

# Contents

Acknowledgments .....	<i>xiii</i>
About the Author .....	<i>xv</i>
About the Technical Reviewer .....	<i>xvii</i>
Introduction .....	<i>xix</i>
 Chapter 1: Introducing qmail .....	<i>1</i>
Overview .....	<i>2</i>
What Is qmail? .....	<i>2</i>
Why Use qmail? .....	<i>3</i>
Why Not Use qmail? .....	<i>9</i>
qmail Features .....	<i>12</i>
History .....	<i>15</i>
Architecture .....	<i>16</i>
License .....	<i>19</i>
Documentation .....	<i>20</i>
Support .....	<i>23</i>
Conclusion .....	<i>25</i>
 Chapter 2: Installing qmail .....	<i>27</i>
Overview .....	<i>27</i>
Preparing to Install qmail .....	<i>28</i>
Installing qmail: Quick-Start Instructions .....	<i>38</i>
Installing qmail Step by Step .....	<i>52</i>
An Overview of the Finished Product .....	<i>86</i>
Installing from RPMs .....	<i>87</i>
Conclusion .....	<i>91</i>

## Chapter 3: Configuring qmail:The Basics .....93

Overview .....	93
Control Files Reference .....	93
Relaying .....	110
Multiple Host Names .....	115
Virtual Domains .....	115
Aliases .....	116
The qmail-users Mechanism .....	117
Conclusion .....	119

## Chapter 4: Using qmail .....121

Overview .....	121
Sending Messages .....	121
Receiving Messages .....	136
User Utilities .....	148
Conclusion .....	156

## Chapter 5: Managing qmail .....159

Overview .....	159
Understanding the qmailctl Script .....	159
Learning qmail's Management Commands .....	165
Managing the Queue .....	187
Conclusion .....	198

## Chapter 6: Troubleshooting qmail .....199

Overview .....	199
Process Monitoring .....	200
Understanding Logs .....	201
Using Message Headers .....	211
Testing .....	217
Fixing Common Problems .....	218
Conclusion .....	223

## **Chapter 7: Configuring qmail: Advanced Options ...225**

Overview .....	225
Setting Up Typical Configurations .....	226
Migrating from Sendmail to qmail .....	237
Modifying the Source Code .....	249
Using Quick Mail Transfer Protocol .....	254
Using Quick Mail Queuing Protocol .....	258
Securing SMTP .....	264
Performance Tuning .....	273
Conclusion .....	284

## **Chapter 8: Controlling Junk Mail .....285**

Overview .....	286
An Ounce of Prevention .....	286
Setting System-Level Controls .....	287
Setting User-Level Controls .....	292
Conclusion .....	294

## **Chapter 9: Managing Mailing Lists .....295**

Overview .....	295
Setting Up Simple Mailing Lists .....	295
Working with ezmlm .....	297
Working with Majordomo .....	305
Working with Mailman .....	315
Using Other MLMs .....	324
Conclusion .....	326

## **Chapter 10: Serving Mailboxes .....327**

Overview .....	328
Installing and Using POP3 Servers .....	328
Installing and Using IMAP Servers .....	344
Securing POP3 .....	353
Securing IMAP .....	362
Retrieving Mail with POP3 and IMAP .....	369
Conclusion .....	374

## **Chapter 11: Hosting Virtual Domain and Users .....375**

Overview .....	376
Choosing between VMailMgr and Vpopmail .....	376
Using VMailMgr .....	377
Using Vpopmail .....	383
Conclusion .....	389

## **Chapter 12: Understanding Advanced Topics .....391**

Overview .....	391
Single-Recipient Delivery vs. Multiple-Recipient Delivery .....	391
Using Variable Envelope Return Paths .....	394
Configuring Scalable Servers .....	395
Using Lightweight Directory Access Protocol .....	401
Using Structured Query Language .....	402
Virus Scanning .....	403
Conclusion .....	414

## **Appendix A: How qmail Works .....417**

High-Level Overview .....	417
Receiving Modules .....	418
Sending Modules .....	425

## **Appendix B: Related Packages .....431**

checkpassword .....	431
Courier-IMAP .....	432
daemontools .....	432
djbdns .....	432
dot-forward .....	433
ezmlm .....	433
ezmlm-idx .....	433
fastforward .....	434
getmail .....	434
maildrop .....	434
mess822 .....	435

oMail-webmail .....	435
oSpam .....	435
qlogtools .....	436
qmail-autoresponder .....	436
qmail-qfilter .....	436
Qmail-Scanner .....	437
qmail-vacation .....	437
qmailanalog .....	437
safecat .....	439
serialmail .....	439
SqWebMail .....	440
syncdir .....	440
TMDA .....	440
ucspi-tcp .....	441
VMailMgr .....	441
Vpopmail .....	441

## **Appendix C: How Internet Mail Works .....443**

How a Message Gets from Point A to Point B .....	443
Envelopes vs. Headers .....	444
Finding More Information .....	446

## **Appendix D: qmail Features .....449**

Setup Features .....	449
Security Features .....	449
Message Construction .....	450
SMTP Service .....	450
Queue Management .....	451
Bounces .....	452
Routing by Domain .....	453
SMTP Delivery .....	453
Forwarding and Mailing Lists .....	454
Local Delivery .....	454
POP3 Service .....	455

## Appendix E: Error Messages .....457

Interactive Error Messages .....	457
Log Messages .....	457
Bounce Messages .....	459

## Appendix F: Gotchas .....465

qmail Doesn't Deliver to Superusers .....	465
qmail Doesn't Deliver to Users Who Don't Own Their Home Directory .....	465
qmail Doesn't Deliver to Users Whose Usernames Contain Uppercase Letters .....	465
qmail Replaces Dots (.) in Extension Addresses with Colons (:) .....	466
qmail Converts Uppercase Characters in Extension Addresses to Lowercase .....	466
qmail Doesn't Use /etc/hosts .....	466
qmail Doesn't Log SMTP Activity .....	466
qmail Doesn't Generate Deferral Notices .....	467
qmail Is Slow If trigger Is Wrong .....	467
DNS or IDENT Lookups Can Make SMTP Slow .....	467
qmail-smtpd Accepts Mail for All Recipients .....	467
qmail-smtpd Doesn't Automatically Relay for the Local Host .....	468