

Internet Firewalls
— *and* —
Network Security
Second Edition



Chris Hare
Karanjit Siyan



Internet Firewalls and Network Security, Second Edition

By Chris Hare and Karanjit Siyan

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CONTENTS AT A GLANCE

Introduction 1

PART I ❖ NETWORK SECURITY BACKGROUND

- 1 *Understanding TCP/IP* 7
- 2 *Security* 59
- 3 *Designing a Network Policy* 97
- 4 *The One-Time Password Authentication System* 159

PART II ❖ SCREENING ROUTERS AND FIREWALLS

- 5 *An Introduction to Screening Routers* 201
- 6 *Packet Filters* 237
- 7 *PC Packet Filtering* 283
- 8 *Firewall Architecture and Theory* 325
- 9 *Firewall Implementations* 355
- 10 *The TIS Firewall Toolkit* 421
- 11 *Black Hole* 501

PART III ❖ APPENDIXES

- A *List of Worksheets* 545
- B *Sources of Information* 547
- C *Vendor List* 555
- D *The OPIE and Log Daemon Manual Pages* 557
- Index* 585



TABLE OF CONTENTS

Introduction	1
PART I ❖ NETWORK SECURITY BACKGROUND	
1 Understanding TCP/IP	7
The History of TCP/IP	8
Exploring Addresses, Subnets, and Host Names	9
<i>Address Classes</i>	10
<i>Subnets</i>	12
<i>Classless Addresses and CIDR</i>	15
<i>Host Names</i>	16
Working with Network Interfaces	18
<i>Configuration Using ifconfig</i>	19
Reviewing the Network Configuration Files	22
<i>The /etc/hosts File</i>	22
<i>The /etc/ethers File</i>	23
<i>The /etc/networks File</i>	23
<i>The /etc/protocols File</i>	24
<i>The /etc/services File</i>	24
<i>The /etc/inetd.conf File</i>	25
Understanding the Network Access Files	26
<i>The /etc/hosts.equiv File</i>	26
<i>The .rhosts File</i>	26
<i>User and Host Equivalency</i>	27
Examining TCP/IP Daemons	28
<i>The slink Daemon</i>	28
<i>The ldsocket Daemon</i>	28
<i>The cpd Daemon</i>	29
<i>The Line Printer Daemon (lpd)</i>	29
<i>The SNMP Daemon (snmpd)</i>	29
<i>The RARP Daemon (rarpd)</i>	29
<i>The BOOTP Daemon (bootpd)</i>	30
<i>The Route Daemon (routed)</i>	30
<i>The Domain Name Server (named)</i>	31
<i>The System Logger (syslogd)</i>	31



<i>inetd—The Super-Server</i>	32
<i>The RWHO Daemon (rwhod)</i>	32
Exploring TCP/IP Utilities	32
<i>Administration Commands</i>	32
<i>User Commands</i>	48
Summary	57
2 Security	59
Examining Security Levels	60
<i>Level D1</i>	60
<i>Level C1</i>	60
<i>Level C2</i>	61
<i>Level B1</i>	62
<i>Level B2</i>	62
<i>Level B3</i>	62
<i>Level A</i>	62
Canadian Security	62
<i>Level EAL-1</i>	63
<i>Level EAL-2</i>	63
<i>Level EAL-3</i>	63
<i>Level EAL-4</i>	63
<i>Level EAL-5</i>	64
<i>Level EAL-6</i>	64
<i>Level EAL-7</i>	64
Examining Local Security Issues	64
<i>Security Policies</i>	65
<i>The Password File</i>	65
<i>The Shadow Password File</i>	67
<i>The Dialup Password File</i>	68
<i>The Group File</i>	70
Password Aging and Control	72
Vandals and Passwords	75
<i>Understanding How Vandals Break Passwords</i>	76
C2 Security and the Trusted Computing Base	78
Understanding Network Equivalency	80
<i>Host Equivalency</i>	80
<i>User Equivalency</i>	82



Defining Users and Groups	83
Understanding Permissions	84
<i>A Review of Standard Permissions</i>	84
<i>Root and NFS</i>	87
Exploring Data Encryption Methods	87
<i>How Passwords Are Encrypted</i>	87
<i>Encrypting Files</i>	89
Examining Kerberos Authentication	90
<i>Understanding Kerberos</i>	91
<i>Disadvantages of Kerberos</i>	91
Understanding IP Spoofing	92
Summary	92
Acknowledgments	93
A Sample Program	93
3 Designing a Network Policy	97
Network Security Planning	98
Site Security Policy	98
Approach to Security Policy	99
Ensuring Responsibility for the Security Policy	102
Risk Analysis	102
Identifying Resources	106
Identifying the Threats	106
<i>Defining Unauthorized Access</i>	107
<i>Risk of Disclosure of Information</i>	107
<i>Denial of Service</i>	108
Network Use and Responsibilities	108
Identifying Who Is Allowed Use of Network Resources	109
<i>Identifying the Proper Use of a Resource</i>	109
<i>Determining Who Is Authorized to Grant Access and Approve Usage</i>	111
<i>Determining User Responsibilities</i>	116
<i>Determining the Responsibilities of System Administrators</i>	117
<i>What to Do with Sensitive Information</i>	117
Plan of Action When Security Policy Is Violated	118
<i>Response to Policy Violations</i>	118
<i>Response to Policy Violations by Local Users</i>	119
<i>Response Strategies</i>	119



<i>Defining Responsibilities of Being a Good Citizen on the Internet ...</i>	122
<i>Contacts and Responsibilities to External Organizations</i>	123
Interpreting and Publicizing the Security Policy	123
Identifying and Preventing Security Problems	124
<i>Access Points</i>	125
<i>Improperly Configured Systems</i>	127
<i>Software Bugs</i>	128
<i>Insider Threats</i>	128
<i>Physical Security</i>	128
<i>Confidentiality</i>	129
Implementing Cost-Effective Policy Controls	130
Selecting the Policy Control	130
Using Fallback Strategies	131
Detecting and Monitoring Unauthorized Activity	131
Monitoring System Use	131
Monitoring Mechanisms	132
Monitoring Schedule	133
Reporting Procedures	134
<i>Account Management Procedures</i>	134
<i>Configuration Management Procedures</i>	135
<i>Recovery Procedures</i>	136
Problem Reporting Procedures for System Administrators	139
Protecting Network Connections	139
Using Encryption to Protect the Network	140
<i>Data Encryption Standard (DES)</i>	141
<i>Crypt</i>	142
<i>Privacy Enhanced Mail (PEM)</i>	142
<i>Pretty Good Privacy</i>	142
<i>Origin Authentication</i>	143
<i>Information Integrity</i>	144
<i>Using Checksums</i>	144
<i>Cryptographic Checksums</i>	145
<i>Using Authentication Systems</i>	145
<i>Using Smart Cards</i>	146
Using Kerberos	146
Keeping Up-to-Date	146
Mailing Lists	147
<i>Uix Security Mailing Lists</i>	148
<i>The Risks Forum List</i>	148



<i>The VIRUS-L List</i>	149
<i>The Bugtraq List</i>	149
<i>The Computer Underground Digest</i>	150
<i>The CERT Mailing List</i>	150
<i>The CERT-TOOLS Mailing List</i>	151
<i>The TCP/IP Mailing List</i>	151
<i>The SUN-NETS Mailing List</i>	151
Newsgroups	152
Security Response Teams	153
<i>Computer Emergency Response Team</i>	153
<i>DDN Security Coordination Center</i>	154
<i>NIST Computer Security Resource and Response Clearinghouse</i>	155
<i>DOE Computer Incident Advisory Capability (CIAC)</i>	156
<i>NASA Ames Computer Network Security Response Team</i>	156
Summary	157
4 The One-Time Password Authentication System	159
What Is OTP?	160
The History of OTP	162
Implementing OTP	163
<i>Deciding Which Version of OTP to Use</i>	165
<i>How S/KEY and OPIE Work</i>	166
Bellcore S/KEY Version 1.0	167
U. S. Naval Research Laboratories OPIE	168
<i>Obtaining the OPIE Source Code</i>	168
<i>Compiling the OPIE Code</i>	170
<i>Testing the Compiled Programs</i>	172
Installing OPIE	177
<i>The OPIE Components</i>	180
LogDaemon 5.0	183
<i>Obtaining the LogDaemon Code</i>	184
<i>Compiling the LogDaemon Code</i>	185
<i>Testing the Compiled Programs</i>	187
<i>Installing LogDaemon</i>	189
<i>The LogDaemon Components</i>	189
Using the S/KEY and OPIE Calculators	191
<i>Unix</i>	191
<i>Macintosh</i>	192
<i>Microsoft Windows</i>	193
<i>External Calculators</i>	193



Putting OTP into Practice	194
Security Notes Regarding /bin/login	196
Using OTP and X Windows	196
Getting More Information	197
Summary	198

PART II ❖ SCREENING ROUTERS AND FIREWALLS

5 An Introduction to Screening Routers	201
Clarifying Definitions	202
<i>Zones of Risk</i>	202
<i>The OSI Reference Model and Screening Routers</i>	203
<i>Layers of the OSI Model</i>	204
<i>Screening Routers and Firewalls in Relationship to the OSI Model</i>	224
Understanding Packet Filtering	225
<i>Packet Filtering and Network Policy</i>	225
<i>A Simple Model for Packet Filtering</i>	226
<i>Packet Filter Operations</i>	227
<i>Packet Filter Design</i>	229
<i>Packet Filter Rules and Full Associations</i>	233
Summary	235
6 Packet Filters	237
Implementing Packet Filter Rules	238
<i>Defining Access Lists</i>	238
<i>Using Standard Access Lists</i>	239
<i>Using Extended Access Lists</i>	240
<i>Filtering On Incoming and Outgoing Terminal Calls</i>	243
Examining Packet Filter Placement and Address Spoofing	244
<i>Packet Filter Placement</i>	244
<i>Filtering On Input and Output Ports</i>	245
Examining Protocol-Specific Issues in Packet Filtering	248
<i>Filtering FTP Network Traffic</i>	248
<i>Filtering TELNET Network Traffic</i>	269
<i>Filtering X-Windows Sessions</i>	270
<i>Packet Filtering and the UDP Transport Protocol</i>	271
<i>Packet Filtering ICMP</i>	273
<i>Packet Filtering RIP</i>	274



Example Screening Router Configurations	275
<i>Case Study 1</i>	275
<i>Case Study 2</i>	276
<i>Case Study 3</i>	278
Summary	281
7 PC Packet Filtering	283
PC-Based Packet Filter	284
<i>The KarlBridge Packet Filter</i>	284
<i>The Drawbridge Packet Filter</i>	304
Summary	322
8 Firewall Architecture and Theory	325
Examining Firewall Components	326
<i>Dual-Homed Host</i>	327
<i>Bastion Hosts</i>	335
<i>Screened Subnets</i>	349
<i>Application-Level Gateways</i>	350
Summary	354
9 Firewall Implementation	355
The TCP Wrapper	356
<i>Example 1</i>	357
<i>Example 2</i>	357
<i>Example 3</i>	358
<i>Example 4</i>	358
The FireWall-1 Gateway	358
<i>Resource Requirements for FireWall-1</i>	359
<i>Overview of FireWall-1 Architecture</i>	359
<i>FireWall-1 Control Module</i>	363
<i>Network Objects Manager</i>	364
<i>Services Manager</i>	367
<i>Rules-Base Manager</i>	368
<i>Log Viewer</i>	373
<i>Examples of FireWall-1 Applications</i>	375
<i>Performance of FireWall-1</i>	376
<i>FireWall-1 Rules Language</i>	377
<i>Obtaining Information on FireWall-1</i>	379



ANS InterLock	379
<i>Resource Requirements for InterLock</i>	381
<i>Overview of InterLock</i>	381
<i>Configuring InterLock</i>	383
<i>The InterLock ACRB</i>	385
<i>InterLock Proxy Application Gateway Services</i>	387
<i>Additional Source of Information on ANS InterLock</i>	395
Trusted Information Systems Gauntlet	395
<i>Configuration Examples Using Gauntlet</i>	397
<i>Configuring Gauntlet</i>	398
<i>User's View of Using the Gauntlet Firewall</i>	401
The TIS Firewall Toolkit	404
<i>Building the TIS Firewall Toolkit</i>	405
<i>Configuring the Bastion Host with Minimal Services</i>	408
<i>Installing the Toolkit Components</i>	410
<i>The Network Permissions Table</i>	413
Summary	420
10 The TIS Firewall Toolkit	421
Understanding TIS	422
Where to Get TIS Toolkit	422
Compiling under SunOS 4.1.3 and 4.1.4	423
Compiling under BSDI	423
<i>Code Changes</i>	424
Installing the Toolkit	424
Preparing for Configuration	426
Configuring TCP/IP	430
<i>IP Forwarding</i>	430
The netperm Table	431
Configuring netacl	433
<i>Connecting with netacl</i>	436
<i>Restarting inetd</i>	437
Configuring the Telnet Proxy	438
<i>Connecting through the Telnet Proxy</i>	441
<i>Host Access Rules</i>	442
<i>Verifying the Telnet Proxy</i>	443
Configuring the rlogin Gateway	444
<i>Connecting through the rlogin Proxy</i>	447
<i>Host Access Rules</i>	448
<i>Verifying the rlogin Proxy</i>	448



Configuring the FTP Gateway	449
<i>Host Access Rules</i>	451
<i>Verifying the FTP Proxy</i>	452
<i>Connecting through the FTP Proxy</i>	453
<i>Allowing FTP with netacl</i>	454
Configuring the Sendmail Proxy smap and smapd	454
<i>Installing the smap Client</i>	455
<i>Configuring the smap Client</i>	455
<i>Installing the smapd Application</i>	457
<i>Configuring the smapd Application</i>	457
<i>Configuring DNS for smap</i>	459
Configuring the HTTP Proxy	460
<i>Non-Proxy-Aware HTTP Clients</i>	462
<i>Using a Proxy-Aware HTTP Client</i>	463
<i>Host Access Rules</i>	463
Configuring the X Windows Proxy	466
Understanding the Authentication Server	467
<i>The Authentication Database</i>	469
<i>Adding Users</i>	472
<i>The Authentication Shell—authmgr</i>	476
<i>Database Management</i>	477
<i>Authentication at Work</i>	479
Using plug-gw for Other Services	480
<i>Configuring plug-gw</i>	481
<i>plug-gw and NNTP</i>	482
<i>plug-gw and POP</i>	485
The Companion Administrative Tools	487
<i>portscan</i>	487
<i>netscan</i>	488
<i>Reporting Tools</i>	489
<i>The Authentication Server Report</i>	491
<i>The Service Denial Report</i>	492
<i>The FTP Usage Report</i>	494
<i>The HTTP Usage Report</i>	494
<i>The netacl Report</i>	495
<i>The Mail Usage Report</i>	496
<i>The Telnet and rlogin Usage Report</i>	497
Where to Go for Help	498



11	Black Hole	501
	Understanding Black Hole	502
	<i>System Requirements</i>	504
	<i>Black Hole Core Modules</i>	506
	<i>Black Hole Extension Modules</i>	509
	Network Design with Black Hole	510
	<i>Remembering the Security Policy</i>	512
	Using the Black Hole Interface	512
	Understanding the Policy Database	514
	<i>Policy and Rule Resolution</i>	519
	Services, Users, and Rules	521
	<i>Rules</i>	521
	<i>Users and User Maintenance</i>	521
	Configuring Black Hole	528
	<i>Configuring an Internal and External DNS</i>	528
	<i>Configuring Application Services</i>	531
	Generating Reports	537
	For More Information	541
	Summary	541

PART III ❖ **APPENDIXES**

A	List of Worksheets	545
B	Sources of Information	547
	Tools	548
	<i>Tcpwrapper and Portmapper</i>	548
	<i>Firewall Kit</i>	548
	<i>Bellcore S/Key</i>	549
	<i>One-Time Passwords In Everything (OPIE)</i>	549
	<i>Swatch Logfile Monitor</i>	549
	<i>Tcpdump</i>	549
	<i>TAMU Tiger</i>	550
	<i>COPS</i>	550
	<i>Crack</i>	550
	<i>SATAN</i>	551
	<i>Passwd+</i>	551
	<i>npasswd</i>	551
	<i>Tripwire</i>	551



Finding Commercial Firewall Vendors	552
Exploring Firewall and Security Mailing Lists	552
<i>Firewall Mailing Lists</i>	552
<i>Security Forms</i>	553
C Vendor List	555
D The Opie and Log Daemon Manual Pages	557
The OPIE Man Pages	558
<i>opieftpd</i>	558
<i>opiekey</i>	561
<i>opeipasswd</i>	563
<i>opeinfo</i>	564
<i>opielogin</i>	565
<i>opiesu</i>	567
The Log Daemon Manual Pages	568
<i>ftpd</i>	568
<i>key</i>	572
<i>keyinfo</i>	572
<i>keyinit</i>	573
<i>rexecd</i>	574
<i>rlogind</i>	576
<i>rshd</i>	577
<i>skey.access</i>	579
<i>skeysh</i>	582
<i>su</i>	582
<i>telnetd</i>	584
Index	585



INTRODUCTION

*I*NTERNET FIREWALLS AND NETWORK SECURITY, SECOND EDITION is designed for system administrators and interested users who realize the risks involved in connecting a computer system to the Internet.

In days of old, brick walls were built between buildings in apartment complexes so that if a fire broke out, it would not spread from one building to another. Quite naturally, the walls were called “firewalls.”

When you connect your LAN to the Internet, you are enabling your users to reach and communicate with the outside world. At the same time, however, you are enabling the outside world to reach and interact with your LAN. Firewalls, in their barest sense, are routers through which the data traffic flows. If intruders attempt unauthorized access to your network, you stop them at the firewall and do not allow them any further into the system.



WHO SHOULD READ THIS BOOK

Internet Firewalls and Network Security, Second Edition is designed for advanced users and system administrators. It contains information and procedures for the average networked site and represents many hours spent troubleshooting and administering that environment.

HOW THIS BOOK HELPS YOU

The information presented in Part I provides an overview of security and TCP/IP. Being the protocol of the Internet, it is important to understand how TCP/IP works and what utilities are available. It also is important to understand the concept of security and why it is necessary to limit access to resources.

Part II covers firewalls and screening routers. Not only are various theories and hypothetical examples discussed, but real-world examples are given. Over-the-counter products are discussed, as well as tool kits that enable you to build your own firewall from scratch.

Part III, the appendix section, offers a quick way to locate key information. Appendix A lists the sample worksheets contained in the chapters and where they can be found. Appendix B lists sources of more information. Appendix C provides a list of vendors. Appendix D provides the manual pages for OPIE and Log Daemon, two forms of the one-time password authentication system.

CONVENTIONS USED IN THIS BOOK

Throughout this book, certain conventions are used to help you distinguish the various elements of firewalls, system files, and sample data. Before you look ahead, you should spend a moment examining these conventions.

- ❖ Shortcut keys and key combinations are found in the text where appropriate. In most applications, for example, Shift+Ins is the shortcut key combination for the Paste command.
- ❖ Key combinations appear in the following formats:

KEY1+KEY2. When you see a plus sign (+) between key names, you should hold down the first key while pressing the second key. Then release both keys.

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- ❖ Information you type is in **bold**. This convention applies to individual letters and numbers, as well as words or phrases. It does not apply, however, to special keys, such as Enter, Esc, or Ctrl.
- ❖ New terms appear in *italic*.
- ❖ Text displayed on-screen but not as part of an application, such as system prompts and messages, appear in a special, computer, typeface.

SPECIAL TEXT USED IN THIS BOOK

Throughout this book you will find examples of special text. These passages have been given special treatment so you can instantly recognize their significance and easily find them for future reference.

NOTES, TIPS, AND WARNINGS

Internet Firewalls and Network Security, Second Edition features many special sidebars, which are set apart from the normal text by icons. The book includes three distinct types of sidebars: Notes, Tips, and Warnings.

A *note* includes “extra” information you should find useful, but which complements the discussion at hand instead of being a direct part of it. A note might describe special situations that arise when you use a firewall under certain circumstances, and tell you what steps to take when such situations arise. Notes also might explain ways to avoid problems with your software and hardware.



A *tip* provides quick instructions for getting the most from your firewall implementation as you follow the steps outlined in the general discussion. A tip might show you ways to conserve memory in some setups, speed up a procedure, or perform one of many timesaving and system-enhancing techniques.





WARNING



A *warning* tells you when a procedure might be dangerous, that is, when you run the risk of losing data, locking your system, or even damaging your hardware. Warnings generally explain ways to avoid such losses, or describe the steps you can take to remedy them.

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