

# Gaia 3.10 Immersion: Tips, Tricks & Best Practices



**Shadow Peak**

*SECURITY TRAINING AND SERVICES*

# Welcome & Introduction

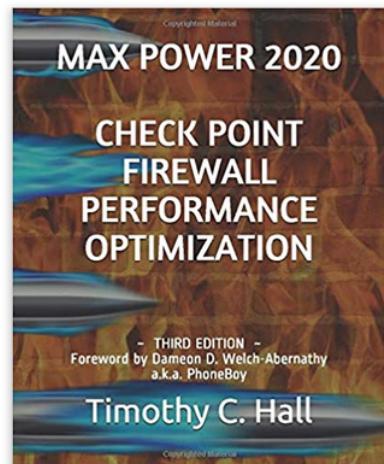
- Your Instructor: **Timothy Hall, CISSP**
  - Worked with Check Point products since 1997, Check Point certified instructor since 2004
  - Founder of Shadow Peak Inc, a Check Point Authorized Training Center (ATC) (<http://www.shadowpeak.com>)
  - [Link to 2,000+ CheckMates Posts](#)
  - [Link to 2,200+ CPUG Posts](#)
  - Author of Book “Max Power 2020: Check Point Firewall Performance Optimization”

## Max Power 2020: Check Point Firewall Performance Optimization: Foreword by Dameon D. Welch-Abernathy a.k.a. PhoneBoy

by Timothy C. Hall (Author), Dameon D. Welch-Abernathy (Foreword)

★★★★★ 2 ratings

[Look inside](#) ↗



**Paperback** \$59.85      **Other Sellers** from \$59.85

---

Buy new: \$59.85  
Usually ships within 5 days.  
Ships from and sold by Amazon.com.  
FREE Delivery by Wednesday, Sep 23 for Prime members  
[Details](#)

1 new from \$59.85  
▼ prime

Deliver to Tim - Parker 80138  
Qty: 1 ▾

Add to Cart      Buy Now

# Table of Contents

Welcome & Introduction.....	2
Gaia 3.10 Immersion: Tips, Tricks and Best Practices Training Details.....	6
Module 0 – The Basic Terminology & Components of Check Point (optional).....	7
Discovery – The Elements of your Check Point Environment.....	9
Objects.....	10
Rules.....	12
Publishing & Installing Policy.....	17
Multiple GUI Administrators - “pencil” and “lock” Icons.....	18
Hit Counts.....	20
Examining Firewall Traffic Logs.....	21
Module 1 – Gaia Origins & Prior Operating Systems.....	24
Tips, Tricks, & Best Practices.....	26
Module 2 – Gaia on SMS/MDS vs. Security Gateways.....	27
Tips, Tricks, & Best Practices.....	28
Module 3 – Gaia on Check Point Appliances vs. Open Hardware vs. Cloud.....	29
Tips, Tricks, & Best Practices.....	30
Module 4 – The “Thin Pink Line” of Check Point.....	31
Gaia Kernel Versions – SMS/MDS.....	33
Gaia Kernel Versions – Security Gateways.....	35
Tips, Tricks, & Best Practices.....	36
Module 5 – Interacting with Gaia Part 1: The CLI.....	37
Method 1 – The clish Shell.....	37
Method 2 – Expert Mode.....	39
Tips, Tricks, & Best Practices.....	42
Module 6 – Interacting with Gaia Part 2: The Web Interface, Locks, & Other Tools.....	43
Method 1 – Gaia Web Interface.....	43
Gaia Authorized GUI Clients (SMS/MDS Only).....	46
CPUSE.....	47
Gaia Configuration Lock Mechanism.....	51
Method 2 – Gaia API.....	53
Method 3 – Central Deployment Tool (CDT).....	53

Tips, Tricks, & Best Practices.....	55
Module 7 – Interacting with Gaia Part 3: The SmartConsole GUI.....	56
Tips, Tricks, & Best Practices.....	60
Module 8 – Gaia Network Interfaces, Bonding, & VLAN Tagging.....	61
Gaia Physical Interface Configuration.....	61
The Gaia Management Interface.....	64
Gaia VLAN (802.1q Tagged) Interface Configuration.....	66
Gaia Bonded Interface Configuration.....	70
Gaia Bridged Interface Configuration.....	75
Gaia Monitor/Tap Interface Configuration.....	78
Tips, Tricks, & Best Practices.....	80
Module 9 – Gaia Routing.....	83
Gaia Static Route Configuration.....	83
Gaia Static Default Route Configuration.....	86
Gaia Dynamic Route Configuration.....	91
Gaia Policy Based Routing.....	94
Gaia DHCP Relay.....	97
Tips, Tricks, & Best Practices.....	99
Module 10 – Gaia & ClusterXL/VRRP Clustering.....	104
Enable Clustering & cpconfig.....	104
Caution – Virtual Router Redundancy Protocol (VRRP).....	105
Accessing the Standby Member with SSH/HTTPS.....	107
Tips, Tricks, & Best Practices.....	109
Module 11 – Gaia Syslog Logging.....	112
Gaia Logging via Syslog.....	112
Tips, Tricks, & Best Practices.....	115
Module 12 – Gaia Backup Options.....	116
Method 1 – backup / restore.....	117
Method 2 – snapshot / revert.....	120
Method 3 – save configuration / load configuration.....	122
Tips, Tricks, & Best Practices.....	123
Module 13 – Gaia OS Authentication Options.....	124

Gaia Administrative Accounts & SCP.....	127
External Gaia Authentication with RADIUS and TACACS+.....	128
Tips, Tricks, & Best Practices.....	133
Module 14 – Gaia Monitoring & Health.....	137
System Resource Monitoring.....	137
Hardware Health.....	142
SNMP Monitoring & Traps.....	146
NetFlow Monitoring.....	149
Tips, Tricks, & Best Practices.....	152
Module 15 – Gaia Packet Captures with tcpdump: The Basics.....	155
Workflow for tcpdump.....	155
Examples of tcpdump Filtering Syntax.....	158
Tips, Tricks, & Best Practices.....	159
Module 16 – R81 Gaia OS Preview.....	160
Wrap-up Discussion and Additional Resources.....	165

## **Gaia 3.10 Immersion: Tips, Tricks and Best Practices Training Details**

- Prerequisites: Basic systems and networking knowledge.
- The slides we will be working in the recorded videos are identical to this PDF document provided with the course.
- We will be working with the Gaia OS version associated with the R80.40 release (Red Hat Enterprise Linux [RHEL] 7 with kernel 3.10), but will also mention the older 2.6.18 kernel used in some firewall installations of R80.30 and almost all earlier firewall code releases.
- The main focus of this course is the Gaia 3.10 kernel running on Check Point appliances (models 2200-28XXX), open hardware, and some types of virtualized environments. Limitations relevant to Scalable Platforms (models 41000+) will be noted.
- The material presented in this course will mostly apply to CloudGuard gateways (which also utilize the same RHEL7 Gaia 3.10 OS), subject to the specific limitations detailed in [sk160753: Check Point R80.40 Known Limitations](#) and to a lesser degree Section 7 of this SK: [sk141173: Check Point R80.20 with Gaia 3.10 for CloudGuard and Open Server Security Gateways](#).
- Embedded Gaia (which is based on the Linux BusyBox OS and utilized on the 600-1500 appliance models) is not explicitly covered in this course, but the concepts and most configuration operations are similar.
- Hyperlinks shown in this document are “hot” and can be clicked to show the specified resource in your web browser.
- At the end of each module there will be a “Tips, Tricks, and Best Practices” section – always worth a quick read even if you are very familiar with the topics covered by that module!