Blue Coat Systems, Inc.
ProxySG510 and ProxySG810

(Hardware Versions: 100-02639, 106-02838, 106-02868, 100-02641, 106-02834, and 106-02884 with Firmware Version: 5.3.1.9)

FIPS 140-2
Non-Proprietary Security Policy

Level 2 Validation

Document Version 1.2

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Revision History

Version	Modification Date	Modified By	Description of Changes
0.1	2008-11-03	Rumman Mahmud	Initial draft.
0.2	2009-01-29	Rumman Mahmud	Updated version.
1.0	2009-01-30	Rumman Mahmud	Updated version.
1.1	2009-09-15	J.McCally	Clarified statements in response to CMVP comments
1.2	2009-10-26	Darryl Johnson	Updated to address CMVP comments.

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1 Introduction

1.1 Purpose

This is a non-proprietary Cryptographic Module Security Policy for the ProxySG510 and ProxySG810 from Blue Coat Systems, Inc. This Security Policy describes how the ProxySG510 and ProxySG810 meet the security requirements of FIPS 140-2 and how to run the module in a secure FIPS 140-2 mode. This policy was prepared as part of the Level 2 FIPS 140-2 validation of the module.

FIPS 140-2 (Federal Information Processing Standards Publication 140-2 – Security Requirements for Cryptographic Modules) details the U.S. and Canadian Government requirements for cryptographic modules. More information about the FIPS 140-2 standard and validation program is available on the National Institute of Standards and Technology (NIST) Cryptographic Module Validation Program (CMVP) website at: http://csrc.nist.gov/groups/STM/cmvp/index.html.

The ProxySG510 and ProxySG810 are referred to in this document as the ProxySGs, the hardware modules, the cryptographic modules, or the modules.

1.2 References

This document deals only with operations and capabilities of the module in the technical terms of a FIPS 140-2 cryptographic module security policy. More information is available on the module from the following sources:

- The Blue Coat website (http://www.bluecoat.com) contains information on the full line of products from Blue Coat.
- The CMVP website (http://csrc.nist.gov/groups/STM/index.html) contains contact information for answers to technical or sales-related questions for the module.

1.3 Document Organization

The Security Policy document is one document in a FIPS 140-2 Submission Package. In addition to this document, the Submission Package contains:

- Vendor Evidence document
- Finite State Machine
- Other supporting documentation as additional references

This Security Policy and the other validation submission documents were produced by Corsec Security, Inc. under contract to Blue Coat. With the exception of this Non-Proprietary Security Policy, the FIPS 140-2 Validation Documentation is proprietary to Blue Coat and is releasable only under appropriate non-disclosure agreements. For access to these documents, please contact Blue Coat.

2 ProxySG510 and ProxySG810

2.1 Overview

The foundation of Blue Coat's application delivery infrastructure, Blue Coat ProxySG appliances establish points of control that accelerate and secure business applications for users across the distributed organization. Blue Coat appliances serve as an Internet proxy and wide area network (WAN) optimizer. The purpose of the appliances is to provide a layer of security between an Internal and External Network (typically an office network and the Internet), and to provide acceleration and compression of transmitted data. The ProxySG is one of several appliance lines manufactured by Blue Coat Systems. The ProxySG comes in several models, such as the 210, 510, 810, and 8100. Differences between product models allow for different performance and scalability options, as shown in Figure 1 below.

Figure 1 – ProxySG Appliance Performance vs. Scalability

As the world's leading proxy appliance, the Blue Coat ProxySG is a powerful yet flexible tool for improving both application performance and security, removing the need for compromise:

- Performance – Blue Coat's patented MACH5 acceleration technology combines five different capabilities onto one box. Together, they optimize application performance and help ensure delivery of critical applications. User and application fluent, MACH5 improves the user experience no matter where the application is located, internally or externally on the Internet.
- Security – Blue Coat's industry leading security architecture addresses a wide range of requirements, including filtering Web content, preventing spyware and other malicious mobile code, scanning for viruses, inspecting encrypted Secure Sockets Layer (SSL) traffic, and controlling instant messaging (IM), Voice-over-IP (VoIP), peer-to-peer (P2P), and streaming traffic.
- Control – Blue Coat's patented Policy Processing Engine empowers administrators to make intelligent decisions. Using a wide range of attributes such as user, application, content and others, organizations can effectively align security and performance policies with corporate priorities.

See Figure 2 below for a typical deployment scenario for ProxySG appliances.

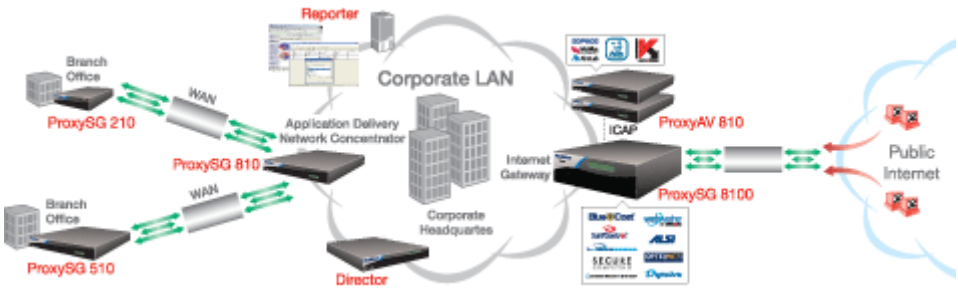


Figure 2 – Typical Deployment of a ProxySG Appliance

The security provided by the ProxySG can be used to control, protect, and monitor the Internal Network's use of controlled protocols on the External Network. The ProxySG appliances offer a choice of two "editions" via licensing: MACH5 and Proxy. Proxy edition of the ProxySG has been tested for FIPS 140-2. The MACH5 edition appliances have some proxy features disabled (as indicated below). The controlled protocols implemented in the evaluated configuration are:

- Secure Hypertext Transfer Protocol (HTTPS)
- Secure File Transfer Protocol (SFTP)
- Transmission Control Protocol (TCP) tunneling protocols such as Secure Shell version 2.0 (SSHV2)

Control is achieved by enforcing a configurable policy on controlled protocol traffic to and from the Internal Network users. The policy may include authentication, authorization, content filtering, and auditing. In addition, the ProxySG provides optimization of data transfer between ProxySG nodes on a WAN. Optimization is achieved by enforcing a configurable policy (WAN Optimization SFP) on traffic traversing the WAN.

2.2 Module Specification

The hardware modules come in two different models with FIPS 140-2 validation: ProxySG510 and ProxySG810. Differences between product models allow for different performance and scalability options.

For the FIPS 140-2 validation, the hardware modules were tested on the following Blue Coat appliance configurations:

- ProxySG510 with no hardware acceleration card (Assembly #100-02639)
- ProxySG510 with a Cavium CN1010 SSL card (Assembly #106-02868)
- ProxySG510 with a Broadcom 5825 SSL card (Assembly #106-02838)
- ProxySG810 with no hardware acceleration card (Assembly #100-02641)
- ProxySG810 with a Cavium CN1010 SSL card (Assembly #106-02884)
- ProxySG810 with a Broadcom 5825 SSL card (Assembly #106-02834)

The ProxySG510 offers an affordable rack-mountable appliance solution for small enterprises and branch offices that have direct access to the Internet. The front panel, as shown in Figure 3 below, has a Liquid Crystal Display (LCD) interface and control buttons (NOTE: the front panel control buttons are disabled in FIPS mode). Connection ports are at the rear, as shown in Figure 5.

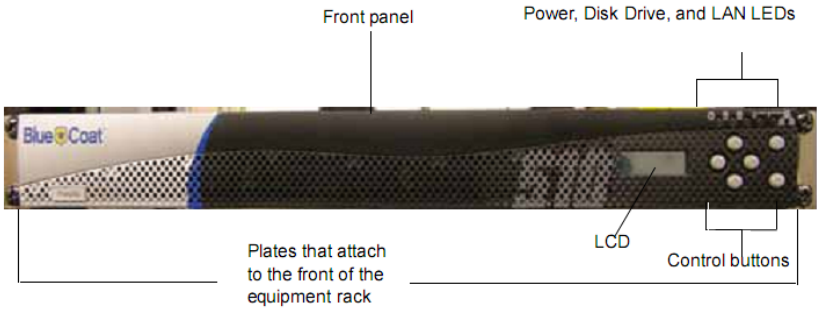


Figure 3 – Front View of the ProxySG510

The ProxySG810 is another rack-mountable module that provides accelerated web communications for enterprises and large branch offices. Similar to the ProxySG 510, this model also has an LCD interface and control buttons at the front and connection ports at the back (NOTE: the front panel control buttons are disabled in FIPS mode). A rear view of this model is shown in Figure 5.

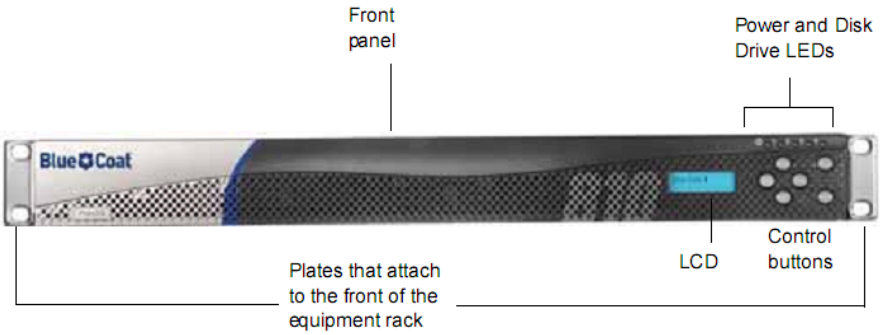


Figure 4 – Front View of the ProxySG810

The ProxySG510 and ProxySG810 are multi-chip standalone modules that meet overall Level 2 FIPS 140-2 requirements. They are validated at the FIPS 140-2 Section levels as described in Table 1.

Table 1 – Security Level per FIPS 140-2 Section

Section	Section Title	Level
1	Cryptographic Module Specification	2
2	Cryptographic Module Ports and Interfaces	2
3	Roles, Services, and Authentication	2
4	Finite State Model	2
5	Physical Security	2
6	Operational Environment	N/A

Section	Section Title	Level
7	Cryptographic Key Management	2
8	EMI/EMC[1]	2
9	Self-tests	2
10	Design Assurance	2
11	Mitigation of Other Attacks	N/A
14	Cryptographic module Security Policy	2

2.3 Module Interfaces

The cryptographic boundary of the ProxySG510 and ProxySG810 is defined by the metal chassis, which surrounds all the hardware and software components as shown in Section 2.5 of this document.

As mentioned in Section 2.2 above, the rear side of both the ProxySG510 and ProxySG810 contains all the connecting ports, which are:

- An AC power connector.
- Two Universal Serial Bus (USB) ports (disabled in FIPS mode of operation).
- A serial port to connect to a Personal Computer (PC).
- Two full-duplex, auto-sensing Ethernet network adapter ports supporting 10/100/1000 Base-T connections.
- An expansion slot for optional network, bridging, or Secure Sockets Layer (SSL) cards.

A figure of the rear side of the module is given in Figure 5 below.

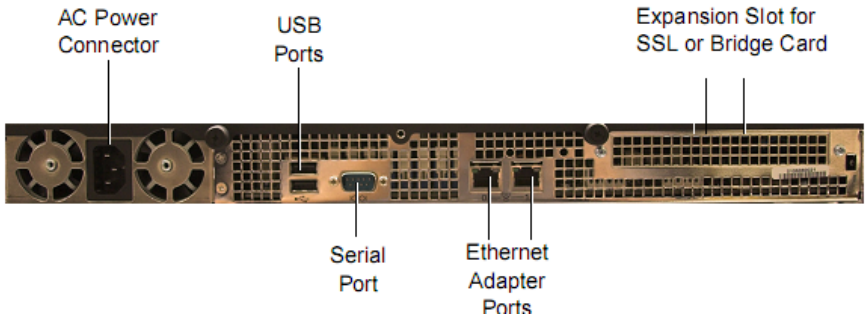


Figure 5 – Connection Ports at the Back of the ProxySG510/ProxySG810

All of these physical interfaces are separated into logical interfaces defined by FIPS 140-2, as described in the following Table 2.

Table 2 – FIPS 140-2 Logical Interfaces

FIPS 140-2 Logical Interface	ProxySG510 and ProxySG810 Port/Interface
Data Input	Network ports
Data Output	Network ports

[1] EMI/EMC – Electromagnetic Interference/Electromagnetic Compatibility

FIPS 140-2 Logical Interface	ProxySG510 and ProxySG810 Port/Interface
Control Input	Serial port, network port
Status Output	LEDs, LCD, serial port, network ports
Power	AC power connection

2.4 Roles and Services

The modules support role-based authentication. There are two roles in the modules (as required by FIPS 140-2) that operators may assume: a Crypto-Officer role and a User role.

2.4.1 Crypto-Officer Role

The Crypto-Officer (CO) has administrator responsibilities that include installing and uninstalling the modules. This role has permissions to view (monitor) and manage (configure) ProxySG configuration and user settings. The CO may monitor and configure the modules locally over a secure serial port, or remotely over a TLS[2] v1.0, SSH[3] v2.0, or SNMP[4] v3 connection. Note that keys used for communications via SNMP are generated externally and input into the module.

Crypto-Officers can manually execute the power-up self-tests by rebooting the hardware modules. Descriptions of the services available to the Crypto-Officer role are provided in the table below.

Table 3 –Crypto Officer Role Services and CSP Access

Service	Description	CSPs Access
Install/uninstall the module	Install the module according to Security Policy guidelines; uninstall the module.	Master Appliance Key (MAK) – write
Firmware Upgrade	Allows new external firmware to be loaded and verified using an RSA digital signature.	RSA public key – read, write
Configuring the ProxySG	Define network interfaces and settings; set the protocols the ProxySG will support; load authentication information.	RSA public key – read, write RSA private key – read, write Session key – read, write Master Appliance Key – read, write Password – read, write SNMP encryption key – read, write
Create, edit, and delete user groups	Create, edit and delete user groups; define common sets of user permissions.	RSA public key – read, write RSA private key – read, write Session key – read, write Password – read, write
Create, edit, and delete users	Create, edit and delete users; define user accounts, change password, and assign permissions.	RSA public key – read, write RSA private key – read, write Session key – read, write Password – read, write

[2] TLS – Transport Layer Security

[3] SSH – Secure Shell

[4] SNMP – Simple Network Management Protocol

Service	Description	CSPs Access
Create filter rules	Create filters that are applied to user data streams.	RSA public key – read, write RSA private key – read, write Session key – read, write
Show status	View the ProxySG configuration, active sessions and logs.	RSA public key – read, write RSA private key – read, write Session key – read, write SNMP encryption key – read, write
Reset the module	Shut down or reset the module	None
Manage module configuration	Backup or restore the module configuration	RSA public key – read, write RSA private key – read, write Session key – read, write Master Appliance Key – read, write Password – read, write SNMP encryption key – read, write
Zeroize keys	Zeroize keys	Zeroize
Change password	Change Crypto-Officer password	RSA public key – read, write RSA private key – read, write Session key – read, write Password – read, write
Perform Self-test	Perform self-test on demand by rebooting the machine	None

2.4.2 User Role

The User can utilize the module's Internet Content Application Protocol (ICAP) and Access Log services. The ICAP service scans User web transmissions for malicious content. Access logging allows you to track Web usage for the entire network or specific information on user or department usage patterns. The User services in the module (over the TLS protocol) are based on the permissions set by the administrator. A User does not have administrator rights to manage the module or manage Users. A User cannot view or manage ProxySG configuration or User settings. Descriptions of the services available to the User role are provided in the table below.

Table 4 – User Role Services and CSP Access

Service	Description	CSP Access
ICAP server access	Access the object scanning service of web content.	RSA public key – read, write RSA private key – read, write Session key – read, write Password – read, write
View status log	Track web usage for the entire network or specific information on user or department usage patterns	RSA public key – read, write RSA private key – read, write Session key – read, write Password – read, write

2.4.3 Authentication Mechanism

The Crypto-Officer can access the modules locally over the serial port and remotely over a TLS, SSH, or SNMPv3 session. The Crypto-Officer and User Role authenticate using a user ID and password. The authentication mechanisms used in the modules are listed below in Table 5.

Table 5 – Authentication Mechanisms Used by the Modules

Role	Authentication Type	Strength
Crypto-Officer	Password	Passwords are required to be at least 4 characters in length and maximum of 64 bytes (number of characters is dependent on the character set used by system). A 4-character password allowing all printable ASCII characters (92) with repetition equates to a 1 in 92^4 chance of false acceptance. For multiple attacks within a one minute period the probability of a random attempt succeeding or false acceptance is in $60/92^4$.
User	Password	Passwords are required to be at least 4 characters in length and maximum of 64 bytes (number of characters is dependent on the character set used by system). A 4-character password allowing all printable ASCII characters (92) with repetition equates to a 1 in 92^4 chance of false acceptance. For multiple attacks within a one minute period the probability of a random attempt succeeding or false acceptance is in $60/92^4$.

2.5 Physical Security

The ProxySG510 and ProxySG810 are multi-chip standalone cryptographic modules and are each enclosed in a hard, opaque metal case that completely encloses all of the internal components. There are only a limited set of vent holes provided in the cases, and these holes obscure the view of the internal components of the module. Tamper-evidence labels are applied to the case to provide physical evidence of attempts to remove the case of the modules. The placement of tamper-evidence labels can be found in Section 3.

All of the modules' components are production grade. The ProxySGs were tested and found conformant to the EMI/EMC requirements specified by 47 Code of Federal Regulations, Part 15, Subpart B, Unintentional Radiators, Digital Devices, Class A (i.e., for business use).

2.6 Operational Environment

The operational environment requirements do not apply to the ProxySG510 and ProxySG810. The modules do not provide a general purpose operating system nor does it allow operators to load untrusted software. The operating system run by the cryptographic modules is referred to as Secure Gateway Operating System (SGOS). SGOS is a proprietary real-time embedded operating system.

2.7 Cryptographic Key Management

The modules implement the following cryptographic algorithms listed in Table 6.

Table 6 – Cryptographic Algorithms Implemented in the Module

FIPS Approved or Allowed Security Functions	Certificate Numbers
Symmetric Key Algorithms	
Advanced Encryption Standard (AES): ECB, CBC, OFB, CFB-128 bit mode for 128, 192, and 256 bit key sizes	859
Triple-DES: ECB, CBC, CFB-64, OFB mode for 1 and 2 keying option	706
Asymmetric Key Algorithms	

FIPS Approved or Allowed Security Functions	Certificate Numbers
DSA PQG generation, key pair generation, sign/verify – 1024-bit	310
RSA PKCS#1 sign/verify – 1024-, 1536-, 2048-, 3072-, 4096-bit	413
RSA (key wrapping; key establishment methodology provides 80 and 112 bits of encryption strength)	Not applicable
Diffie-Hellman (key agreement; key establishment methodology provides 80 and 112 bits of encryption strength)	Not applicable
Hashing Function	
SHA-1, SHA-224, SHA-256, SHA-384, SHA-512	854
Message Authentication Code (MAC) function	
HMAC with SHA-1, SHA-224, SHA-256, SHA-384, SHA-512	476
Pseudo Random Number Generator (PRNG)	
ANSI x9.31 Appendix A.4.2 PRNG	491
Non FIPS Approved Functions	
RNG that seeds the FIPS-approved random number generator	
MD-5	
RC2, RC4	
Blowfish	

The module supports the following critical security parameters:

Table 7 – List of Cryptographic Keys, Cryptographic Key Components, and CSPs

Key	Key Type	Generation / Input	Output	Storage	Use
Master Appliance Key (MAK)	AES 256 CBC key	Internally generated	Never exits the module	Stored in plaintext	Encrypting password, SNMP encryption key, and RSA private key
Integrity Test Public Key	RSA 1024 public key	Externally generated, entered in plaintext	Never exits the module	Stored in plaintext	Verifying the integrity of the system image during upgrade
RSA public key	1024 bits, 2048 bits	Modules' public key is internally generated. Other entities' public keys are sent to the module in plaintext.	During TLS/SSH negotiation in plaintext	Modules' public key is stored on non-volatile memory. Other entities' public keys reside on volatile memory.	Negotiating TLS or SSH sessions
RSA private key	1024 bits, 2048 bits	Internally generated	Never exits the module	Encrypted on non-volatile memory	Negotiating TLS or SSH sessions

Key	Key Type	Generation / Input	Output	Storage	Use
Session Key	AES CBC 128, 192, or 256 bit key Triple-DES CBC 2 or 3 keying option	Internally generated	In encrypted form during TLS or SSH protocol handshake	Plaintext on volatile memory	Encrypting TLS or SSH data
Crypto-Officer Password	Minimum of four (4) printable characters with upper or lower case letters, numbers, and symbols	Enters the modules over a secure remote session or via serial port	Never exits the module	Encrypted on non-volatile memory	Authenticating a CO for GUI[5] or CLI
SNMP encryption key	AES CFB 128, 192, or 256 key	Externally generated, enters the module in plaintext via the serial port or encrypted over the network port	Never exits the module	Encrypted on non-volatile memory	Encrypting SNMPv3 traffic
ANSI X9.31 Appendix A.4.2 PRNG seed	64-bit random number	Internally generated	Never exits the module	Plaintext in volatile memory	Seeding the FIPS-approved PRNG
ANSI X9.31 Appendix A.4.2 PRNG key	Triple-DES 112-bit key	Internally generated	Never exits the module	Plaintext in volatile memory	Generating the FIPS-approved PRNG

2.8 Self-Tests

The ProxySG510 and ProxySG810 perform the following self-tests at power-up:

- Firmware integrity check using MD-5 Error Detection Code (EDC)
- Known Answer Tests (KATs)
  - AES KAT
  - Triple-DES KAT
  - RSA KAT for sign/verify and encrypt/decrypt
  - SHA-1, SHA-224, SHA-256, SHA-384, and SHA-512 KATs
  - HMAC KATs with SHA-1, SHA-224, SHA-256, SHA-384, and SHA-512
  - PRNG KAT
- DSA pairwise consistency check

The ProxySG510 and ProxySG810 perform the following conditional self-tests:

- Continuous RNG Test (CRNGT) for both FIPS-approved and non-approved PRNGs
- RSA pairwise consistency check
- DSA pairwise consistency check
- Firmware update test using RSA signature verification

[5] GUI – Graphical User Interface

The cryptographic modules perform the following critical tests at power-up:

- Verify validity of license

If any of the hardware accelerator cards self-tests fail, then the module forces the corresponding card to enter an error state, logs the error to a file, and shuts down the card. If any of the software self-tests fail, the modules enter an error state, logging the error in the event log. The ProxySGs require Crypto-Officer's attention to clear the error state.

2.9 Design Assurance

Blue Coat uses the Perforce Configuration Management (CM) system. The Perforce software is used in software and document version control, code sharing, and build management. Perforce also keeps track of what versions of files were used for each release and what combinations were used in builds.

Additionally, Microsoft Visual SourceSafe (VSS) version 6.0 is used to provide configuration management for the ProxySG510 and ProxySG810's FIPS documentation. This software provides access control, versioning, and logging.

2.10 Mitigation of Other Attacks

The modules do not claim to mitigate any attacks beyond the FIPS 140-2 Level 2 requirements for this validation.

3 Secure Operation

The ProxySG510 and ProxySG810 meet Level 2 requirements for FIPS 140-2. The sections below describe how to place and keep the module in FIPS-approved mode of operation.

3.1 Crypto-Officer Guidance

The Crypto-Officer is responsible for the initialization of the security-relevant configuration and management activities for the modules through the web management interface, serial port, or front LCD management panel. Please see the following documents for more information on setting up, configuring and maintaining the modules.

Table 8 – Installation Guidance from Blue Coat®

Module	Installation Guide	Blue Coat® Document Number
ProxySG510	Blue Coat® Systems SG510 Series Installation Guide	231-02833
ProxySG810	Blue Coat® Systems SG810 Series Installation Guide	231-02814

Please note the aforementioned documents are provided by the vendors in a CD along with the modules. They are also available in an online library only accessible to Blue Coat customers.

Before enabling FIPS mode, the tamper-evidence labels and faceplates must be applied as shown in the Section 3.1.1. The vendor provides the following materials to meet the required physical security requirements.

Table 9 – Tamper-Evident Labels and Faceplates

Name	Part
Square label	
Rectangular label	
Port faceplate	
NIC[6] faceplate	 2-port NIC faceplate—ethernet card

[6] NIC – Network Interface Card

Name	Part
	 2-port NIC faceplate—fiber card
	 4-port NIC faceplate
	 No option card faceplate

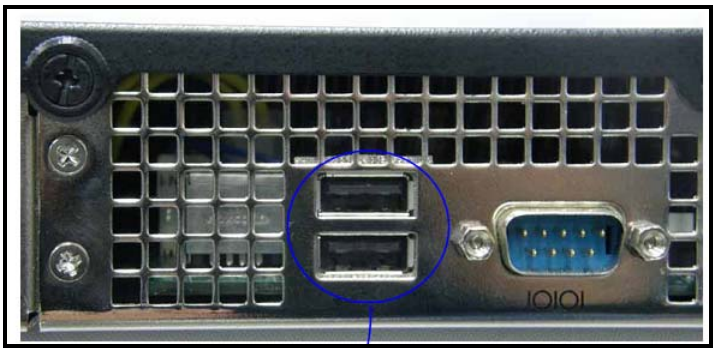
3.1.1 Label Precautions and Application Instructions

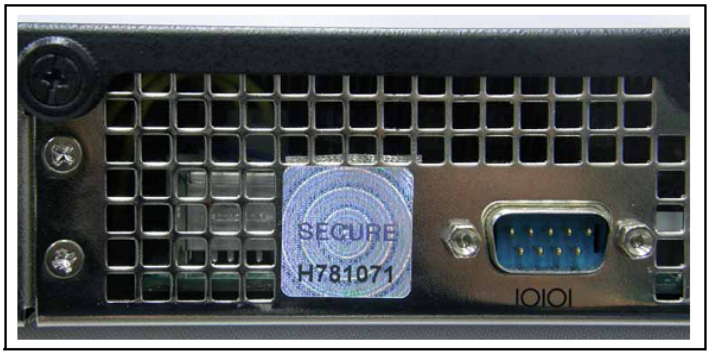
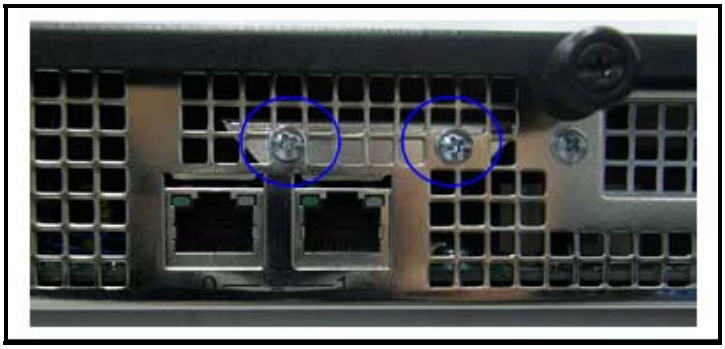
Crypto-Officers must adhere to the following when applying the tamper-evident labels:

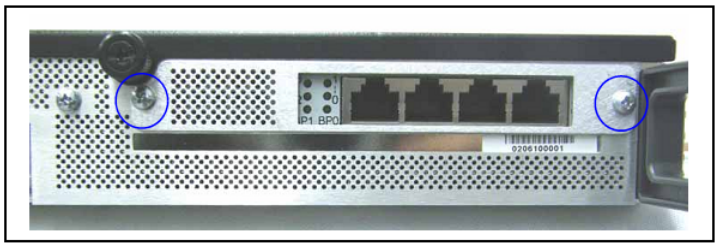
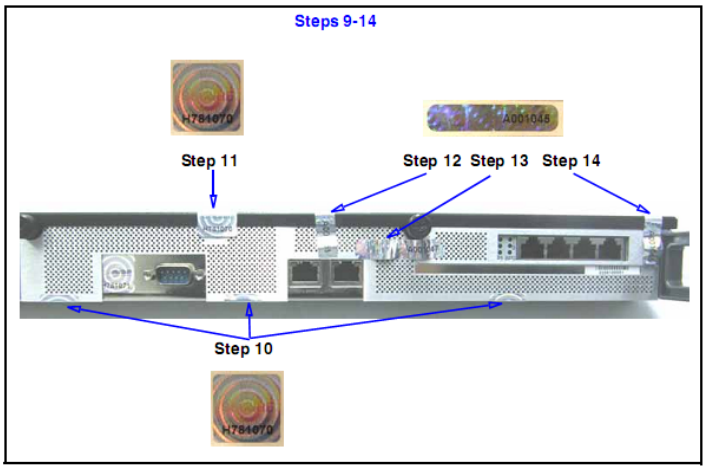
- The minimum temperature of the environment must be 35-degrees Fahrenheit. After application, the labels' acceptable temperature in the operational environment is -50-degrees to 200-degrees Fahrenheit.
- Do not touch the adhesive side of the label. This disrupts the integrity of the adhesive. If a label is removed from a surface, the hologram image is destroyed and the label leaves a patterned silicone adhesive as evidence. If you accidently touch the adhesive side, discard that label and apply another one.
- Label application tips:
    - Apply skin moisturizer on your fingers before handling.
    - Use a rubber finger tip to partially remove the label from its backing.

Label and faceplate application instruction for ProxySG510 and ProxySG810 is provided in the Table 10 below.

Table 10 – Label and Faceplate Application Instructions

Step	Procedure	Figure
1	Use an alcohol swab to clean the surface	

Step	Procedure	Figure
2	Apply a square label over the USB ports.	
3	Loosen the cover screws and slide cover out about a quarter of an inch.	
4	Remove the SSL card screws.	
5	Remove the NIC card screws (the example shows 4-port NIC card; the step is the same for 2-port cards and no option cards).	
6	Align the Port Faceplate with the holes on the rear of the appliance; re-insert and tighten the SSL card screws.	
7	Close the cover and tighten the screws.	

Step	Procedure	Figure
8	Align the NIC Card Faceplate (2-port fiber or Ethernet, 4-port, or no card faceplate, as appropriate) over the interface holes (and on top of the Port Faceplate); re-insert and tighten the NIC card screws.	
9	Use alcohol swabs to clean the locations where the square labels will go (Steps 10 and 11 in the figure).	
10	Apply three square labels to the bottom of the Port Faceplate and wrap them under the bottom of the appliance.	
11	Apply a square label over the vacant screw hole near the top. Align the bottom of the label to the bottom of the metal circle and wrap the label over the top of the appliance.	
12	Apply a rectangular label over the left SSL card screw, with the numbers on the labels covering the screw head.	
13	Apply a rectangular label over the right SSL card screw and left NIC card screw.	
14	Apply a rectangular label over the right NIC card screw.	
15	Turn the appliance a quarter turn (with the front of the appliance facing left).	
16	Apply a square label over each exposed screw hole on the side of the module.	
17	Apply a rectangular label over chassis screw.	
18	Turn the appliance 180 degrees.	
19	Apply a square label over each exposed screw hole on the side of the appliance.	
20	Perform one of the following: a) If there is a cable support bracket attached (as shown in the picture), apply a rectangular label over both screw heads. b) If there is not a cable support bracket attached, apply a square label over the screw hole.	

Step	Procedure	Figure
21	Facing the front of the appliance, apply a rectangular label over the crack between the bezel and top lid, making sure the perforation of the label is directly on the crack.	Step 21 
22	Rack-mount the appliance.	

3.1.2 Initialization

The modules need to have a basic first-time configuration in order to be accessed by a web browser. The process of initial configuration via the secure serial port is described below.

- PC: Connect a serial cable to a serial port on the PC and to the modules' serial console port; open a terminal emulator (such as HyperTerminal) on the PC, and connect to the serial port to which you attached the cable. Create and name a new connection (either a COM or TCP/IP), and verify that the port is set using the parameters described in the table below.

Table 11 – RS232 Parameters

RS-232C Parameters	Parameter Setting
Baud rate	9600 bps
Data bits	8
Parity	None
Stop bits	1
Flow control	None

- Power on the module and wait for the system to finish booting. The following configuration alert displays:

```
****************** CONFIGURATION ALERT ******************
System startup cannot continue for one of these reasons:
    (a) Need at least one adapter (or bridge) configured with an
    address and
       subnet.
    (b) Need the console password and enable password.
********* SYSTEM STARTUP TEMPORARILY SUSPENDED  *********
Press "enter" three times to activate the serial console
```

Figure 6 – Initial Setup: Configuration Alert

- Press <Enter> three times.
- When the "Welcome to the ProxySG Appliance Setup Console" prompt appears, the system is ready for the first-time network configuration.

- The first time configuration sets up the interface number, IP address, IP subnet mask, IP gateway, DNS server parameters, username, and password.

- In addition to configuring the Internet Protocol service, the modules FIPS Mode of operation must also be enabled (default is disabled). Setting FIPS mode to "enabled" ensures that all security functions used are FIPS Approved. The module will transition to to the FIPS mode when the Cryptographic Officer enters "fips-mode enable" command via serial port. The entry of this command causes the device to power cycle and Zeroize the Master Appliance Key. **NOTE:** This command is only accepted via serial port.

3.1.3 Management

The Crypto-Officer is able to monitor and configure the module via the web interface (HTTPS over TLS), serial port, or secure telnet (telnet over TLS). Detailed instructions to monitor and troubleshoot the systems are provided in Blue Coat® Systems Installation Guides mentioned in Table 8.

The Crypto-Officer should monitor the modules' status regularly. If any irregular activity is noticed or the modules are consistently reporting errors, then Blue Coat Systems customer support should be contacted.

The module can be taken out of FIPS mode using the secure serial setup console only. A CLI command ("fips-mode") will allow FIPS mode to be enabled or disabled. To ensure that CPSs are not shared across FIPS Approved mode and Non-Approved mode, any change to FIPS mode parameter will trigger a zeroization of the Master Appliance Key and force the module to power cycle. The FIPS mode parameter will not be modified until after the Master Appliance Key and power-cycle has completed.

3.1.4 Zeroization

At the end of its life cycle or when taking the modules out of FIPS mode, the modules must be fully zeroized to protect CSPs. When switching between FIPS mode and non-FIPS mode, the modules automatically reboot, zeroizing all the CSPs. The Crypto-Officer must wait until the modules have successfully rebooted in order to verify that zeroization has completed.

3.2 User Guidance

The User does not have the ability to configure sensitive information on the modules, with the exception of their authentication data. Although the User does not have any ability to modify the configuration of the modules, they should report any irregular activity they notice to the Crypto-Officer.

4 Acronyms

Table 12 – Acronyms

Acronym	Definition
ANSI	American National Standards Institute
CIFS	Common Internet File System
CLI	Command Line Interface
CM	Configuration Management
CMVP	Cryptographic Module Validation Program
CO	Crypto-Officer
CRNGT	Continuous Random Number Generator Test
CSP	Critical Security Parameter
DSA	Digital Signature Algorithm
EDC	Error Detection Code
EEPROM	Electrically Erasable Programmable Read-Only Memory
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
FIPS	Federal Information Processing Standard
FTP	File Transfer Protocol
GUI	Graphical User Interface
HMAC	(Keyed-) Hash Message Authentication Code
HTTP	Hypertext Transfer Protocol
HTTPS	Secure Hypertext Transfer Protocol
ICAP	Internet Content Application Protocol
IM	Instant Messaging
IP	Internet Protocol
KAT	Known Answer Test
LCD	Liquid Crystal Display
LED	Light Emitting Diode
MAC	Message Authentication Code
MAPI	Messaging Application Programming Interface
MMS	Microsoft Media Streaming
NIC	Network Interface Card
NIST	National Institute of Standards and Technology
NVLAP	National Voluntary Laboratory Accreditation Program
OS	Operating System
P2P	Peer-to-Peer
PC	Personal Computer

Acronym	Definition
PRNG	Pseudo Random Number Generator
RAM	Random Access Memory
RNG	Random Number Generator
RSA	Rivest Shamir and Adleman
RTSP	Real-Time Streaming Protocol
SGOS	Secure Gateway Operating System
SHA	Secure Hash Algorithm
SNMP	Simple Network Management Protocol
SSH	Secure Shell
SSL	Secure Socket Layer
TCP	Transmission Control Protocol
TLS	Transport Layer Security
VoIP	Voice-over-IP
VSS	Visual SourceSafe
WAN	Wide Area Network