmatic Programmer’s Guide* (Addison-Wesley, 2000, ISBN: 0-201-71089-7) for that purpose.