

# **Blue Coat® Systems ProxySG® Appliance**

*Blue Coat SGOS 5.3.x Upgrade Guide*

*Version SGOS 5.3.1*



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## Chapter 1: *Upgrading—Overview*

Blue Coat® strongly recommends that you read this document before attempting to upgrade to SGOS 5.3 from previous SGOS operating systems.

Existing features and policies might not perform as with previous versions, and upgrading to this version might require some additional configuration tuning.

### SGOS 5.3 Upgrades

Upgrades to SGOS 5.3 are permitted only from SGOS 4.2.8 and 5.2.x. For information on the correct upgrade path, see [Table 2–1, “Upgrade Paths”](#) on page 9.

If you attempt to download the next major release and receive an error message saying that the download failed due to policy deprecations, your policy uses constructs that are no longer supported in the current version. You must correct any policy syntax problems before upgrading.

If the upgrade path is followed, most of the current settings on the SG appliance are maintained after the upgrade. New or transformed settings in SGOS 5.x are taken from the original settings wherever possible.

### About the Document Organization

This document is organized for easy reference and is divided into the following sections and chapters:

Table 1–1 Document Organization

Chapter Title	Description
Chapter 1 – <i>Upgrading Overview</i>	This chapter discusses SGOS 5.x upgrades, related Blue Coat documentation, and documentation organization and conventions.
Chapter 2 – <i>Upgrade Behavior, General</i>	This chapter discusses general upgrade issues, including the required upgrade path and licensing.
Chapter 3 – <i>Upgrade Behavior, Specifics</i>	This chapter identifies new behaviors in SGOS 5.x and discusses any upgrade/downgrade issues.
Chapter 4 – <i>FIPS Upgrade Information</i>	This chapter includes information pertaining to Federal Information Processing Standards (FIPS) implementations. It covers upgrade/downgrade issues related to FIPS mode.

### Related Blue Coat Documentation

- ❑ *Blue Coat SG200 Installation Guide*
- ❑ *Blue Coat SG210 Installation Guide*

- ❑ *Blue Coat SG400 Series Installation Guide*
- ❑ *Blue Coat SG510 Installation Guide*
- ❑ *Blue Coat SG800 Installation Guide*
- ❑ *Blue Coat SG810 Installation Guide*
- ❑ *Blue Coat SG8000 Installation Guide*
- ❑ *Blue Coat SG8100 Installation Guide*
- ❑ The 11-volume *Blue Coat ProxySG Configuration and Management Guide Suite* includes the following documents:
  - *Volume 1: Getting Started*
  - *Volume 2: Proxies and Proxy Services*
  - *Volume 3: Web Communication Proxies*
  - *Volume 4: Securing the Blue Coat ProxySG Appliance*
  - *Volume 5: Advanced Networking*
  - *Volume 6: The Visual Policy Manager and Advanced Policy*
  - *Volume 7: Managing Content*
  - *Volume 8: Access Logging*
  - *Volume 9: Managing the Blue Coat ProxySG Appliance*
  - *Volume 10: Content Policy Language Guide*
  - *Volume 11: Command Line Interface Reference*

## Document Conventions

The following section lists the typographical and Command Line Interface (CLI) syntax conventions used in this manual.

Table 1–2 Typographic Conventions

Conventions	Definition
<i>Italics</i>	The first use of a new or Blue Coat-proprietary term.
Courier font	Command-line interface text that appears on your administrator workstation.
<i>Courier Italics</i>	A command-line variable that is to be substituted with a literal name or value pertaining to the appropriate facet of your network system.
<b>Courier Boldface</b>	Text that must be entered as shown.
{ }	One of the parameters enclosed within the braces must be supplied.
[ ]	Encompasses one or more optional parameters.



Table 1–2 Typographic Conventions (Continued)

Conventions	Definition
	This pipe character delineates options in a mandatory or optional list. For example: <code>configure {terminal   network url}</code>



## Chapter 2: *Upgrade Behavior*

This chapter discusses upgrade behavior and how to implement an upgrade or downgrade for the SGOS system.

### *Topics in this Chapter*

This chapter includes information about the following topics:

- ❑ ["Supported Upgrade Path"](#) on page 9
- ❑ ["CPL Notes"](#) on page 10
- ❑ ["Migrating to SGOS 5.3"](#) on page 10
- ❑ ["Downgrading from SGOS 5.3.x"](#) on page 11
- ❑ ["Upgrading or Downgrading Between SGOS 5.x Versions"](#) on page 11
- ❑ ["Upgrading to SGOS 5.3.x from SGOS 4.2.x"](#) on page 11
- ❑ ["Licensing"](#) on page 12

### Supported Upgrade Path

You should follow the upgrade path provided below; using the upgrade path maintains most of the current settings, the exceptions being those features that were substantially enhanced in SGOS 5.x.

The following table provides the upgrade paths for these earlier SGOS versions.

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**Note:** Archive the system configuration before upgrading or downloading the ProxySG or Director.

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Table 2–1 Upgrade Paths

Current OS (Range)	Direct Upgrade to 5.3.x?	Next OS version required
SGOS 2.1.x, where $x \geq 07$	No	SGOS 3.2.6
SGOS 3.1.x	No	SGOS 3.2.6
SGOS 3.2.x, where $x \leq 3$	No	SGOS 3.2.6
SGOS 3.2.x, where $x \geq 4$	No	SGOS 4.2.8.6
SGOS 4.1.x	No	SGOS 4.2.1.6
SGOS 4.2.1.x, where $x \leq 5$	No	SGOS 4.2.1.6

Table 2–1 Upgrade Paths (Continued)

Current OS (Range)	Direct Upgrade to 5.3.x?	Next OS version required
SGOS 4.2.1.x, where $x \geq 6$	No	SGOS 4.2.8.6
SGOS 4.2.x, where $x \leq 7$	No	SGOS 4.2.8.6
SGOS 4.2.8.6	Yes	SGOS 5.3.1
SGOS 5.1.x	No	SGOS 5.2.4.3
SGOS 5.2.x	Yes	SGOS 5.3.1

## CPL Notes

Deprecation warnings are issued for CPL syntax that is abandoned in the current release. Use of abandoned syntax causes CPL compiler errors, the policy fails to install, and the ProxySG uses the default policy of ALLOW or DENY for all traffic. Following the recommended upgrade process ensures that policy integrity and, therefore, network security are maintained.

## Migrating to SGOS 5.3

SGOS 5.3.x supports direct upgrade from SGOS 4.2.8 and 5.2.x. SGOS 5.3 is supported on the current SG210, SG510, SG810, and SG8100 hardware platforms as well as older SG200, SG400, SG800 and SG8000 platforms. Because SGOS 5.x contains significant new functionality than the 4.x versions, upgrading can impact CPU utilization. If the peak CPU utilization on your system exceeds 65 percent on SG810/SG800 and lower models, or 70 percent on SG8100/SG8000 models running SGOS 4.2, contact your Blue Coat representative before upgrading to SGOS 5.3.

Also note that SGOS 5.x requires that your ProxySG appliance is configured with at least 512 MB of memory.

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**Note:** Always archive the current configuration offbox before upgrading or downgrading. To archive a configuration, go to **Configuration > General > Archive**. For information about archiving, refer to *Volume 1: Getting Started*.

---

Keep in mind that changes made after upgrade are not preserved if you subsequently downgrade. After an upgrade and a downgrade, the state is exactly what it was before the upgrade.

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**Note:** Should the latest release not boot successfully, the SG appliance might attempt to boot to an earlier image. This can lead to a downgrade without warning.

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## Downgrading from SGOS 5.3.x

If you want to restore a previous SGOS version, you will need to follow the path specified in Table 2-1: Upgrade Paths. Note that downgrade to 5.1.x from 5.3.x is *not* supported.

The ability to downgrade to earlier versions depends on the version you originally upgraded from:

- ❑ If you upgraded from SGOS 5.2.x or SGOS 4.2.8, you can downgrade to those versions.
- ❑ If you are starting with a *new* SGOS 5.3.x Proxy Edition installation, you can only downgrade to 4.2.8 or 5.2.x. You cannot downgrade from a MACH5 Edition license.

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**Note:** After purchasing a Proxy Edition license, you can upgrade to the SGOS 5.3.x Proxy Edition license from a MACH5 license. At that point, you can downgrade to SGOS 5.2.x or SGOS 4.2.8.

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Downgrade default behavior also depends on the version to which you are downgrading and whether you are downgrading a new or existing system:

- ❑ On downgrade from a *new* SGOS 5.3.x Proxy Edition system to SGOS 4.2.8, all system configuration is lost, including the IP address.
- ❑ On a downgrade from SGOS 5.3.x to SGOS 5.2.x, the current SGOS 5.3.x settings are retained.
- ❑ On a downgrade from SGOS 5.3.x to 4.2.8, the previously saved SGOS 4.x configuration is retained.

## Upgrading or Downgrading Between SGOS 5.x Versions

When upgrading or downgrading between versions of SGOS 5.x, copies of version-specific configurations are not retained. Instead, all configurations created in an upgrade are retained if the configuration is relevant to the downgrade version.

Care should be taken when using policy features introduced in a minor release. These cause compilation errors if you downgrade to a previous version of the same major release in which those features were unsupported.

To prevent accidental downgrades, remove unused system images using the `installed_systems delete number, from the (config installed-systems)` prompt. You cannot remove unused system images through the Management Console.

## Upgrading to SGOS 5.3.x from SGOS 4.2.x

The upgrade process happens only one time. If you must redo the upgrade process on a system that has already been upgraded to SGOS 5.x, you can use the CLI `restore-sgos4-config` command.

The **restore-sgos4-config** command checks whether the system has saved SGOS 4.x settings on the SG appliance; if not, a warning message displays and the appliance exits the operation.

If saved SGOS 4.x settings exist, the SG appliance warns that all current SGOS 5.x settings will be lost and that a restart will be initiated. The restart triggers the upgrade process, which copies the SGOS 4.x settings and transforms them to the SGOS 5.3 settings.

## Licensing

If you upgraded from SGOS 4.2.8 with a valid Support entitlement, you should already have an SGOS 5 license; no further action is required. If you do not have an SGOS 5 license, contact Support Services at <http://www.bluecoat.com/support/contact.html>.

### Licensable Components

There are three types of licensable components:

- ❑ Required—The SGOS base
- ❑ Included—Additional features provided by Blue Coat
- ❑ Optional— If applicable, any additional purchased features

When the license key file is created, it consists of all three components. The SGOS 5 Proxy Edition is a required component of the license key file. The following table lists the ProxySG appliance licensable components, categorized by type.

Table 2–2 Licensable Components

Type	Component	Description
Required	SGOS 5 Proxy Edition	The SG operating system, plus base features: HTTP, FTP, TCP-Tunnel, SOCKS, and DNS proxy.
Included	3rd Party Onbox Content Filtering	Allows use with third-party vendor databases: Intersafe, Optenet, Proventia, SmartFilter, SurfControl, Websense, and Webwasher.
Included	Websense Offbox Content Filtering	For Websense off-box support only.
Included	ICAP Services	External virus and content scanning with ICAP servers.
Included	Bandwidth Management	Allows you to classify, control, and, if required, limit the amount of bandwidth used by different classes of network traffic flowing into or out of the SG.

Table 2–2 Licensable Components (Continued)

Type	Component	Description
Included	Windows Media Streaming	MMS and RTSP proxy for Windows Media content; content caching and splitting. Full policy control over MMS and RTSP traffic for Windows Media content. When the maximum number of concurrent streams is reached, all subsequent streams are denied and the client receives a message.
Included	Real Media Streaming	RTSP proxy for Real Media content; content caching and splitting. Full policy control over RTSP traffic for Real Media content. When the maximum number of concurrent streams is reached, all subsequent streams are denied and the client receives a message.
Included	QuickTime Streaming	RTSP proxy for QuickTime content; no caching or splitting; content pass-through. Full policy control over RTSP traffic for QuickTime content.
Included	Netegrity SiteMinder	Allows realm initialization and user authentication to SiteMinder servers.
Included	Oracle COREid	Allows realm initialization and user authentication to COREid servers.
Included	Peer-to-Peer	Allows you to recognize and manage peer-to-peer P2P activity relating to P2P file sharing applications.
Included	HTTP Compression	Allows reduction to file sizes without losing any data.
Optional	SSL	SSL Proxy and HTTPS Reverse Proxy (SSL termination).
Optional	AOL Instant Messaging	AIM proxy with policy support for AOL Instant Messenger.
Optional	MSN Instant Messaging	MSN proxy with policy support for MSN Instant Messenger.
Optional	Yahoo Instant Messaging	Yahoo proxy with policy support for Yahoo Instant Messenger.

Table 2–2 Licensable Components (Continued)

Type	Component	Description
Optional	SG Client—Acceleration	Entitles you to support a certain number of SG Clients in your enterprise; however, the license does not limit the number of ADN tunnels to which clients can have access. SG Client licenses are upgradeable so you can support a larger number of users.  <b>Note:</b> Only the appliance designated as the SG Client Manager requires a license. To use SG Clients in your enterprise, apply the license only to the Client Manager and not to any other appliances in the ADN network.

## Hardware Supported

SGOS 5.3.x supports the following hardware models:

- ❑ SG200
- ❑ SG210
- ❑ SG400
- ❑ SG510
- ❑ SG800
- ❑ SG810
- ❑ SG8000
- ❑ SG8100

Note that all SGOS 5.x versions, including 5.3.x, require a minimum of 512 MB of memory.

## Related Documentation

- ❑ *Volume 1: Getting Started*
- ❑ *Volume 9: Managing the Blue Coat ProxySG Appliance*
- ❑ *Volume 11: Command Line Interface Reference*



## Chapter 3: *Feature-Specific Upgrade Behavior*

This chapter provides critical information about how specific features are affected by upgrading to or downgrading from SGOS 5.x and provides actions administrators must or are recommended to take as a result of upgrading. If a specific feature is not mentioned, it has no known upgrade or downgrade issues.

This chapter assumes you are upgrading to SGOS 5.3 from a supported direct-upgrade version: 4.2.8 or 5.2.x. Depending on which version you are upgrading from, some sections may not be applicable to you.

- ❑ If you are upgrading from 5.2.x, you don't need to read the sections that discuss 5.1 or 5.2 upgrade/downgrade information; look for sections with headings labeled ["5.3-Specific Information"](#).
- ❑ If you are upgrading from 4.2.x, you will want to read all the information in this chapter; it includes all 5.x features that have upgrade or downgrade information. Look for sections with headings labeled ["Information for Upgrading from 4.2.x"](#) and ["5.3-Specific Information"](#).

### *Topics in this Chapter*

The following topics are discussed in this chapter:

- ❑ ["Management Console > Licensing Page"](#) on page 16
- ❑ ["Configuration > General > Archive"](#) on page 16
- ❑ ["Configuration > Network"](#) on page 16
- ❑ ["Configuration > ADN"](#) on page 19
- ❑ ["Configuration > ADN > Tunneling > Network"](#) on page 25
- ❑ ["Configuration > ADN > Byte Caching"](#) on page 26
- ❑ ["Configuration > Services > Management Services"](#) on page 27
- ❑ ["Configuration > Services > Proxy Services"](#) on page 27
- ❑ ["Configuration > SG Client"](#) on page 31
- ❑ ["Configuration > SSL"](#) on page 31
- ❑ ["Configuration > Proxy Settings"](#) on page 33
- ❑ ["Configuration > Content Filtering"](#) on page 35
- ❑ ["Configuration > Authentication"](#) on page 36
- ❑ ["Configuration > External Services"](#) on page 43
- ❑ ["Configuration > Forwarding and SOCKS Gateways"](#) on page 47
- ❑ ["Configuration > Health Checks"](#) on page 48
- ❑ ["Configuration > Access Logging"](#) on page 51

- ❑ ["Configuration > Policy \(QoS\)"](#) on page 51
- ❑ ["Configuration > Policy > VPM"](#) on page 52
- ❑ ["Statistics"](#) on page 54
- ❑ ["Maintenance > Upgrade"](#) on page 54

## Management Console > Licensing Page

### *Information for Upgrading from 4.2.x*

The licensing register-hardware command and the **License Warning** tab attempt to request the software license as well as the hardware license after successful hardware registration.

Similarly, the licensing request-key and corresponding **Maintenance > Licensing > Install > Request key** attempt to register the hardware before requesting the license key if the hardware has not already been registered.

## Configuration > General > Archive

### *5.3-Specific Information*

SGOS 5.3 offers the ability to create signed archives. A signed archive is one that is cryptographically signed with a key known only to the signing entity—the digital signature guarantees the integrity of the content and the identity of the originating device. You can then use a trusted CA Certificate List (CCL) to verify the authenticity of the archive.

On an upgrade to SGOS 5.3, new archive configuration options will be available, but will be disabled by default.

When downgrading to a pre-5.3 version, the signed archive configuration will be disabled, and the system will default to the original archive format. If a protocol other than TFTP or FTP was configured for archiving the configuration, the protocol will default to FTP. Signed configurations cannot be directly loaded by the downgraded system. However, it would be possible to extract the configuration.txt file from the signed archive and attempt to load that configuration.

### **Related Documentation**

- ❑ *Volume 1: Getting Started*, Chapter 5

## Configuration > Network

Refer to the following sections for upgrade/downgrade issues related to items on the **Configuration > Network** page:

- ❑ ["Adapters"](#) on page 17
- ❑ ["Software Bridging"](#) on page 17
- ❑ ["Hardware Bridging"](#) on page 18

## Adapters

### 5.3-Specific Information

Any IP addresses assigned to network interfaces or VLANs while in SGOS 5.3 will be lost upon downgrading to earlier versions. This is not an issue when upgrading to 5.3.

## Software Bridging

### Information for Upgrading from 4.2.x

Changes to bridging in SGOS 5.1.3 or later include:

- ❑ Bridges are not configured during initial configuration of the system.
- ❑ A bridge is now considered to be a set of assigned interfaces and does not have an IP address. All interface configuration is done using the `#(config) interface` command.
- ❑ Interfaces are no longer identified by ports.
- ❑ Interface configuration is no longer done in the bridge editing submode.

### Upgrade Behavior

The bridge-related settings have been migrated from previous SGOS releases to SGOS 5.1.3 or later. The behavior changes include:

- ❑ IP address, subnet: These have been moved to the lowest numbered interface attached to the bridge.
- ❑ mtu-size: On upgrade, mtu-size from an SGOS 4.2.x bridge is reflected to all the interfaces that belong to the bridge on SGOS 5.1.3 or later.
- ❑ accept-inbound. On upgrade, accept inbound settings from an SGOS 4.2.x bridge are reflected to all the interfaces that belong to the bridge on SGOS 5.1.3 or later. In SGOS 5.x, it has been renamed `reject-inbound`.
- ❑ speed: Speed is upgraded for both software and hardware bridges. For hardware bridges, the speed from the first port of a hardware bridge on SGOS 4.2.x is copied onto both interfaces belonging to the hardware bridge on SGOS 5.1.3 or later.. for a software bridge, speed is copied over from each port of a software bridge on SGOS 4.2.x to the corresponding interface of the software bridge on SGOS 5.1.3 or later.
- ❑ half-duplex/full-duplex: Duplex (half-duplex/full-duplex) is upgraded for both software and hardware bridges. For hardware bridges, the duplex from the first port of a hardware bridge on SGOS 4.2.x is copied onto both interfaces belonging to the hardware bridge on SGOS 5.1.3. For a software bridge, duplex is copied over from each port of a software bridge on SGOS 4.2.x to the corresponding interface of the software bridge on SGOS 5.1.3 or later.

- ❑ link-autosense: Link-autosense is upgraded for both software and hardware bridges. For hardware bridges, the link-autosense, if set on the first port of a hardware bridge on SGOS 4.2.x, is reflected onto both interfaces belonging to the hardware bridge on SGOS 5.1.3 or later.. For software bridges, link-autosense, if set for a particular port of a software bridge on SGOS 4.2.x, is reflected to the corresponding interface of the software bridge on SGOS 5.1.3 or later.
- ❑ static-fwtable-entry: Static forwarding entries are migrated from each of the individual ports on SGOS 4.2.x to the corresponding interfaces on SGOS 5.1.3.
- ❑ instructions (PAC Files): For hardware bridges, instructions from an SGOS 4.2.x bridge are automatically upgraded onto the first interface of the hardware bridge in SGOS 5.1.3. For software bridges, instructions from an SGOS 4.2.x bridge are upgraded onto an interface with an IP address that belongs to that bridge in SGOS 5.1.3.

If a software bridge was created in SGOS 4.2, that software bridge remains after an upgrade; the interfaces are attached to this software bridge on a best-effort basis. For example, if the bridge configuration is:

bridge "bg0"

- ❑ interface 0:0
- ❑ interface 3:0

0:0 is not part of a hardware bridge, while 3:0 is part of a hardware bridge

In this case, 3:0 is reassigned to the hardware bridge, and bridge "bg0" is left with one interface. If both interfaces are part of a hardware bridge, software bridge bg0 remains with no interface assigned to it.

## Downgrade Behavior

- ❑ For downgrades to SGOS 4.x, previously existing SGOS 4.x settings are preserved; if the system was a new SGOS 5.x installation before the downgrade, the defaults are used.
- ❑ For downgrades to SGOS 5.1.x, SGOS 5.2/5.3 settings are preserved, except for the programmable bridge functionality described in "[Hardware Bridging](#)" below.

## Related Documentation

- ❑ *Volume 1: Getting Started*

## Hardware Bridging

Blue Coat offers two types of programmable bridge cards, some sold as hardware bridges others as regular Network Interface Cards (NICs).

## Upgrade Behavior

For SGOS 4.2.3 or higher and SGOS 5.x upgrades, software bridges can be lost if they were created on a programmable card prior to upgrade.

Cards that were sold as bridges remain hardware bridges on upgrade and are configured to fail open. Cards that were sold as NICs might have had software bridges configured; if so, that configuration is lost on an upgrade.

You can recreate software bridges by either setting one of the pre-configured bridges to fail open or fail closed or by creating a software bridge and attaching the interfaces. Note that you must disable the automatically created hardware bridge before creating the software bridge.

### Downgrade Behavior

Downgrade behavior depends upon the type of programmable card you originally purchased. Regardless of configuration, the card returns to its original sold-as configuration (either a bridge or a NIC).

---

**Note:** If you are using SGOS 4.2.x and upgrade to SGOS 5.2.x/5.3.x and later decide to downgrade, Blue Coat strongly recommends against downgrading to SGOS 5.1.x. SGOS 4.2.x and 5.2.x have gateway features and enhancements; SGOS 5.1.x does not.

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### Related Documentation

- ❑ The option card instructions that shipped with your option card.

## Configuration > ADN

### *Information for Upgrading from 4.2.x*

The Application Delivery Network (ADN) is aimed at enhancing the experience of users in WAN environments. Blue Coat offers two approaches to upgrading and securing your network; both approaches allow you to keep the network in operation during the upgrade.

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**Note:** If you are configuring a new ADN installation, you do not need to worry about keeping a network in operation and secure; no live traffic is going through the ADN nodes. You can choose either approach discussed below or you can create your own custom approach.

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- ❑ Breadth-first: This is the operation-centric approach, where each operation is done on each ADN node before the next operation is started. For more information, see ["Upgrading Using the Breadth-First Approach"](#) on page 21.

- ❑ Rolling: This is the device-centric configuration, where a set of operations is done to a specific device before you move to the next device. The rolling approach works best when there's a clear separation of roles; for example, you have dedicated managers, concentrators, and branches. You don't have ADN nodes that function as both managers and concentrators. The recommended upgrade order for the rolling approach is to upgrade the ADN managers first, then the concentrators, and the branches last. This method allows a staged deployment. For more information, see ["Upgrading Using the Rolling Approach"](#) on page 22.

Note that you must have SGOS 5.1.3.3 or higher if you want to keep the ADN network in operation during the upgrade.

## New System Defaults

On a new system or a newly upgraded system, default settings are for insecure mode operation. Security must be explicitly enabled. The backwards-compatible ADN manager runs on the existing plain ADN manager port. This manager can handle ADN nodes running SGOS 5.3.x, SGOS 5.2.x, SGOS 5.1.4, and SGOS 5.1.3.

- ❑ Advertised, explicit, routes are used. Connect transparent is enabled, but the prefer transparent setting is disabled. Servers where explicit routes exist are routed through explicit tunnels.

- ❑ Security settings:

- Authentication and authorization are disabled until a valid profile is selected.
- ADN routing and tunnel connection requests are unauthenticated.
- All ADN protocol messaging and compressed application data are transferred in plaintext.
- Device-auth-profile: **None**.

The ADN device-auth-profile must be configured on the ADN managers before any outbound connections can be set to a secure mode on any ADN node.

The profile also must be configured on all concentrators for a specific branch before securing any outbound tunnel connections on the branch.

- Authorization: **Disabled**.  
Authorization can be enabled only if verify-peer option is enabled in the selected ADN device-auth-profile.

- Manager-listening-mode: **Plain-Only**.

The Manager-listening-mode on the ADN managers can be set to **Secure-only** if all ADN nodes secure their routing connections.

- Tunnel-listening-mode: **Plain-Only**.

Tunnel-listening-mode on a concentrator can be set to **Secure-only** if all branches connect to the concentrator through secure connections.

- Secure-outbound: **None**.
- Manager settings:
  - Pending-peers: **Enabled**

### *Upgrading Using the Breadth-First Approach*

If you upgrade from SGOS 4.2.x, the settings are as described above. From an ADN perspective, SGOS 4.2.x upgrades are treated as a new installation.

The breadth-first approach requires that you do certain operations on each node before moving to the next node.

---

**Note:** When upgrading to SGOS 5.3.x, backward compatibility is guaranteed only for devices running SGOS 5.2.x. Downgrading to SGOS 5.1.x is not supported.

---

The overview for configuration is as follows:

1. Upgrade all ADN nodes to the latest SGOS release, including the latest patch version.
2. On each ADN node, configure the device authentication profile.

Security parameters switch to authentication defaults after the device is configured with the device authentication profile:

  - a. Device-auth-profile: Set to the desired profile.
  - b. Authorization: **Enabled**
  - c. Manager-listening-mode: **Both**.
  - d. Tunnel-listening-mode: **Both**.
  - e. Secure-outbound: **Secure-Proxies**.

---

**Note:** If you are upgrading a network with live ADN traffic, reset secure-outbound to **None** to avoid potential ADN service outages. Otherwise, continue with the procedures below.

---

For more information, refer to “Device Authentication” and “Configuring an Application Delivery Network” in *Volume 5: Advanced Networking*.

3. Pre-configure the approved-peers list on each ADN manager.

If a backup manager exists, the backup manager should be added to the approved-peers list on the ADN manager; in that case, the ADN manager should be added to the approved-peers list on the backup manager.

4. Enable outbound security on each ADN node:
  - a. Secure-outbound: This setting can be configured to **Routing-only**, **Secure-proxies**, or **All**.

When routing connection security is enabled, each node reconnects to the ADN managers using the secure protocol.

- If the secure-outbound option is set to **Secure-proxies**, all future outbound secure-proxy connections are secured.
- If Secure-outbound is set to **All**, all future outbound connections are secured. Existing non-secure-proxy connections are upgraded to secure mode automatically. This is the most secure mode, allowing all ADN plain listeners to be disabled.

Configure secure-outbound to at least **Routing-only**. If the routing managers are also branch nodes, configure secure-outbound to **Secure-proxies** or **All**.

5. Tighten up security by shutting down any unneeded plain (unsecured) listeners on each node:
  - a. Manager-listening-mode: Configure this setting to **Secure-only** on each ADN manager.

This setting can be selected only if the secure-outbound option is anything other than **None** on the ADN nodes. Note that you cannot select this option if you have SG Clients on the network.

- b. Tunnel-listening-mode: configure tunnel listening mode to **Secure-only** on each node.

Tunnel listening mode can be set to **Secure-only** on each node if no other ADN branches or SG Clients attempt to connect to this concentrator through plain (unsecured) tunnel connections.

For more information, refer to “Configuring an Application Delivery Network” in *Volume 6: VPM and Advanced Policy Tasks*.

## Upgrading Using the Rolling Approach

If you upgrade from SGOS 4.2.x, the settings are as described in the previous section. From an ADN perspective, SGOS 4.2.x upgrades are treated as a new installation.

The rolling approach requires that you complete all pertinent operations on each node before configuring the next node.

---

**Note:** When upgrading to SGOS 5.3.x, backward compatibility is guaranteed only for devices running SGOS 5.2.x. Downgrading to SGOS 5.1.x is not supported.

---

## ADN Manager Upgrade

Complete each step below for the ADN manager and backup ADN manager:

1. Upgrade the appliances to the latest release of SGOS, including the most recent patch version.
2. Configure the device authentication profile.

Security parameters switch to authentication defaults after the device is configured with the device authentication profile:



- Device-auth-profile: Set to the desired profile.
- Authorization: **Enabled**.
- Manager-listening-mode: **Both**.
- Tunnel-listening-mode: **Both**.
- Secure-outbound: **Secure-Proxies**.

---

**Note:** If you are upgrading a network with live ADN traffic, reset secure-outbound to **None** to avoid potential ADN service outages.

---

For more information, refer to “Device Authentication” and “Configuring an Application Delivery Network” in *Volume 4: Securing the Blue Coat ProxySG Appliance*.

3. Configure the Manager-listening-mode to **Secure-only**.

---

**Note:** Do not do this step until all nodes have been upgraded and the secure-outbound option has been set to secure routing connections. If you attempt to do this step before configuring all other nodes, the nodes fail to connect to the secure manager port.

---

This setting can be selected only if the secure-outbound option is anything other than None on the ADN nodes. Note that you cannot select this option if you have SG Clients on the network.

4. Configure the approved-peers list, if authorization is enabled, to avoid potential temporary ADN service outage on a node.

For more information, refer to “Configuring an Application Delivery Network” in *Volume 6: The Visual Policy Manager and Advanced Policy*.

## ADN Node Upgrade

Avoid making changes to ADN configuration on any ADN nodes until both managers have been upgraded and configured.

---

**Note:** The recommended approach to upgrading the ADN nodes is to configure all concentrators first, followed by the branch appliances.

---

The overview for upgrading one ADN node is as follows:

1. Upgrade the appliance to the latest version of SGOS, including all patch releases.
2. Bring up the ADN node and complete basic ADN configuration. For more information, refer to *Volume 5: Advanced Networking*.
3. Configure the device authentication profile.

Security parameters switch to authentication defaults after the device is configured with the device authentication profile:

- Device-auth-profile: Set to the desired profile.
- Authorization: **Enabled**.
- Manager-listening-mode: **Both**.
- Tunnel-listening-mode: **Both**.
- Secure-outbound: **Secure-Proxies**.

---

**Note:** If you are upgrading a network with live ADN traffic, reset secure-outbound to **None** to avoid potential ADN service outages.

---

For more information, refer to *Volume 4: Securing the Blue Coat ProxySG Appliance*.

## Enabling the Secure-Outbound Security Option

This setting can be configured to **Routing-only**, **Secure-proxies**, or **All**.

- ❑ When routing connection security is enabled, each node reconnects to the ADN managers using the secure protocol.
- ❑ If the secure-outbound option is set to **Secure-proxies**, all future outbound secure-proxy connections are secured.
- ❑ If Secure-outbound is set to **All**, all future outbound connections are secured. Existing non-secure-proxy connections are upgraded to secure mode automatically. This is the most secure mode, allowing all ADN plain listeners to be disabled.

## Setting Tunnel Listening Mode to Secure-Only

The tunnel listening mode can be set to **secure-only** if no other ADN branches or SG Clients attempt to connect to this concentrator through plain (unsecured) tunnel connections.

For more information, refer to “Configuring an Application Delivery Network” in *Volume 5: Advanced Networking*.

## Downgrading an ADN Network

To downgrade your network, reverse the steps you did to upgrade. Note that any attempt to enable tunnel security on a down-versioned branch fails and the connection is closed.

## Policy

- ❑ To support Application Delivery Networks (ADN):

```
adn.server.optimize (yes|no|byte_cache|compress)
adn.server.optimize.optimization-setting (yes|no)
adn.server.optimize[optimization-settings] (yes|no)
adn.server.optimize.inbound (yes|no|byte_cache|compress)
adn.server.optimize.inbound.optimization-setting (yes|no)
adn.server.optimize.inbound[optimization-settings] (yes|no)
```

```
adn.server.optimize.outbound(yes|no|byte_cache|compress)
adn.server.optimize.outbound.optimization-setting(yes|no)
adn.server.optimize.outbound[optimization-settings](yes|no)
adn.connection.dscp(dscp_value)
```

The following CPL syntax is being deprecated in favor of the ADN tunnel properties:

```
socks.allow_compression(yes|no)
socks_gateway.request_compression(yes|no|default)
```

You can use the deprecated syntax, but you will receive a warning.

---

**Note:** If you use SOCKS compression, convert the configuration from SOCKS to ADN. At this point the improved compression and much more flexible ADN policy becomes available.

---

### Related Documentation

- ❑ *Volume 5: Advanced Networking*

## DSCP

### *Information for Upgrading from 4.2.x*

On a new or upgraded system, DSCP behavior is not changed (per-hop behavior for an ADN packet cannot be set separately). Any previous settings are maintained.

On an ADN network, DSCP behavior does not change until both the branch and data center nodes are upgraded; the `adn.connection.dscp` property then takes effect and controls the dscp value sent and received in the ADN tunnel. When both the branch and data center nodes are upgraded, the `server.connection.dscp` setting (which is set on the branch) is enforced on the data center node.

The values for `adn.connection.dscp` and `server.connection.dscp` are configurable.

### Downgrade Behavior

The `adn.connection.dscp` property is ignored.

### Related Documentation

- ❑ *Volume 6: The Visual Policy Manager and Advanced Policy*
- ❑ *Volume 10: Content Policy Language Guide*

## Configuration > ADN > Tunneling > Network

### *Information for Upgrading from 4.2.x or Higher*

The following features have upgrade implications in SGOS 5.3:

- ❑ “TCP Window Size”

- ❑ “Reflect Client IP”

## TCP Window Size

SGOS 5.3 offers a new option for ADN Tunnel TCP Window Size: **Automatically adjusted**. The existing ADN window size setting is preserved upon upgrading to 5.3, as follows:

- ❑ If the window size was set to the default value (64K) in a pre-5.3 version, the **Automatically adjusted** setting will be selected after upgrading to 5.3.
- ❑ If the window size was manually set to a different value in a pre-5.3 version, this value will be entered into the **Manual override** field.

## Related Documentation

- ❑ *Volume 5: Advanced Networking*, Chapter 2

## Reflect Client IP

After upgrading to 5.3, the reflect client IP system setting will be disabled unless *all* of the proxy services have enabled the **Reflect Client IP** setting. Upon upgrading to 5.3, policy will be created for the services that have client IP reflection enabled. For example, if the HTTP and FTP proxies have client IP reflection enabled, the following policy is created:

```
define condition __ReflectClientIPUpgrade
    service.name="HTTP"
    service.name="FTP"
end condition __ReflectClientIPUpgrade
<Proxy>
condition= __ReflectClientIPUpgrade    reflect_ip(client)    ; Rule 1
```

## Configuration > ADN > Byte Caching

### 5.3-Specific Information

In SGOS 5.3, the byte cache is not cleared when the software or hardware is reset; it has a persistent byte cache.

Blue Coat recommends that before downgrading from SGOS 5.3 to earlier versions, you should clear the byte cache with the `clear-cache byte-cache` CLI command. If you don't do this, the persistent byte cache will be preserved after downgrading.

Because 5.3 does not support the byte cache protocol used in earlier SGOS versions, ProxySG devices running 5.3 that connect to ProxySGs running 5.2 or 5.1.4 will be limited to gzip compression only.

## Related Documentation

- ❑ *Volume 5: Advanced Networking*, Chapter 2

## Configuration > Services > Management Services

### *5.3-Specific Information*

SGOS 5.3 adds a new console service.

### *SNMP Console*

SGOS 5.3 offers a console service for SNMP. When upgrading to SGOS 5.3, a default SNMP service will be created in the services framework, with a listener on the standard SNMP port (161). If SNMP was enabled at the time of upgrade, the listener will be enabled.

When downgrading from SGOS 5.3 to a pre-5.3 version, the ProxySG will revert to using the old SNMP configuration (the one that was used before upgrading to 5.3). The services framework will produce three debug exceptions which will generate event log entries, but not cause any operational problems.

### **Related Documentation**

- ❑ *Volume 2: Proxies and Proxy Services, Chapter 2*

## Configuration > Services > Proxy Services

### *Information for Upgrading from 4.2.x*

Starting in SGOS 5.1, the **Configuration > Services** module was reworked for increased functionality, and proxy settings have moved from the **Services** tab to the **Proxy Settings** tab. New or changed features on the **Services** tab in SGOS 5.1 are:

- ❑ ["Cache-Hit Behavior"](#) on page 27
- ❑ ["Cached Objects"](#) on page 28
- ❑ ["Services Framework"](#) on page 28
- ❑ ["Bypass Lists"](#) on page 29
- ❑ ["Restricted Intercept"](#) on page 30

### *Cache-Hit Behavior*

The `virus_detected` policy condition now generates an event log for cache hits, cache misses, and non-cacheable objects when a virus is found. If this behavior is not needed in your environment, you can create an access-log facility to report the URL, client IP address, and the virus-detected fields. The `s-action` access-logging field identifies the type of action taken to process the request and can distinguish between cache hits and cache misses. Reporter can be used to generate various reports.

### **Downgrade Behavior**

If you downgrade to a version lower than SGOS 5.2.x, the `virus_detected` policy condition is available for cache-miss transactions only.

## Related Documentation

- ❑ *Volume 2: Proxies and Proxy Services*

## Cached Objects

Objects (except replacement objects from the ICAP server) that are cached under prior SGOS releases (SGOS 3.2.x, SGOS 4.1.x, SGOS 4.2.x, SGOS 5.1.x, and 5.2.x) of SGOS remain usable on upgrade to SGOS 5.3.

## Downgrade Behavior

Objects cached under SGOS 5.3.x are not usable if the SG appliance system is downgraded to any prior SGOS version. In case of an unusable object, the object is fetched again from the Origin Content Server (OCS.)

## Related Documentation

- ❑ *Volume 2: Proxies and Proxy Services*

## Services Framework

Starting in SGOS 5.1, the services framework (the infrastructure used to manage proxy services) has been revamped to, among other things, support multiple listeners and ports for each service.

New features in services include:

- ❑ **Multiple Listeners Per Service:** A proxy service is comprised of one or more listeners. Each listener can be configured to intercept a particular destination IP subnet and port range. This provides considerable power in intercepting specific application data streams and protocols on the network.
- ❑ **Port Ranges:** A listener can now contain a port range. Since a service can have multiple listeners, many port ranges can be used for a particular service.
- ❑ **Subnet Ranges:** A listener can match:
  - All traffic
  - Only traffic that is not destined to the SG appliance (Transparent)
  - Traffic specifically destined to the SG appliance (Explicit)
  - Traffic destined to a particular IP address or subnet
- ❑ **Default Service:** The default service matches all TCP traffic not otherwise matched by other service listeners. This provides the option to intercept all TCP traffic on the network so it can be accelerated and controlled by enforcing company policy on the traffic.
- ❑ **Service Names in Policy:** Each proxy service now requires a name. This name can contain spaces and can be used as a token in policy. This provides an easy mechanism to identify particular traffic flows in policy.
- ❑ **Static Bypass:** The static bypass is now configured under the Proxy Services and bypasses both TCP and UDP traffic.

- ❑ Separation of Console and Proxy Services: The console and proxy services are now configured using different commands.
  - To configure a console service from the CLI, use the `console-services` command.
  - To configure a proxy service from the CLI, use the `proxy-services` command.

The services have separate Management Console pages (**Configuration > Services > Proxy Services**, **Configuration > Services > Console Services**).

### Upgrade Behavior

On upgrade to 5.x, the old services configuration is upgraded to the new service framework. The new services name contains the old services type and generates a name with one of the following formats:

- ❑ If more than one service with identical properties exists, one service is created with multiple listeners when upgraded. For example, Yahoo IM has two service ports in SGOS 4.2, one on 5050 and one on 5101. Instead of creating two services, one service is created with two listeners.
- ❑ If multiple proxies of the same type exist, the upgrade uses the format `<proxy_name>-<number>`. For example, if you had two HTTP services, the new names are HTTP-1 and HTTP-2.
- ❑ On upgrade, only new SGOS 5.x services are added. Services that were purposefully deleted in SGOS 4.2.x are not re-added in the upgrade.

Most attributes directly translate to the new services framework. The exceptions are:

- ❑ The tunnel proxy attribute **detect protocol** is preserved on upgrade; the default behavior on a new system is disabled.
- ❑ The transparent and explicit attributes are removed.
- ❑ The **send-client-ip** attribute in SGOS 4.2 maps directly to **reflect-client-ip** in SGOS 5.x.

### Related Documentation

- ❑ *Volume 2: Proxies and Proxy Services*

### Bypass Lists

If you upgrade to SGOS 5.x from SGOS 4.x, entries from the central and local bypass lists are migrated to the static bypass list. Because the static bypass list does not support listing gateways, any central or local bypass entries that included a gateway are converted to static route entries in the static route table. The converted static route entries are appended after the existing static route entries. Duplicate static route entries are silently ignored.

All traffic leaving the SG appliance is affected by the static route entries created from the SGOS 4.x bypass lists, not just traffic that matches that particular bypass list entry.

Several parameters of bypass lists are renamed in SGOS 5.x:

- ❑ `server_bypass_threshold` is now `server-threshold`. This contains the maximum number of client entries for a particular server before all client entries are collapsed into a wildcard entry that bypasses all clients going to that particular server. The default value remains at 16; the range is 1 to 256.
- ❑ `max_dynamic_bypass_entry` is now `max-entries`. This defaults to 10000; the valid range is 100 to 50000.
- ❑ `dynamic_timeout` is now `timeout`. This defaults to 60 minutes and has a range between 1 and 86400 minutes.

## Downgrade Behavior

SGOS 5.x settings are not copied back to SGOS 4.x on a downgrade. Previously existing SGOS 4.x settings will be used, or default settings are used if no previous SGOS 4.x configuration exists.

CLI commands that are no longer used in SGOS 5.x include:

```
#show bypass-list <cr>
#(config) bypass-list central-path <url> <cr>
#(config) bypass-list local-path <url> <cr>
#(config) bypass-list no central-path <cr>
#(config) bypass-list no local-path <cr>
#(config) bypass-list no notify <cr>
#(config) bypass-list no subscribe <cr>
#(config) bypass-list notify <cr>
#(config) bypass-list poll-now <cr>
#(config) bypass-list subscribe <cr>
#(config) inline bypass-list central <eof marker> <cr>
#(config) inline bypass-list local <eof marker> <cr>
#(config) load bypass-list central <cr>
#(config) load bypass-list local <cr>
```

## Related Documentation

- ❑ *Volume 1: Getting Started, Chapter 3*

## Restricted Intercept

### *Information for Upgrading from 4.2.x*

With SGOS 5.2.x, a new tab has been added to the **Configuration > Services** menu. Restricted Intercept allows you to create a list of IP addresses that are intercepted, while allowing all other IP addresses to be bypassed. The Restricted Intercept List is useful in a rollout, prior to full production, where you only want to intercept a subset of the clients. After you are in full production mode, you can disable the Restricted Intercept List.

The Restricted Intercept List is also useful when troubleshooting an issue, because you can reduce the set of systems that are intercepted.

## Downgrade Behavior

This feature is new in SGOS 5.2.x. On a downgrade, the restricted intercept list is not available.



## Related Documentation

- ❑ *Volume 1: Getting Started*
- ❑ *Volume 6: The Visual Policy Manager and Advanced Policy*
- ❑ *Volume 10: Content Policy Language Guide*

## Configuration > SG Client

### *Information for Upgrading from 4.2.x*

In SGOS 5.1.x, the SG Client was introduced. The SG Client enables users to benefit from accelerated application delivery directly to their desktops. This allows mobile users or users in small branch offices—where it might not be cost-justifiable to deploy an acceleration gateway—to have improved networked application access.

### Upgrade Behavior

To use the SG Client, one ProxySG appliance must be configured as the Client Manager. Upgrading the Client Manager to SGOS 5.3 does not upgrade installed clients. Upgrading the ADN manager or the ADN data center concentrators has no effect on clients as long as the client-related settings are not changed.

When upgrading from SGOS 4.x to SGOS 5.3, you must install the client license and configure the ADN Manager and Client Manager as discussed in the chapter on the SG Client in *Volume 4: Securing the Blue Coat ProxySG Appliance*.

## Related Documentation

- ❑ *Volume 5: Advanced Networking*
- ❑ *Blue Coat SG Client Release Notes*

## Configuration > SSL

The SSL module includes the following changes in default behavior:

- ❑ ["CA Certificate Lists"](#) on page 31
- ❑ ["Device Profiles"](#) on page 32
- ❑ ["SSL-Verify Server"](#) on page 32
- ❑ ["SSL Detection"](#) on page 32

## CA Certificate Lists

### *5.3-Specific Information*

In SGOS 5.3.x, the SSL Proxy trusts *all* client Certificate Authority certificates in the CA Certificate List (CCL); previously, the default was to trust *none*. When upgrading to SGOS 5.3.x from 4.2.x or 5.2.x, the default will be set to all, allowing policies that require client certificates to function properly after upgrade.

If you upgrade from SGOS 5.2 to 5.3, downgrade back to 5.2 and then modify CCLs, and then upgrade back to 5.3, the changes made to CCLs in 5.2 will not be reflected in 5.3. You will have to change the CCL configuration manually to reflect 5.2 changes.

## Related Documentation

- ❑ *Volume 2: Proxies and Proxy Services, Chapter 12*

## Device Profiles

### 5.3-Specific Information

Starting in SGOS 5.3.1, authentication realms now use device profiles for managing the SSL connection instead of the SSL client. If a realm has the verify server flag set to off, a new SSL device profile, default-no-verify, will be created during the upgrade process. If the verify server flag is on, the default SSL device profile will be used.

## Deprecated CLI

The following CLI commands are deprecated in realms with SSL support:

```
ssl-verify-server  
ssl-verify-agent
```

In 5.3, the following CLI command should be used:

```
ssl-device-profile <profile-name>
```

## Related Documentation

- ❑ *Volume 4: Securing the Blue Coat ProxySG Appliance, Appendix C*

## SSL-Verify Server

### Information for Upgrading from 4.2.x

In SGOS 5.2.x, server certificates are verified by default. The `ssl-verify-server` attribute under HTTP and the corresponding CLI and Management Console commands have been removed.

If you are upgrading from SGOS 4.2.3 or later and have this flag set to no, policy is generated to restore pre-upgrade server certificate verification behavior. If the `ssl-verify server` attribute was set to yes in SGOS 4.2.3, no policy is generated. Generated policy is visible in the VPM as a new **Server Certificate Validation** object and negated version of **Request Forwarded** object.

## SSL Detection

### Information for Upgrading from 4.2.x

Starting in SGOS 5.2.x, options to set the SSL protocol detection for HTTP CONNECT, SOCKS, and TCP Tunnels are no longer available.

If these attributes were set to no in SGOS 4.2.x, policy is generated to maintain the pre-upgrade SSL detection behavior. If those attributes were set to yes in SGOS 4.2.x, no policy is generated.

Generated policy is visible in the VPM as a new **Disable SSL detection** object. Note that this VPM object is meant to accommodate upgrade scenarios only.

The preferred way to control SSL detection and protocol detection in general is by using the per-service attribute for protocol detection under **Configuration > Services > Proxy Services**.

### Related Documentation

- ❑ *Volume 2: Proxies and Proxy Services*

## Configuration > Proxy Settings

Refer to the following sections for upgrade/downgrade items related to proxy settings:

- ❑ ["Streaming Media"](#) on page 33
- ❑ ["CIFS"](#) on page 34
- ❑ ["Trusted Destination IP"](#) on page 35
- ❑ ["User License Limits"](#) on page 35

## Streaming Media

### 5.3-Specific Information

SGOS 5.3.x includes changes related to the following items:

- ❑ ["New Syntax for Caching Objects"](#) on page 33
- ❑ ["WM-HTTP Streaming Media Proxy"](#) on page 33

### New Syntax for Caching Objects

SGOS 5.3 no longer uses the `mms://localhost/file.wmv` syntax for caching objects. This optimization was only useful on reverse proxies, when multiple hostnames or IP addresses in the request URL would all resolve to one of the ProxySG appliance's IP addresses.

After upgrading to 5.3, previously cached objects under a name such as `mms://localhost/file.wmv` are not usable. New client requests that would have previously used the cached copy now cause the appliance to fetch `file.wmv` and cache it under a name such as `mms://host_or_ip>/file.wmv`, where `host or ip` is based on the server URL returned by policy; it might be the same as the client's request URL.

### WM-HTTP Streaming Media Proxy

Because of changes implemented in the `wm-http` streaming media proxy in 5.3, you may experience protocol dialect incompatibility issues if a ProxySG running 5.3 is forwarding traffic to a ProxySG running older SG versions, and the

upstream SG has a non-default (0 is the default) max-fast-bandwidth configuration setting for Windows Media clients. In this situation, client HTTP requests fail for live or video-on-demand streaming; this is not an issue for RTSP requests.

There are several workarounds (in order of preference):

- ❑ Upgrade the ProxySG running the older SG version to version 5.3.
- ❑ Reset max-fast-bandwidth to 0 on the upstream ProxySG running a pre-5.3 version.
- ❑ Disable http-handoff on the upstream ProxySG running a pre-5.3 version.
- ❑ Disable http-handoff on the downstream ProxySG running 5.3.

### **Related Documentation**

- ❑ *Volume 3: Web Communication Proxies*

## **CIFS**

### ***Information for Upgrading from 4.2.x***

The CIFS proxy on the SG appliance enables the SG appliance to improve performance, reduce bandwidth, and apply basic policy checks to clients using the CIFS protocol. This solution is designed for branch office deployments because network administrators can consolidate their Windows file servers (at the core office) instead of spreading them across the network.

### **Upgrade Behavior**

Systems that are upgraded from versions of SGOS that do not have a CIFS proxy behave the same as new systems in that they receive a default set of CIFS services and settings. Existing services listening on the default CIFS TCP ports are not overwritten.

### **Downgrade Behavior**

Downgrading to SGOS 4.x has no effect on the box, except that the CIFS proxy is not available. The next time the upgrade is done, the settings from the previous upgrade still exist.

### **Related Documentation**

- ❑ *Volume 2: Proxies and Proxy Services*

## *Trusted Destination IP*

### *Information for Upgrading from 4.2.x*

If, in your environment, a client can provide a destination IP address that the ProxySG appliance cannot determine or if the ProxySG determines an incorrect IP address, you can tell the ProxySG appliance to trust the client-provided IP address and not do a DNS lookup. This can improve performance (but potentially cause a security concern).

### **Downgrade Behavior**

This feature is new in SGOS 5.2.x. On a downgrade, the trusted destination IP address option is not available.

### **Related Documentation**

- *Volume 2: Proxies and Proxy Services*

## *User License Limits*

### *Information for Upgrading from 4.2.x*

Starting with SGOS 5.2.x, the number of users is enforced through model licensing. If you have more connections than your license permits, you can determine the overflow behavior. Connections beyond the limits can be bypassed, queued (waiting for a connection to drop off), or the licensed-user limit can be ignored. The default value is **none**.

### **Downgrade Behavior**

This feature is new in SGOS 5.2.x. On a downgrade, the licensed-user limit overflow option is not available.

### **Related Documentation**

- *Volume 2: Proxies and Proxy Services*

## Configuration > Content Filtering

### *Blue Coat DRTR*

#### *5.3-Specific Information*

Secure DRTR connections, a new feature to SGOS 5.3, will be disabled after an upgrade from pre-5.3 versions.

If secure DRTR connections was enabled in 5.3 and the device is then downgraded, the device will use unsecured DRTR connections in the downgraded version.

### **Related Documentation**

- *Volume 7: Managing Content, Chapter 2*

## SmartFilter Database Selection

### 5.3-Specific Information

SGOS 5.3 offers two database editions for SmartFilter: XL and SL. The XL edition is the default, and is compatible with SmartFilter 4.2 or later. The XL edition provides a number of new categories, as well as some changes to existing categories that are not available in the SL edition.

When you upgrade from pre-5.3 versions that only supported the SL database edition, the default changes to the XL database edition. To defer policy changes, re-select the SL edition database.

When downgrading to 5.2.1 or earlier or 4.2.5 or earlier versions, the ProxySG will use the SL database. When downgrading to 5.2.2.5-5.2.2.7 or 4.2.6.1-4.2.6.2 (precisely), the ProxySG will use the XL database.

Note that any time the database is changed — whether by user gesture or downgrade/upgrade — there will be no immediate change in behavior. When the database edition has been changed, the next subsequent download will always be a full-size download; incremental download between SL and XL editions is not possible.

### Related Documentation

- ❑ *Volume 7: Managing Content*, Chapter 2

## Configuration > Authentication

Refer to the following sections for authentication-related upgrade/downgrade considerations:

- ❑ ["Encrypted Passwords"](#) on page 37
- ❑ ["SSH Console"](#) on page 37
- ❑ ["Certificate Realms"](#) on page 37
- ❑ ["SiteMinder"](#) on page 38
- ❑ ["User Management"](#) on page 38
- ❑ ["Permitted Errors, Guest Authentication, and Default Groups"](#) on page 39
- ❑ ["Configuration Options"](#) on page 40
- ❑ ["New Realms"](#) on page 41
- ❑ ["RADIUS Realms"](#) on page 41
- ❑ ["Upgrading the BCAA Authentication Service"](#) on page 42

## Encrypted Passwords

### 5.3-Specific Information

Although the format of encrypted passwords has changed in SGOS 5.3, the normal upgrade/downgrade process handles the encrypted passwords without a problem. However, if you save the configuration with the `show conf` command *before* upgrading to SGOS 5.3, and then later replay the saved configuration *after* upgrading, encrypted passwords in that saved configuration won't work. Likewise, if you save the configuration in 5.3, downgrade to a pre-5.3 version, and replay the configuration, the encrypted passwords won't work in the earlier version.

To avoid this potential problem, Blue Coat recommends that you generate a new `show conf` output after upgrading or downgrading. This is a recommended best practice, since a `show conf` generated on one version can have unexpected results when replayed on a different version.

## SSH Console

### 5.3-Specific Information

SSH client keys that are generated in SGOS 5.3 will be different than those generated in earlier versions. For example, if you upgrade to 5.3, regenerate the SSH client keys, and then downgrade to a pre-5.3 version, the keys in the two versions will be different. This is only a problem if an SSH client had permanently added a client key to its local host key file. In this case, SSH clients who were connecting to a 5.2 system would need to remove and re-add the key when connecting to the 5.3 system (and vice versa).

### Related Documentation

- ❑ *Volume 2: Proxies and Proxy Services*, Chapter 2

## Certificate Realms

### 5.3-Specific Information

SGOS 5.3.x includes the ability to set the authorization realm and to determine the authorization username.

Upon upgrading to SGOS 5.3, certificate realms configured with local authorization will have a default authorization user name of `$(cs-username)` to correspond to the relative user name they currently are using. Certificate realms configured with LDAP or no authorization will default to using the fully qualified domain name as the authorization user name.

When downgrading from SGOS 5.3, the authorization user name configuration will be ignored and the certificate realm will revert to its old behavior of using the relative or full user name for authorization, as appropriate.

### Related Documentation

- ❑ *Volume 4: Securing the Blue Coat ProxySG Appliance*, Chapter 5

## SiteMinder

### 5.3-Specific Information

SGOS 5.3.x includes the ability to set the SiteMinder authorization realm and to determine the authorization username.

Upon upgrading to SGOS 5.3, existing SiteMinder realms will default to authorizing against themselves and will use the fully qualified domain name as the authorization user name.

When downgrading from SGOS 5.3, the new SiteMinder authorization configuration will be ignored and the SiteMinder realm will authorize against itself.

### Related Documentation

- ❑ *Volume 4: Securing the Blue Coat ProxySG Appliance*, Chapter 12

## User Management

### Information for Upgrading from 4.2.x

Starting with SGOS 5.2, management of users who authenticate to the ProxySG appliance is enhanced. Previously, users were authenticated without a concept of logging in or logging out of the SG appliance.

A user is considered logged in when first authenticated to the SG appliance, allowing different ways of managing users and controlling access to resources. A login is the combination of a unique IP address with a unique username in a unique realm. For a specific realm, a user is only considered to be logged in once from a given workstation, even if using multiple user agents.

You can browse the users logged into the SG appliance. You can also filter the displayed users by username pattern, by IP address subnet, and by realm.

Prior to SGOS 5.2, a single cache credentials value determined how long credentials, surrogate credentials (authentication cookie or IP address), and authorization data were trusted. With SGOS 5.2.1 and higher, three refresh times are available.

Prior to SGOS 5.2, one-time passwords only could be used once; to mimic that behavior, set the credential refresh time for the realm to 1.

### Policy

- ❑ `user.login.log_out (yes)`
- ❑ `user.login.log_out_other (yes)`
- ❑ `client.address.login.log_out_other (yes)`
- ❑ `user.login.count`
- ❑ `client.address.login.count`
- ❑ `user.login.time`
- ❑ `user.login.address`



- ❑ `authenticate.authorization_refresh_time(x)`
- ❑ `authenticate.credential_refresh_time(x)`
- ❑ `authenticate.surrogate_refresh_time(x)`
- ❑ `authenticate.credentials.address(x.x.x.x)`

### Downgrade

If the new features are specified in policy, the policy fails to compile on a downgrade.

## *Permitted Errors, Guest Authentication, and Default Groups*

### *Information for Upgrading from 4.2.x*

Through policy, you can configure several new features in authentication:

- ❑ Attempt user authentication while permitting specific authentication or authorization errors.
- ❑ Allow a user to log in as a guest user.
- ❑ Set up default groups with any realm, allowing you to assign users to groups and use those groups in reporting and subsequent authorization decisions.

### Policy

New policy gestures include:

- ❑ `authenticate.tolerate_error`
- ❑ `authorize.tolerate_error`
- ❑ `user.authentication_error`
- ❑ `user.authorization_error`
- ❑ `authenticate.guest`
- ❑ `authorize.add_group`
- ❑ `user.is_guest`

### Upgrade Behavior

The "authenticated" condition previously evaluated to true only if both authentication and authorization succeeded. It now indicates whether the user is authenticated. If the authentication realm supports split authentication and authorization or is a valid authorization realm, it is possible for authentication to succeed and authorization to fail.

### Downgrade Behavior

If the new features are specified in policy, the policy fails to compile on a downgrade because those features do not exist in earlier versions.

## Configuration Options

### Information for Upgrading from 4.2.x

Starting in SGOS 5.2.x, a number of realm configuration options have been enhanced and reorganized.

- ❑ **Cache Credentials** has been replaced by separate refresh times that better manage how credentials, surrogate credentials, and authorization data is managed.
  - Credential Refresh
  - Surrogate Refresh
  - Authorization Refresh
  - Inactivity Timeout

These settings are all initialized with the value from the original Cache Credentials setting.

- ❑ The global virtual URL has been replaced; each realm must set its virtual URL separately.
- ❑ The global setting to determine whether cookies used in authentication are persistent cookies or session cookies has been replaced. Each realm now manages this setting separately.

### CLI Changes

- ❑ In each realm, the CLI command **cache-duration** has been replaced with commands to set the refresh time for credentials, surrogates and authorization data.
- ❑ The majority of global **transparent-proxy-auth** commands (all except method) have been replaced with equivalent settings in each realm.

### Upgrade Behavior

- ❑ Each realm that does not have an existing virtual URL is set to the default virtual URL.
- ❑ Each realm's cookie behavior (persistent or session cookies) is inherited from the old global option.

### Downgrade Behavior

New settings are ignored and the **Cache Credentials** value is set to the **Surrogate Refresh** time.

### Related Documentation

- ❑ *Volume 4: Securing the Blue Coat ProxySG Appliance*

## New Realms

### *Information for Upgrading from 4.2.x*

Beginning with SGOS 5.2.x, two new realms are supported: XML and Novell Single Sign-On (SSO). (Both the XML and Novell SSO realms are supported in SGOS 4.2.4, but not in SGOS 5.1.x.)

- ❑ Novell SSO—This realm is an authentication mechanism that provides single sign-on authentication for users who authenticate against a Novell eDirectory server. The mechanism uses the Novell eDirectory Network Address attribute to map the user's IP address to an LDAP Fully Qualified Domain Name (FQDN).
- ❑ XML— This realm allows you to integrate SGOS with the authentication/ authorization protocol if you are using an authentication or authorization protocol that is not natively supported by Blue Coat. This realm requires that you create an XML realm responder to handle XML requests, which requires knowledge of the SOAP protocol. To this end, a SOAP appendix has been created in *Volume 4: Securing the Blue Coat ProxySG Appliance*.

### **Downgrade Behavior**

The Novell SSO and the XML realms are supported in SGOS 4.2.4.x. Neither realm is available in SGOS 5.1.x. If you downgrade to a version that does not support the realm, the realm and its settings are not available.

### **Related Documentation**

- ❑ *Volume 4: Securing the Blue Coat ProxySG Appliance*

## RADIUS Realms

### *Information for Upgrading from 4.2.x*

RADIUS realms can specify the character set to encode the user's credentials with when communicating with the RADIUS server. This is a new configuration option in SGOS 5.2.2 and is not available in previous releases.

A character set is a Multipurpose Internet Mail Extension (MIME) charset name. Any of the standard charset names for encodings commonly supported by Web browsers can be used. The default is Unicode:UTF8.

### **Downgrade Behavior**

If you downgrade to a previous release then the credentials are sent as UTF8 encoded.

## COREid Authentication

### 5.3-Specific Information

When the Oracle COREid 6.5 WebGate server software is upgraded to Oracle COREid 7.0, the single sign-on feature might stop working even if the IPValidation value in the WebGate configuration file (WebGateStatic.lst) is later set to `false`. The workaround is to uninstall and reinstall the Oracle COREid 7.0 WebGate software, and set IPValidation to `false`. Then restart the COREid Access server and the IIS server.

## Upgrading the BCAA Authentication Service

### 5.3-Specific Information

SGOS 5.2.x and higher use version 120 of the BCAA authentication service, as does SGOS 4.2.3.x and higher. SGOS 5.1.x uses BCAA version 110; you should upgrade the BCAA version when upgrading the SG appliance, even if you are already using version 120, to pick up any bug fixes and new functionality.

---

**Note:** BCAA version 120, along with SGOS 5.2.x and higher, can be used to determine whether the user attempted to log in to a trusted domain. Prior versions do not have this functionality.

---

BCAA is distributed as a zip file or UNIX shell script, to be installed on a Microsoft® Windows® system or a Solaris™ system. The zip file to download the BCAA service is posted on the software download page at [http://download.bluecoat.com/release/SGOS5\\_3/index.html](http://download.bluecoat.com/release/SGOS5_3/index.html).

### Using Multiple Versions of the BCAA Service

You can run multiple versions of the BCAA service. Depending on the versions of BCAA that you want to run, you might have to install different versions of the service. Each version of the BCAA service that you want to run must reside on your system.

---

**Note:** You cannot use an older version or a newer version than your proxy expects. For example, you must install BCAA version 120 for SGOS 4.2.3.x or higher and SGOS 5.2.1 or higher.

---

Table 3–1 Supported Versions of the BCAA Service

SGOS Version	BCAA Version Supported
SGOS 3.2.6	Upgrade to BCAA version 99 or higher
SGOS 4.1.x	Upgrade to BCAA version 99 or higher
SGOS 4.2	100 (Download from: <a href="http://download.bluecoat.com/release/SGOS4/index.html">http://download.bluecoat.com/release/SGOS4/index.html</a> )

Table 3–1 Supported Versions of the BCAA Service (Continued)

SGOS Version	BCAAA Version Supported
SGOS 4.2.2	110 (Download from <a href="http://download.bluecoat.com/release/SGOS4/index.html">http://download.bluecoat.com/release/SGOS4/index.html</a> )
SGOS 4.2.x, where x>=3	120 Download from <a href="http://download.bluecoat.com/release/SGOS4/index.html">http://download.bluecoat.com/release/SGOS4/index.html</a>
SGOS 5.1.1 SGOS 5.1.2	100 (Download from <a href="http://download.bluecoat.com/release/SGOS5/index.html">http://download.bluecoat.com/release/SGOS5/index.html</a> )
SGOS 5.1.3 SGOS 5.1.4	110 (Download from <a href="http://download.bluecoat.com/release/SGOS5/index.html">http://download.bluecoat.com/release/SGOS5/index.html</a> )
SGOS 5.2.x	120 (Download from <a href="http://download.bluecoat.com/release/SGOS5_2/index.html">http://download.bluecoat.com/release/SGOS5_2/index.html</a> )
SGOS 5.3.1	120 (Download from <a href="http://download.bluecoat.com/release/SGOS5_3/index.html">http://download.bluecoat.com/release/SGOS5_3/index.html</a> )

Install the lowest version of the BCAA service first and the highest version of BCAA last, allowing each version to uninstall the previous version. This leaves behind the `bcaaa.ini` and `bcaaa-nn.exe` files for each version.

### Notes

- ❑ Only one listening port is used, no matter how many versions you are running. The BCAA service hands off the connection to the appropriate BCAA version.
- ❑ Installation instructions for BCAA are located in *Volume 4: Securing the Blue Coat ProxySG Appliance*, accessible through WebPower account access.
- ❑ The BCAA service cannot be installed on Windows NT.
- ❑ The firewall on Windows systems must be disabled for the BCAA service to work. If the firewall is enabled, the SG appliance won't be able to connect to BCAA.

### Related Documentation

- ❑ *Volume 4: Securing the Blue Coat ProxySG Appliance*

## Configuration > External Services

See the following sections for information related to changes to the **Configuration > External Services** page:

- ❑ "Secure ICAP" on page 44
- ❑ "ICAP Feedback" on page 44
- ❑ "ICAP Scanning" on page 46

## Secure ICAP

### 5.3-Specific Information

SGOS 5.3 supports secure ICAP connections.

### Upgrade Behavior

On upgrade from a pre-5.3 SGOS version:

- ❑ The settings for insecure scanning will be inherited.
- ❑ When upgrading the SG will inspect the service URL:  
`icap://<ICAP serverIP>:<port>.`
- ❑ If a port number is specified in the service URL, it will be stripped from the URL and saved in the registry as “port.” The service URL becomes:  
`icap://<ICAP Service IP>`
- ❑ If a port number is not present in the service URL, the value 1344 will be saved in the registry as “port.”

### Downgrade Behavior

Before downgrading to a pre-5.3 SGOS version, it’s important to disable all secure ICAP settings:

- ❑ In the Edit ICAP Service dialog box, unselect the checkbox **This service supports secure ICAP connections.**
- ❑ Remove all policy rules containing `request.icap_service.secure_connection.`

The following problems will occur if you do not disable the secure ICAP settings:

- ❑ Policy compilation will fail if it contains the rule  
`request.icap_service.secure_connection.` You will need to manually fix this by deleting the rules.
- ❑ The ICAP service URL will contain the URL without the port number. This isn’t a problem if the default port (1344) is used. If a non-default port is used, you will need to manually re-enter the port number.

### Related Documentation

- ❑ *Volume 7: Managing Content*, Chapter 3

## ICAP Feedback

### Information for Upgrading from 4.2.x

A new tab, **ICAP Feedback**, allows you to select either patience pages or data trickling, which is new for SGOS 5.2.x. Data trickling allows some or most of the HTTP object data to continue to the client while the ICAP scan occurs. This is primarily designed for non-interactive (non-Web browser based) HTTP traffic. For interactive (browser-based) traffic, you can employ data trickling or patience pages.

## Upgrade Behavior

On upgrade from a pre-5.2 SGOS version:

- ❑ For a non-interactive client, feedback is set to **none**.
- ❑ For an interactive client:
  - If no ICAP RESPMOD service is found in a pre-SGOS 5.2.x configuration, interactive feedback is set to **none**.
  - If an ICAP RESPMOD service is found in a pre-SGOS 5.2 configuration and all ICAP RESPMOD services were set to patience-page, interactive feedback is set to **patience-page**. The delay is set to the minimum of the delays configured on all ICAP services.

To set patience-page feedback in the upgraded system, enable patience page for each ICAP service prior to the upgrade. Alternatively, use the CLI to do this after upgrading.

- ❑ VPM: Any existing ICAP Patience Page objects are converted into the Return ICAP Feedback object. The **Interactive** section within the Return ICAP Feedback object is derived from the older ICAP Patience Page object.
- ❑ VPM: Existing older versions of the ICAP Request Service objects and ICAP Response Service objects with the option "**Use ICAP request/response service**" selected are upgraded to the newer version of ICAP Request/Response Service object with the same option selected.
- ❑ VPM: Older version of the ICAP Request Service objects and ICAP Response Service objects with the option **Do not use any ICAP service** selected are upgraded to the newer version of the ICAP Request/Response Service object with the same option selected.

## Downgrade Behavior

- ❑ VPM: Any existing Return ICAP Feedback objects are converted into ICAP Patience Page objects and the **Interactive** section within the Return ICAP Feedback object is used to create the ICAP Patience Page object.
- ❑ VPM: Any existing newer version of the ICAP Request Service objects and ICAP Response Service objects with the option **Use ICAP request/response service** selected are downgraded to the older version of ICAP Request/Response Service object with the same option and the service selected is the same as the first item selected in the pre-downgrade object.
- ❑ VPM: Any existing newer version of the ICAP Request Service objects and ICAP Response Service objects with the option **Do not use any ICAP service** selected are downgraded to the older version of the ICAP Request/Response Service object with the same option selected.

## Deprecated CLI

The following command has been deprecated for ICAP.

```
SGOS# (config icap services service_name) patience-page seconds
```

## Deprecated Policy

The following policy has been deprecated for ICAP.

Table 3–2 Deprecated Policy

Deprecated Policy	Replacement Policy
<code>patience_page(delay)</code>	<code>response.icap_feedback.interactive(patience_page, 10)</code>
<code>patience_page(no)</code>	<code>response.icap_feedback.interactive(no)</code>
<code>force_patience_page(yes)</code>	<code>response.icap_feedback.force_interactive(yes)</code>
<code>force_patience_page.user-agent(yes)</code>	<code>response.icap_feedback.force_interactive.user-agent(yes)</code>
<code>force_patience_page[user-agent, extension, content-type](yes)</code>	<code>response.icap_feedback.force_interactive[user-agent, extension, content-type](yes)</code>
<code>force_patience_page(user-agent, extension)</code>	<code>response.icap_feedback.force_interactive(user-agent, extension)</code>

### VPM-Specific Deprecated Objects

- ❑ The ICAP Patience Page object generates `patience_page( )`

### Related Documentation

- ❑ *Volume 6: The Visual Policy Manager and Advanced Policy*

## ICAP Scanning

### Information for Upgrading from 4.2.x

In SGOS 5.2.x and higher, you can no longer create ICAP services named **fail\_open** and **fail\_closed**. If you are upgrading, you can continue to use the names.

In CPL, you can continue to have ICAP services named **fail\_open** and **fail\_closed** as long as those names are either the only service specified or not the last service named if more than one service is specified in a failover sequence. To specify a service named **fail\_over** or **fail\_closed** as the last service in a sequence, you must follow the sequence with a failure behavior directive. For example:

```
response.icap_service(first_service, fail_open, fail_closed)
```

Here, **fail\_open** is interpreted as a service name (since it is not the last token) and **fail\_closed** is taken as a failure directive, since it is the last token.

### Downgrade Behavior

A policy syntax error is generated if policy contains an ICAP failover sequence of more than one service or group.



Before downgrading, change any ICAP failover sequence containing more than one service to a sequence of one service.

### Related Documentation

- ❑ *Volume 6: The Visual Policy Manager and Advanced Policy*
- ❑ *Volume 7: Managing Content*
- ❑ *Volume 10: Content Policy Language Guide*

## Configuration > Forwarding and SOCKS Gateways

### *Information for Upgrading from 4.2.x*

In SGOS 5.2, support for groups (including load balancing and host affinity) has been added to the SOCKS gateways. In addition, some changes were made to the forwarding group structure to match the new SOCKS gateway groups.

---

**Note:** The retention of deprecated CLI and installable list commands and command options ensures that older configurations continue to work after an upgrade. The upgrade introduces new capabilities without removing older ones.

The new load balancing and host affinity capabilities in the forwarding and SOCKS gateways are disabled by default after an upgrade. The **other** setting for host affinity will be **none** in all cases.

---

### Changes to Forwarding and SOCKS Gateways

- ❑ Empty groups are allowed, can be created, and are not automatically deleted.
- ❑ Hosts can become members of more than one group.
- ❑ Load balancing and host affinity commands have been changed.
- ❑ Many CLI commands have been deprecated in favor of commands that better reflect the new functionality.
- ❑ Directives have been changed to match the new CLI.

### Upgrade Behavior

On upgrade, the forwarding and SOCKS gateway configurations are updated to match the new forwarding/SOCKS behavior.

After an upgrade, SOCKS gateway group names may be used in the **socks\_gateway** policy. The introduction of new forwarding host or group names or new SOCKS gateway or group names into policy can cause problems when downgrading as the policy might not compile.

In SGOS 5.2 and higher, when you create a forwarding alias, a socks gateway, or a health check through the CLI or the Management Console, you can use any printable character in the name except for back quotes (`), colons (:), double quotes ("), and spaces. Note that non-ASCII characters are legal.

On an upgrade from SGOS 4.2.x, previously created alias names are transformed into legal alias names, using the following mappings:

- ❑ ``` becomes `'`
- ❑ `:` becomes `%`
- ❑ `"` becomes `=`
- ❑ space becomes `_`

For example, if you used a string such as `http://example.com` as a forwarding alias, the alias is transformed to `http%//example.com` after upgrading from 4.2 to 5.2 or higher.

If the SGOS 4.2.x VPM policy references a forwarding alias or socks gateway alias that contains one of the four illegal characters, you will see warning messages the next time you try to install VPM policy after the upgrade. To fix the problem, edit each forwarding and SOCKS gateway object to delete the old, invalid alias name and replace it with the transformed alias name.

If you created custom CPL code and this code contains a `<Forward>` layer that references forwarding or socks gateway aliases, edit the CPL code, replacing the old, invalid alias name with the transformed alias name.

### Downgrade Behavior

On downgrade, the system reverts to the configuration that existed prior to the SGOS 5.2/5.3 upgrade. Any changes to the configuration are lost on downgrade.

### Related Documentation

- ❑ *Volume 5: Advanced Networking*

## Configuration > Health Checks

### *Information for Upgrading from 4.2.x*

Starting in 5.2, health checks are now automatically created and deleted for forwarding hosts and groups, SOCKS gateways and groups, ICAP servers and service groups, Websense off-box servers and service groups, and DRTR. You can create additional health checks for any target host or create composite health checks that merge the results of other health checks. All health checks are now individually configurable. Policy conditions allow the state of any health check to be used in policy.

Health checks are subject to forwarding and SOCKS gateway policy when appropriate. SSL certificate policy affects certain types of health checks.

### Changes

- ❑ Health checks for the ICAP and Websense off-box services are no longer optional, but are automatically created and deleted as the service is created and deleted. You cannot create health checks for these services.
- ❑ Health check names have changed, with each health check type having a different prefix.

- ❑ External services and external service group names are now limited to 64 characters each. If an old name exceeds 64 characters, the service or service group continues to function normally but no corresponding health check is created.
- ❑ Although health checks were used for DRTR in previous releases, they were hidden. The DNS resolution for DRTR is checked according to the site's time-to-live value.
- ❑ Health checks have vastly changed functionality so CLI commands in previous versions do not work, and there is no backward compatibility. See ["Deprecated CLI"](#) on page 50 for more information.

### Upgrade Behavior

After an upgrade, examine the new health checks and the configuration and ensure that the health checks are properly configured and succeeding. Check that the results of the upgrade are satisfactory. Note that any health check can be disabled if necessary.

- ❑ Forwarding hosts and SOCKS gateways have health checks created that are based on the previous global health check configuration settings. New health checks are created for any forwarding groups that previously existed.
- ❑ ICAP and Websense off-box services that had health checks before the upgrade have health checks created that are based on the previous settings for that health check.
- ❑ New health checks are created on upgrade for any ICAP or Websense off-box service groups.
- ❑ User-defined health checks from previous versions are converted to the new user-defined health checks on upgrade.

In SGOS 5.2 and higher, when you create a health check through the CLI or the Management Console, you can use any printable character in the name except for back quotes (`), colon (:), double quotes ("), and spaces. Note that non-ASCII characters are legal.

On an upgrade from SGOS 4.2.x, previously created alias names are transformed into legal alias names, using the following mappings:

- ❑ ` becomes '
- ❑ : becomes %
- ❑ " becomes =
- ❑ space becomes \_

For example, if you used a string such as `http://example.com` as a forwarding alias, the alias is transformed to `http%//example.com` after upgrading from 4.2.x to 5.2/5.3.

If the SGOS 4.2.x VPM policy references a forwarding alias or socks gateway alias that contains one of the four illegal characters, you will see warning messages the next time you try to install VPM policy after the upgrade. To fix the problem, edit each forwarding and SOCKS gateway object to delete the old, invalid alias name and replace it with the transformed alias name.

If you created custom CPL code and this code contains a <Forward> layer that references forwarding or socks gateway aliases, edit the CPL code, replacing the old, invalid alias name with the transformed alias name.

## Downgrade Behavior

- ❑ The system reverts to the configuration that existed prior to this upgrade. Any changes to the configuration are lost on downgrade.
- ❑ Policy that contains new health check types does not compile.

## Policy

New policy conditions include:

- ❑ `is_healthy.alias = yes | no`
- ❑ `health_check = yes | no | alias`

## Deprecated CLI

```
SGOS#(config health-check) forwarding
SGOS#(config health-check) socks-gateways
```

## New CLI

```
SGOS#(config health-check) copy source-alias target-alias
SGOS#(config health-check) create {composite alias_name | http
alias_name url | https alias_name url | icmp alias_name hostname| ssl
alias_name hostname [port]| tcp alias_name hostname [port]}
SGOS#(config health-check) default e-mail {healthy {enable | disable} |
report-all-ips {enable | disable} | sick {enable | disable}}
SGOS#(config health-check) default event-log {healthy {enable
| disable} | report-all-ips {enable | disable} | sick {enable |
disable}}
SGOS#(config health-check) default failure-trigger {none | count}
SGOS#(config health-check) default interval {healthy seconds| sick
seconds}
SGOS#(config health-check) default snmp {healthy {enable | disable} |
report-all-ips {enable | disable} | sick {enable | disable}}
SGOS#(config health-check) default threshold {healthy count |
response-time milliseconds | sick count}
SGOS#(config health-check) delete alias_name
SGOS#(config health-check) disable {healthy alias_name | sick
alias_name}
SGOS#(config health-check) edit composite_health_check
SGOS#(config health-check) edit health_check_type
SGOS#(config health-check) enable alias_name
SGOS#(config health-check) exit
```

```
SGOS#(config health-check) perform-health-check alias_name
SGOS#(config health-check) view {configuration | quick-statistics |
statistics}
```

## Configuration > Access Logging

### *Information for Upgrading from 4.2.x*

In SGOS 5.2.2, a new field has been added to the default streaming log format: `s-session-id`. This field can be used to identify playspurts from the same client session and is supported for all streaming protocols:

- ❑ Windows Media over RTSP
- ❑ Real Media over RTSP
- ❑ QuickTime over RTSP
- ❑ MMS
- ❑ HTTP

### **Upgrade Behavior**

Upon upgrade to 5.2.2, the default streaming log format changes to the new log format. If you have modified the default streaming log format prior to upgrade, those changes will be preserved.

### **Related Documentation**

*Volume 8: Access Logging*

## Configuration > Policy (QoS)

### *Information for Upgrading from 4.2.x*

Beginning with SGOS 5.1.3, the ProxySG appliance supports Quality of Service (QoS) detection, which is becoming a more prevalent control point for network layer traffic. Previously, the QoS information was lost or not detected when the SG appliance terminated the client connection and issued a new connection to the server. QoS support allows you to create policy to examine the Type of Service (ToS) fields in the IP header to determine the QoS of the bits.

Policy matches are based on Differentiated Services Code Point (DSCP) values, which network devices use to identify traffic to be handled with higher or lower priority.

In SGOS 5.2.x, the following VPM objects and CPL gestures were added to support QoS:

```
server.connection.dscp=
client.connection.dscp=
server.connection.dscp( )
client.connection.dscp( )
adn.connection.dscp( )
```

The following objects have been added to VPM to support QoS:

- ❑ **Client Connection DSCP Trigger** (Source)

- ❑ **Server Connection DSCP Trigger** (Destination)
- ❑ **Set Client Connection DSCP** (Action)
- ❑ **Set Server Connection DSCP** (Action)
- ❑ **Set ADN Connection DSCP** (Action)

### Related Documentation

- ❑ ADN and DSCP: "[DSCP](#)" on page 25
- ❑ *Volume 6: The Visual Policy Manager and Advanced Policy*

## Configuration > Policy > VPM

Note the following changes in the VPM.

### *Revocation Checks on Certificates*

#### *5.3-Specific Information*

In addition to the “no revocation” and “revocation check” actions available in previous versions, SGOS 5.3 adds two new actions on the client/server certificate validation object in the VPM: **Use only OCSP revocation check** (checks the certificate through Online Certificate Status Protocol) and **Use OCSP revocation check if available otherwise use local** (checks the certificate through OCSP if available, otherwise checks it against a locally installed revocation list).

When upgrading the VPM to 5.3:

- ❑ **Do not check certificate revocation** remains unchanged.
- ❑ **Also check certificate revocation** gets converted to the **Use OCSP revocation check if available otherwise use local** action.

When downgrading the 5.3 VPM to earlier versions:

- ❑ **Do not check certificate revocation** remains unchanged.
- ❑ **Use only local certificate revocation check** converts to **Also check certificate revocation**.
- ❑ **Use OCSP revocation check if available otherwise use local** converts to **Also check certificate revocation**.
- ❑ **Use only OCSP revocation check** converts to **Do not check certificate revocation** since earlier releases didn't offer OCSP.

### Related Documentation

- ❑ *Volume 6: The Visual Policy Manager and Advanced Policy, Chapter 3*

## Content-Type Matching

### 5.3-Specific Information

In pre-5.3.x releases, there wasn't a straight-forward way to specify an exact match on content type for HTTP Mime Type objects in the VPM. For example, blocking on content-type "application/x-sh" would block "application-x-shar" and "application/x-shockwave." The CPL code for this is:

```
response.header.Content-Type="application/x-sh".
```

Starting in SGOS 5.3, the policy when using HTTP MIME Type objects specifies an exact match on content type. The generated CPL code for this is:

```
response.header.Content-Type="application/x-sh( |\t)*($|;)"
```

After upgrading to 5.3, the policy will be unaffected unless it is modified with the Install Policy button in the VPM; in this case, it will automatically be updated to the new format (which performs an exact match on content type). When downgrading from 5.3, the next time policy is installed in VPM, the generated CPL will revert to the old format (which does a wildcard type of match).

## SSL Forward Proxy Object Renamed

### Information for Upgrading from 4.2.x

In SGOS 5.2.2, the **Add SSL Forward Proxy** object is renamed to **Enable HTTPS Interception** to better reflect the object's function. In addition, the **HTTPS Interception on Exception** object is used to intercept SSL traffic if there is an exception, such as a certificate error or policy denial. This differs from the **HTTPS Intercept** object, which intercepts all HTTPS traffic.

### Related Documentation

- ▣ *Volume 6: The Visual Policy Manager and Advanced Policy*

## New User Login Address Object

### Information for Upgrading from 4.2.x

Starting in 5.2, a new subnet mask field allows you to specify a subnet of addresses to match in addition to single IP addresses. This lets you match against all machines on a particular subnet, rather than specific individual machines.

### Upgrade/Downgrade Behavior

On an upgrade, existing User Login Address objects are treated as if no subnet mask was specified. User Login Address objects created with a subnet mask are not supported if the ProxySG is downgraded to a previous release without this functionality.

### Related Documentation

- ▣ *Volume 6: The Visual Policy Manager and Advanced Policy*

## Statistics

### *Information for Upgrading from 4.2.x*

- ❑ Persistent bandwidth statistics are not preserved on upgrade from SGOS 4.x. These statistics are now computed differently.
- ❑ Persistent statistics are kept differently in SGOS 5.x and SGOS 4.x. Statistics are imported on first upgrade. After that, SGOS 5.x statistics show gaps when SGOS 4.x is running and vice versa.

### **Related Documentation**

- ❑ *Volume 9: Managing the Blue Coat ProxySG Appliance*

## Maintenance > Upgrade

### *5.3-Specific Information*

SGOS 5.3 offers the option of using *signed system images* when upgrading. A signed system image is one that is cryptographically signed with a key known only to Blue Coat, and the signature is verified when the image is downloaded to the system. Blue Coat is currently providing signed and unsigned images for new releases (5.3 and later). At some point, only signed images will be offered.

When upgrading from a pre-5.3 version, you will need to upgrade to an unsigned version of 5.3 before upgrading to a signed version of a later release.

### **Related Documentation**

- ❑ *Volume 9: Managing the Blue Coat ProxySG Appliance, Chapter 3*



## Chapter 4: *FIPS Upgrade Information*

This chapter covers information pertaining to Federal Information Processing Standards (FIPS) implementations. It covers upgrade/downgrade issues related to FIPS mode.

### *Topics in this Chapter*

The following topics are discussed in this chapter:

- ❑ ["Configuration Files"](#) on page 55
- ❑ ["Signed Archive Configurations"](#) on page 55
- ❑ ["DRTR Connections"](#) on page 55
- ❑ ["SSL"](#) on page 56

### Configuration Files

FIPS mode devices will not accept old configuration files (unless they are manually pasted through the CLI).

### Signed Archive Configurations

On an upgrade to SGOS 5.3 in non-FIPS mode, the new archive configuration options will be available, but will be disabled by default. On entry to FIPS mode, unsigned configuration archives will be disabled. You will need to create/select the appropriate keyrings and CCLs for signing and verifying the archive.

When downgrading to a pre-5.3 version, the signed archive configuration will be disabled. The system will default to the original archive format. If a protocol other than TFTP or FTP was configured for archiving the configuration, the protocol will default to FTP. Signed configurations cannot be directly loaded by the downgraded system. However, it would be possible to extract the configuration.txt file from the signed archive and attempt to load that configuration.

### **Related Documentation**

- ❑ *Volume 1: Getting Started*, Chapter 5

### DRTR Connections

When upgrading to 5.3 from previous versions, secure DRTR connections are disabled in non-FIPS mode devices. If the device is put into FIPS mode, secure connections will be enabled and cannot be disabled.

If the device is then downgraded to a pre-5.3 version, it will use unsecured DRTR connections.

## Related Documentation

- ❑ *Volume 7: Managing Content, Chapter 2*

## SSL

The following applications are subject to FIPS compliance in SGOS 5.3:

- ❑ Authentication realms that use SSL with the authentication servers
- ❑ URL database downloads over SSL
- ❑ Image downloads over SSL
- ❑ Secure heartbeats
- ❑ Secure access log uploads

Upon upgrading to 5.3, the above applications will use the SSL device profile instead of the SSL client. After entering the FIPS mode of operation, the “default” SSL device profile will be created as FIPS compliant and will thus allow only FIPS-compliant SSL versions, ciphers, and so forth.

## Related Documentation

- ❑ FIPS documentation