

CONTENTS

1 Check Point Security Administration NGX I	1
Course Objectives	1
Course Layout	2
Prerequisites	2
Check Point Certified Security Administrator (CCSA)	2
Exam-Number Note: 156-215.1	3
Revision Differences	4
Recommended Setup for labs	5
What's New in VPN-1 NGX	11
Security-Management Cost Reduction	11
Network and Application Security	12
VPN Management	12
For More Information	13
 2 VPN-1 NGX Overview	 15
Objectives	15
Key Terms	16
VPN-1 NGX Architecture	17
SmartConsole and SmartDashboard	17
SmartCenter Server	18
Security Gateway	18
How VPN-1 NGX Works	20
The INSPECT Engine	20
Distributed Deployments	23
SVN Foundation	24
Secure Internal Communications (SIC)	24
SmartConsole Components	28
SmartDashboard	28
SmartView Tracker	31

SmartView Monitor	33
Eventia Reporter	35
Lab 1: NGX Stand-Alone Installation	37
Review	57
Review Questions	57
Review Answers	59
3 The Security Policy	61
Objectives	61
Key Terms	62
Security Policy Defined	63
What Is a Security Policy?	63
Security Policy Considerations	63
Rule Base Defined	64
Lab 2: Launching SmartDashboard	65
Lab 3: Defining Basic Objects	69
Detecting IP Spoofing	93
Configuring Anti-Spoofing	93
Multicasting	97
Configuring Multicast Access Control	97
Interface Properties Multicast Restrictions	100
IGMP	100
Multicast Routing Protocols	100
Multicast Traffic	101
Creating the Rule Base	102
Basic Rule Base Concepts	102
The Default Rule	102
Basic Rules	104
Implicit/Explicit Rules	105
Control Connections	107
Completing the Rule Base	110
Understanding Rule Base Order	110
Lab 4: Configuring Anti-Spoofing Measures	111
Lab 5: Defining Basic Rules	119
Security Policy Command-Line Options	131

cpstart	131
cpstop	131
fw Commands	132
Advanced Rule Base Functions	133
Object Cloning	133
Lab 6: Creating Objects Using Object Cloning	135
Rule Base Management	139
Database Revision Control and Policy Package Management	141
Database Revision Control	141
Policy Package Management	141
Lab 7: Using Database Revision Control	145
Review	161
Review Questions	161
Review Answers	163
4 Monitoring Traffic and Connections	165
Objectives	165
Key Terms	166
SmartView Tracker	167
SmartView Tracker Login	167
Log Types	168
SmartView Tracker Views	169
Log-File Management	171
Administrator Auditing	171
Global Logging and Alerting	172
Time Settings	174
Blocking Connections	176
Terminating Active Connections	176
Lab 8: Blocking Intruder Connections	179
SmartView Monitor	189
SmartView Monitor Login	189
Key Features	190
Monitoring Suspicious Activity Rules	190
Monitoring Alerts	191
Monitoring Gateways	191

Monitoring Traffic or Counters	192
Monitoring Tunnels	192
Monitoring Remote Users	193
Lab 9: Setting Up Suspicious Activity Rule in SmartView Monitor	195
Lab 10: Checking Status in SmartView Monitor	207
Eventia Reporter	217
Report Types	219
Eventia Reporter Standard Reports	220
Eventia Reporter Express Reports	220
Predefined Reports	221
Eventia Reporter Considerations	223
Log-Consolidation Process	223
Stand-Alone vs. Distributed Deployments	224
Log Availability vs. Log Storage/Processing	224
Log-Consolidation Considerations	225
Report-Generation Considerations	225
Eventia Reporter Database Management	228
Database Tuning	228
Database-Configuration Modifications	229
Database-Size Maintenance	230
Backing Up	231
Eventia Reporter Licensing	232
Review	233
Review Questions	233
Review Answers	235
5 SmartDefense	237
Objectives	237
Key Terms	238
Active Defense	239
Components of SmartDefense	239
SmartDefense Capabilities	240
SmartDefense in Action	242
Anti-Spoofing Configuration Status	242
Denial-of-Service Attacks	242

IP and ICMP	243
TCP	244
Successive Events	247
Web Intelligence	248
Centralized Control Against Attacks	252
Online Updates	253
SmartDefense Storm Center	254
Storm Center Integration	255
Planning Considerations	258
Lab 11: Configuring SmartDefense	259
Review	277
Review Questions	277
Review Answers	279
6 Network Address Translation	281
Objectives	281
Key Terms	282
Understanding Network Address Translation	283
IP Addressing	283
Dynamic (Hide) NAT	284
Static NAT	286
Configuring NAT	287
Global Properties	288
Dynamic NAT Object Configuration	291
Static NAT Object Configuration	295
Manual NAT	297
When to Use Manual NAT	297
Configuring Manual NAT	298
Special Considerations	299
Lab 12: Configuring Hide NAT	301
Lab 13: Configuring Static NAT	309
Review	319
Review Questions	319
Review Answers	321

7	Encryption and VPNs	323
	Objectives	323
	Key Terms	324
	How Encryption Works	325
	Privacy	325
	Symmetric Encryption (Shared Key)	326
	Asymmetric Encryption	328
	Diffie-Hellman	328
	Message Integrity	330
	Two Phases of Encrypted Communication	332
	IKE Encryption Scheme	333
	Encryption Algorithms	333
	Tunneling-Mode Encryption	334
	Lab 14: Encryption Demonstration	337
	Review	345
	Summary	345
	Review Questions	345
	Review Answers	346
8	Authentication	347
	Objectives	347
	Key Terms	348
	Understanding Authentication	349
	User Authentication	349
	Session Authentication	349
	Client Authentication	350
	Authentication Types	350
	Authentication Schemes	351
	User Authentication	352
	Client Authentication	353
	How Client Authentication Works	353
	Sign-On Methods	354
	Lab 15: Defining User Templates	359
	Lab 16: Setting Authentication Parameters (Optional)	371
	Lab 17: Defining Users	375

Lab 18: Configuring User Authentication	383
Lab 19: Configuring Client Authentication	395
Review	407
Review Questions	407
Review Answers	409
9 LDAP User Management with SmartDirectory	411
Objectives	411
Key Terms	412
LDAP Servers	413
Introduction to Account Management	413
LDAP Features	414
Multiple LDAP Servers	416
Integrating LDAP with VPN-1 NGX	417
Exporting Users	417
Using an Existing LDAP Server	419
Managing LDAP Users	420
Organizational Units	420
Before Starting Account Management	420
Deleting an Object Tree	421
Defining Users	421
LDAP and SmartDashboard Troubleshooting	422
LDAP Issues	422
Schema Checking	423
SmartDashboard Issues	424
NGX Issues	426
Important Debugging Tools	427
Lab 20: Configuring LDAP Authentication with SmartDirectory	429
Review	437
Review Questions	437
Review Answers	439

10 Disaster Recovery	441
Objectives	441
Key Terms	442
Backing Up for Disaster Recovery	443
\$FWDIR/conf	443
\$FWDIR/lib	443
Log Files	443
objects.C and objects_5_0.C	444
rulebases_5_0.fws	444
fwaauth.NDB	444
Exporting User Database Only	445
Backing Up Using Export	446
Lab 21: Backup and Restore	447
Review	457
Review Questions	457
Review Answers	459
Appendix A: Attack-Prevention Safeguards.....	461
Appendix B: Backup and Restore	467