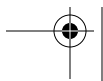
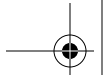


Table of Contents

Preface	xi
1. Starting Simple	1
What Is IP Routing?	1
Directly Connected Networks	2
Static Routing	3
Dynamic Routing	5
The Routing Table	6
Underlying Processes	9
Summing Up	9
2. Routing Information Protocol (RIP)	10
Getting RIP Running	10
How RIP Finds Shortest Paths	13
Convergence	19
Subnet Masks	26
Route Summarization	27
Default Route	28
Fine-Tuning RIP	29
Summing Up	31
3. Interior Gateway Routing Protocol (IGRP)	33
Getting IGRP Running	33
How IGRP Works	37
Speeding Up Convergence	55
Route Summarization	56
Default Routes	57



Classful Route Lookups	60
Summing Up	61
4. Enhanced Interior Gateway Routing Protocol (EIGRP)	63
Getting EIGRP Running	64
EIGRP Metric	67
How EIGRP Works	68
Variable Length Subnet Masks	82
Route Summarization	84
Default Routes	88
Troubleshooting EIGRP	90
Summing Up	93
5. Routing Information Protocol Version 2 (RIP-2)	94
Getting RIP-2 Running	95
RIP-2 Packet Format	98
RIP-1/RIP-2 Compatibility	99
Classful Versus Classless Routing Protocols	101
Classful Versus Classless Route Lookup	103
Authentication	103
Route Summarization	105
Summing Up	106
6. Open Shortest Path First (OSPF)	107
Getting OSPF Running	109
OSPF Metric	113
Definitions and Concepts	114
How OSPF Works	121
Route Summarization	137
Default Routes	140
Virtual Links	141
Demand Circuits	143
Stub, Totally Stubby, and Not So Stubby Areas	144
NBMA Networks	148
OSPF Design Heuristics	150
Troubleshooting OSPF	153
Summing Up	156



7. Border Gateway Protocol 4 (BGP-4)	157
Background	158
Getting BGP Running	163
How BGP Works	166
Load Balancing	191
Route-Filtering	192
Connecting to the Internet	194
Choosing an ISP	199
Troubleshooting BGP	200
Summing Up	202
8. Administrative Controls	203
Filter Routing Information	204
Rate the Trustworthiness of a Routing Information Source	207
Redistribute Routes	207
Maximum Number of Paths	211
Summing Up	211
Index	213

