

Blue Coat[®] Systems ProxyAV[®] Appliance

Configuration and Management Guide

Version 3.3.x



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Document Number: 231-03157

Document Revision: 2/2011

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Chapter 1: Introduction

The Importance of Web Scanning

The Blue Coat® Systems ProxySG® appliance with ProxyAV™ integration is a high-performance, Web antivirus (AV) solution. For most enterprises, Web applications and traffic are mission-critical, representing 90% of the total Internet traffic. The umbrella of Web traffic includes: HTTP, FTP, IM, peer-to-peer (P2P), and streaming. While most users are aware that opening unsolicited e-mail attachments can propagate the spread of a virus, Web-based threats, such as the Code Red and NIMDA viruses, do not require user propagation. As these threats continue to rise, it is vital to dedicate more attention to securing Web traffic, with the goal to *prevent* viruses from entering the network, not just cleaning up infections *after* they enter.

By deploying the Blue Coat ProxySG/ProxyAV solution, you gain performance and scalability (up to 250+ Mbps HTTP throughput), along with the ability to manipulate and control Web content.

Supported Platforms

This section contains the ProxyAV hardware and software requirements as of the publishing of this manual. For the most current list, refer to the release notes for the ProxyAV release operating on your appliances.

Hardware

ProxyAV 3.3.x is supported on the following platforms:

- ProxyAV210
- ProxyAV510
- ProxyAV810
- ProxyAV1200
- ProxyAV1400
- ProxyAV2400

Software

The Blue Coat ProxyAV supports only the Blue Coat ProxySG as an Internet Content Adaptation Protocol (ICAP) client.

Although previously supported SGOS versions are still valid with this release, you will not be able to use the enhanced policy features. To employ the enhanced policy features in ProxyAV 3.x, the ProxySG *must* be running the following software versions (minimal revision):

- ❑ SGOS 4.2.1
- ❑ SGOS 4.3.1

- ❑ SGOS 5.2.1
- ❑ SGOS 5.3.1 or later for using Secure ICAP
- ❑ SGOS 5.4.1
- ❑ SGOS 5.5.1 or later for using the automatically created threat protection policy for ICAP scanning.
- ❑ SGOS 6.1.1

Supported Browsers

The ProxyAV Management Console supports the following Web browsers:

- Microsoft Internet Explorer, version 6.x, 7.x, 8.x
- Mozilla Firefox, version 2.x, 3.x
- Google Chrome

Other browsers might be compatible, but have not been tested.

Upgrade Issues

If you are updating from a previous ProxyAV release to this release (or plan to downgrade), Blue Coat strongly recommends reading [Appendix A: "Upgrade/Downgrade Issues"](#) on page 115 before performing the upgrade.

Organization of This Document

This Configuration and Management Guide is divided into the following chapters:

Table 1–1 Document Contents

Chapter 1: "Introduction"	Introduces the ProxyAV and this document.
Chapter 2: "Licensing the ProxyAV"	Describes how to retrieve the AV vendor license on the ProxyAV.
Chapter 3: "Basic Network and Access Information"	Describes how to specify interface IP addresses and configure the ProxyAV on the network.
Chapter 4: "Configuring Antivirus Scanning"	Describes how to configure the ProxyAV to communicate with the ProxySG and how to configure the ProxyAV antivirus content-scanning features.
Chapter 5: "Logging"	Describes how to configure the ProxyAV log information for performance and results analysis.
Chapter 6: "Maintenance and Troubleshooting"	Describes how to perform simple tasks to maintain the ProxyAV, upgrade the firmware and troubleshoot the appliance using on-board diagnostics.
Chapter 7: "Example Scenario"	Provides example ProxyAV deployments.

Table 1–1 Document Contents

Appendix A: "Upgrade/Downgrade Issues" on page 115	Describes behaviors associated with upgrading to this version of the OS or downgrading to a previous version.
Appendix B: "Deploying the ProxyAV"	Provides diagrams and information about the AV solution and the location of the ProxyAV on the network.
Appendix C: "Third-Party Copyrights"	Blue Coat Third-Party copyright statements.

Blue Coat ProxyAV Documentation Suite

The complete suite of ProxyAV documentation includes the following:

- ❑ *Blue Coat® ProxyAV 210 Installation Guide*
- ❑ *Blue Coat® ProxyAV 510 Installation Guide*
- ❑ *Blue Coat® ProxyAV 810 Installation Guide*
- ❑ *Blue Coat® Systems 1400 and 2400 Series Quick Start Guide*
- ❑ *Blue Coat® Systems 1400 and 2400 Series Maintenance Guide*
- ❑ Online Help
- ❑ This Configuration and Management Guide

Chapter 2: Licensing the ProxyAV

Antivirus scanning services cannot begin without a valid license from a supported AV vendor installed on the ProxyAV. There are several ways to retrieve the AV vendor license, depending on whether or not your ProxyAV has direct access to the Internet.

To activate the license, you must obtain the License Key File from the Blue Coat License Portal (BCLP) using your Blue Touch Online (formerly WebPower) credentials. If you have direct access to the Internet, you can activate the license and automatically download the License Key File to the ProxyAV; otherwise you must add the License Key File manually. For example, in a closed network deployment, the license key file is first downloaded to a local system or stored on a dedicated server, and then the content is manually added on the ProxyAV appliance.

This chapter includes information on the following topics:

- ❑ ["Logging into the Appliance"](#) on page 11
- ❑ ["Retrieving a Vendor License File at Initial Startup"](#) on page 12
- ❑ ["Retrieving an Antivirus License File After Initial Startup"](#) on page 13
- ❑ ["Retrieving an Antivirus License Using the Blue Coat Licensing Portal"](#) on page 14
- ❑ ["Renewing your ProxyAV License Subscription"](#) on page 15

Logging into the Appliance

To license the appliance, you must log into the ProxyAV Management Console. After you complete initial configuration using a serial console connection, the appliance has basic network access and you can log in to the Management Console using a Web browser. By default, the HTTPS protocol on port 8082 is enabled and HTTP is disabled. To enable HTTP the log in, see ["Changing the Protocol for Accessing the Management Console."](#)

To log in to the Management Console:

1. Launch a Web browser.
2. Enter `https://ProxyAV_IP_address:8082` in the address bar of the Web browser. The Management Console displays. You can continue with licensing the appliance, and make configuration changes, as needed.

Logging Out of the Appliance

The logout link displays on the Management Console banner. By default, the ProxyAV challenges both administrative users and read-only users for their log-in credentials before permitting access to the Management Console. As a best practice, Blue Coat recommends that you log out of the appliance after

completing your tasks in the Management Console. For information on configuring access to the appliance, see ["Configuring User Access to the Management Console."](#)

Note: By default, authentication is enabled. If you have disabled authentication, the **Logout** link does not display in the Management Console banner.

To log out of the appliance:

1. Click the **Logout** link that displays on the top left corner of the Management Console banner. You are logged out and a message confirming the logout displays.
2. Close the Web browser.
To log in to the appliance again, click the link on the window that displays or enter **https://ProxyAV_IP_address:8082** in the address bar of the Web browser.

Retrieving a Vendor License File at Initial Startup

This procedure must be done on a fresh appliance that meets the following prerequisites:

- ❑ There is no previous subscription number or license key file on the appliance.
- ❑ You have not previously declined the EULA.

Note: If you do not have a Blue Touch Online account, you can choose to retrieve a vendor license file after initial startup by clicking **Later** in the ProxyAV Automatic Registration dialog that displays at initial startup. For details on creating an account, see, see ["Creating a BlueTouch Online Account"](#) on page 12.

To retrieve a vendor license file at initial startup:

1. Enter your WebPower credentials and your Activation Code or Subscription Number.
2. Click **Register ProxyAV**.
 - a. If you entered an activation code, the EULA displays. Select **Accept**.
 - b. If you entered a subscription number, a EULA does not display.
3. Click **Continue**. If you receive an error, check to be sure that you have entered the correct WebPower credentials and activation code or subscription number.

Creating a BlueTouch Online Account

Before you can retrieve a vendor license file you must have a BlueTouch Online (formerly WebPower) account.

To create a BlueTouch Online account:

1. In the Management Console, select **Licensing**. The licensing page displays.
2. Click **Activate/Manage** licenses at Blue Coat Licensing Portal. The Blue Coat Licensing Portal Login page displays.
3. Click the link to create a new BlueTouch Online account. The customer care page displays.
4. Under **Login Assistance**, click the Request Login User ID/Password link.
5. Fill out the online request form. Fill in the **Requestor Information**, and click the user links to add up to five additional users for the WebPower account.
6. To submit the form, click **Request Users**. Support Services responds within one business day to send your credentials.

Retrieving an Antivirus License File After Initial Startup

If you opted not to retrieve a vendor license file at initial startup, Blue Coat recommends that you retrieve one automatically using the ProxyAV Automatic Registration page. However, if your appliance does not have direct access to the Internet, you can register it using a Web browser and the Blue Coat Licensing Portal. See "[Retrieving an Antivirus License Using the Blue Coat Licensing Portal](#)" on page 14.

To retrieve a vendor license file automatically:

1. In the Management Console, select **Licensing**.
2. Under License Administration, click **Register** appliance automatically (recommended). The ProxyAV Automatic Registration page displays.
3. Enter your WebPower credentials and your activation code or subscription number.
4. Click **Register ProxyAV**.
 - If you entered an activation code, the EULA for ProxyAV displays. Select **Accept**.
 - If you entered a subscription number, a EULA does not display.
5. Click **Continue**. The registration status displays on the ProxyAV Automatic Registration page. If you receive an error, check to be sure that you have entered the correct WebPower credentials and activation code or subscription number.

Note: If outgoing ProxyAV connections go through the ProxySG, make sure that SSL intercept is not enabled for BCLP (<https://services.bluecoat.com>). If SSL intercept is enabled for BCLP, automatic registration could fail.

Retrieving an Antivirus License Using the Blue Coat Licensing Portal

When you use the BCLP, all you need is a Web browser and an Internet connection. The ProxyAV does not need to have direct Internet access.

To retrieve an antivirus license using the BCLP:

1. Perform one of the following actions:
 - a. In the Management Console, select **Licensing**. Click **Activate/Manage** to display the Blue Coat Licensing Portal (BCLP) Web page.
 - b. In a Web browser, enter the following URL:
`http://services.bluecoat.com/eservice_enu/licensing/register.cgi`

Login

Please provide your WebPower credentials

User ID:

Password:

2. Enter your WebPower credentials, and click **Login**. The Registration menu items become active.

Home

Enter Activation Code:

(From [our email](#))

3. Enter the Activation Code you received in an e-mail from Blue Coat, and click **Next**. The Activate Licenses page displays.

Activate License
Important: If you are NOT running Blue Coat AV version 3.1 or above, use [Antivirus Serial Number](#) page instead.
Please enter your hardware serial number and activation code.
If you are licensing ProxyAV 2000 box, you should use MAC address instead of the Hardware Serial number.
MAC address format example: 00E0812A6D30
Hardware Serial Number (or MAC address):
Activation Code (or AV subscription number):

4. Enter your hardware serial number (for all models except ProxyAV 2000) or MAC address (for ProxyAV model 2000), and your Activation Code or Subscription Number. A license agreement page displays, providing the terms for accepting this license. Read the agreement, select **I accept** and click Next.
5. Perform one of the following actions:
 - a. Click **Download License File**. In the File Download dialog, click **Save** and navigate to the location to save the ProxyAV license file.
 - b. Click **Open License File in a Browser Window**, then copy the contents of the license file and paste it into the **License Key Manual Installation** field on the Licensing page.
6. Click **Save Changes** to commit your changes to the ProxyAV.

Renewing your ProxyAV License Subscription

The ProxyAV appliance requires a license subscription to function. The license subscription is associated with an individual ProxyAV appliance serial number, the term of the license and your chosen AV vendor.

You must purchase a new subscription or renew your subscription before your trial license or current subscription expires. The appliance monitors the validity of the current license and logs an entry in the event log 30 days before the current license is set to expire. If you have configured email notifications, the appliance also sends an email alert to the user address configured to receive notifications (typically the administrator).

- ❑ If you renew the current license before the current term lapses, the ProxyAV appliance revalidates and applies the new license subscription automatically. Check the **Licensing** page on the Management Console, to view the updated information that includes the following information: antivirus vendor currently licensed on your ProxyAV, the status of the license — active or expired, the expiration date, and the number of days left on your current license.

- ❑ If you do not renew the license subscription before the current term expires, the appliance continues to download pattern file updates and scan network traffic for seven days beyond the license expiration date. After the seven day grace period, the ProxyAV will return a **License expired** error message via ICAP to the ProxySG and no more AV scanning will occur.
- ❑ If your ProxyAV license has expired, please contact your partner or Blue Coat Sales so you can update/renew your ProxyAV license.

Chapter 3: Basic Network and Access Information

This chapter assumes the ProxyAV appliance is licensed and is ready for basic configuration.

This chapter contains the following sections:

- ❑ [Section A: "Configuring User Access to the Management Console"](#) on page 18—Describes how to configure access credentials and how to secure access to the Management Console using local authentication and RADIUS authentication.
- ❑ [Section B: "Configuring Network Access"](#) on page 30—Describes how to configure ProxyAV appliance IP addresses, and how to access the Command Line Interface (CLI).
- ❑ [Section C: "Configuring Network Routing"](#) on page 42—Describes how to configure routes, including upstream proxy access.
- ❑ [Section D: "Configuring Closed Network Setup"](#) on page 48 — Describes how to configure a ProxyAV appliance in a closed network deployment.
- ❑ [Section E: "Configuring SNMP"](#) on page 54—Describes how to set up the SNMP protocol and download management information base (MIB) files.

Section A: Configuring User Access to the Management Console

Section A: Configuring User Access to the Management Console

To access the ProxyAV appliance, each user must provide a valid username and password. This username and password information is used to authenticate users, that is it is used to determine who the user is and confirm their identity before permitting access to the appliance. For authenticating users, you can configure either one or both of the following options:

- ❑ **Local Authentication on the ProxyAV Appliance:** Local authentication enables user authentication on the ProxyAV appliance itself and ensures that a network problem or the inability to connect to an external authentication server does not hinder your ability to access the ProxyAV appliance. Blue Coat recommends that you enable local authentication to allow an administrative user access to the appliance at all times.
- ❑ **External Authentication to a RADIUS Server:** If you have a RADIUS authentication system in place, you can configure the ProxyAV appliance to operate as a client to the RADIUS server. This option allows the ProxyAV appliance to access your RADIUS server for authenticating legitimate users and for validating their access privileges.

Blue Coat recommends that you use RADIUS authentication in conjunction with local authentication. When you enable a local administrative user on the ProxyAV appliance, in the event that the RADIUS server is unreachable, you will still be able to log in and administer the ProxyAV appliance using local authentication.

To restrict access to the ProxyAV Management Console by protocol — HTTP and/or HTTPS, see ["Changing the Protocol for Accessing the Management Console"](#) on page 27.

To restrict administrative or ICAP access for each interface of the ProxyAV, see ["Configuring Client Access"](#) on page 33.

Local Authentication on the ProxyAV Appliance

A user account specifies the privileges that are granted to a user. With local authentication on the ProxyAV appliance, you can create two types of user accounts:

Specifying an administration username and password prevents unauthorized access to the ProxyAV appliance Management Console. On the ProxyAV appliance, you can create two types of accounts to access to the Management Console:

- ❑ An administrative access or full-access account. An administrative access account allows complete access to all configuration and management tasks on the ProxyAV appliance.
- ❑ A read-only access account. A read-only access account prohibits access to the configuration options on the Management Console. A read-only access user can access the ProxyAV appliance for viewing on-box information.

While you can create only one account of each type, both user types can concurrently access the Management Console.

Section A: Configuring User Access to the Management Console

To enable local authentication:

1. Click **Authentication**.
2. Select **ProxyAV Local Authentication**.
3. Select a task from the following list to set up and manage local user access accounts on the ProxyAV appliance:
 - [Creating an Administration User Account](#)
 - [Changing Passwords](#)
 - [Creating a Read-Only User Account](#)
 - [Deleting a Read-Only User Account](#)
 - [Disabling Authentication](#)

Creating an Administration User Account

By default, users have unrestricted access to the Management Console and can make configuration changes on the ProxyAV. If you did not create the full-access user or administrative access account using the serial connection during initial configuration of the appliance, use the following instructions to create an administrative user. If you have enabled RADIUS authentication, the ProxyAV appliance authenticates the user by connecting to the RADIUS server. However, if you enable local authentication, you can log in to the ProxyAV appliance using the administrative account credentials saved locally on the ProxyAV appliance when the RADIUS server is inaccessible or unreachable.

Defining an administration username and password, allows you to restrict access to the Management Console. When configured, access to the Management Console is enforced with an authentication challenge that performs a credential check before allowing access.

Important: To restrict access to the ProxyAV appliance Management Console, you must enable the **Require Authentication** checkbox and specify authentication credentials.

To create an administration user account:

1. In the Management Console, select **Authentication**.

Section A: Configuring User Access to the Management Console

Change Administration Password ?

- Full-Access User

[Change Read-Only User data](#)

2 → ☒ **ProxyAV Local Authentication**

3 → Username:

4a,b → Current Password: Maximum of 16 characters

4c → New Password: Maximum of 16 characters

4c → Verify New Password: Maximum of 16 characters

2. Select **ProxyAV Local Authentication**.
3. In the **Username** field, enter the administrator username.
4. Specify a new password:
 - a. Leave this **Current password** field blank, if you have not created a full-access user account previously, otherwise add the existing password.
 - b. In the **New Password** field, define the administrator password. The maximum number of characters is 16.
 - c. To verify the password definition, re-enter it in the **Verify New Password** field.
5. (Optional) In the **Session timeout** field, enter a value, in minutes, between 0 and 9999. The default value is 10 minutes. The number of minutes configured in this field determines the interval after which the user is prompted to re-authenticate.
 Note: If you set the session timeout value to 0 minutes, the appliance will not challenge you to re-authenticate until you log out of the appliance or change the administrative account password.
6. Click **Save Changes**.

Creating a Read-Only User Account

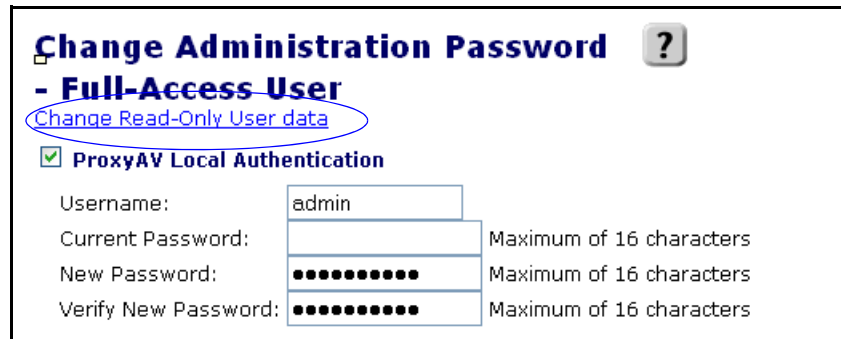
You can specify a separate username and password that allows other users to view the ProxyAV appliance Management Console, yet not have the ability to change any configurations.

Note: To create a read-only user, you must login as a full-access user.

To create a read-only user account:

1. In the Management Console, select **Authentication**.

Section A: Configuring User Access to the Management Console



2. Click **Change Read-Only User data**.
3. Enter and verify the username and password information. The maximum number of characters is 16.
4. Click **Save Changes**.

Changing Passwords

The read-only user password can be changed by either the administrative or the read-only access user. However, the password for an administrative access user can be changed with administrative access credentials only.

To change the password for a full-access/ administrative user.

1. In **Authentication**, verify that the **ProxyAV Local Authentication** is selected. This is a security mechanism that ensures that full-access users are authenticated before they can access the Management Console.
2. In the **Username** field, retain or change the administrator username.
3. Enter the current administrator password in the **Current Password** field.
4. In the **New Password** field, enter the administrator password. The password can contain a maximum of 16 characters
5. Repeat the password in the **Verify New Password** field.
6. (Optional) In the **Session timeout** field enter a value, in minutes, between 0 and 9999. The default value is 10 minutes. The number of minutes configured in this field determines the interval after which the user is prompted to re-authenticate.

Note: If you set the session timeout value to 0 minutes, the appliance will not challenge you to re-authenticate until you log out of the appliance or change the administrative account password

7. Click **Save Changes**.

Section A: Configuring User Access to the Management Console

To change the password for a read-only user (when logged in as an administrator):

You can modify the read-only user account for local authentication, only if you have logged in to the ProxyAV appliance using local authentication. To verify if you are authenticated locally or using an external RADIUS server, see [Verifying your Authentication Status](#).

1. In **Authentication > ProxyAV Local Authentication**, click the **Change Read-Only User Data** link.
2. In the **Username** field, enter the username for the read-only user account.
3. In the **New Password** field, enter a password. The password can contain a maximum of 16 characters.
4. Repeat the password in the **Verify New Password** field.
5. Click **Save Changes**.

To change the read-only user password (when logged in as the read-only user):

1. In the **Username** field, verify that your user name displays.
2. In the **Current Password** field, enter your current read-only user password.
3. In the **New Password** field, enter your new password. The password can contain a maximum of 16 characters.
4. Repeat the new password in the **Verify New Password** field.
5. Click **Save Changes**.

Deleting a Read-Only User Account

You require administrator access to delete the read-only user account.

To delete a read-only user account:

1. Log in as an administrative user.
2. In **Authentication > ProxyAV Local Authentication**, click **Change Read-Only User data** link.
3. In the **Username** field, verify that the read-only user's username displays.
4. Click **Delete Read-Only User**. The user account is deleted and the user is no longer allowed to access the Management Console.

External Authentication to a RADIUS Server

You can configure the ProxyAV appliance to be a RADIUS client that accesses the RADIUS server database to authenticate and authorize users. To set up communication between the ProxyAV appliance and the RADIUS server, you must configure both the RADIUS server and the ProxyAV appliance.

Section A: Configuring User Access to the Management Console

First, you must configure the ProxyAV appliance as a RADIUS client. The ProxyAV appliance requires the following details to establish a connection with the RADIUS server:

- ❑ IP address and UDP port number of the Primary RADIUS server.
- ❑ (Optional, but recommended) IP address and UDP port number for the Secondary RADIUS server. This is a fail safe mechanism; In case the ProxyAV appliance is unable to communicate with the primary RADIUS server it attempts to authenticate using secondary server, if configured. See [Failover Behavior](#) for information on how the ProxyAV appliance fails over to the secondary RADIUS server.
- ❑ Pre-shared key (or shared secret). A shared secret is a character string that is configured on both the ProxyAV appliance and on the RADIUS server. Because RADIUS uses a client server architecture for managing user account information, before a device can become a RADIUS client it must be configured with the same pre-shared key that is configured on the RADIUS server thus allowing it to be able to pass user credentials onto the RADIUS server for verification.

After you enable communication between the ProxyAV appliance and the RADIUS server, the RADIUS server must authenticate users and authorize access to the ProxyAV appliance. For authentication, the RADIUS server uses its database to validate user credentials. To enable authorization, you must define the **Blue-Coat-Authorization** (vendor specific) attribute in the RADIUS user profile for users who requires administrative access or read-only access to the ProxyAV appliance.

Note: If you are using FreeRADIUS server, the Blue Coat vendor specific attributes are specified in the `bluecoat.dictionary` file. This file is available on the **Authentication** tab on the ProxyAV Appliance Management Console. The authorization support attributes and the associated values included in this file are as follows:

Authorization Support Attributes and Values for FreeRADIUS		
Access-type	Value	Number
Administrative	Read-Write-Access	2
Read-Only	Read-Only-Access	1
No Access	No-Access	0
0 is the default value used when read-only access (1) or administrative access (2) is not specified.		

If you are not using FreeRADIUS, Blue Coat's vendor ID is 14501, and the Sub-type number for the Blue Coat Authorization attribute is 2. Refer to the RADIUS server documentation provided by your vendor for instructions on defining the authorization attribute.

Section A: Configuring User Access to the Management Console

The RADIUS server uses the authorization support attribute information that you define in the user profile, to parse requests and generate responses. The RADIUS server authenticates the user and verifies the privileges defined/ the role of a user and sends an access-accept or access-reject packet back to the ProxyAV appliance.

To enable external authentication to a RADIUS server:

1. Click **Authentication**.
2. Select **ProxyAV RADIUS Authentication**.
3. Add the IP address, port and shared secret for the **Primary RADIUS server**. The shared secret allows the ProxyAV appliance to forward user credentials onto the RADIUS server for verification.
4. (Optional, but recommended) Add the IP address, port and shared secret for the **Secondary RADIUS server**.
Click **Save Changes**.
5. On the RADIUS server, define the **Blue-Coat-Authorization** (vendor specific) attribute in the RADIUS user profile for users who require administrative access or read-only access to the ProxyAV appliance.

Important: As a fallback mechanism, to ensure unhindered access to the ProxyAV appliance in the event that the RADIUS servers are inaccessible, Blue Coat recommends that you enable local authentication on the ProxyAV appliance for an administrative user. Typically, the administrative user account is created using the serial connection during initial configuration of the appliance. If you did not create the administrative access account using the serial connection, see [Creating an Administration User Account](#).

Failover Behavior

Blue Coat recommends the use of a secondary RADIUS server with the same security and performance characteristics as the primary server, so that users are authenticated to an alternate server, should the primary server fail.

When you configure a primary and a secondary server for RADIUS authentication, the ProxyAV appliance first queries the primary RADIUS server and awaits a response. If the RADIUS server does not respond within 5 seconds, a response timeout occurs and the appliance resends the authentication request. If the second attempt to query the primary RADIUS server also times out, the ProxyAV appliance contacts the secondary RADIUS server configured on the appliance. And follows the same process. If the secondary RADIUS server also fails to respond, the login attempt fails.

How is a User Permitted Access to the ProxyAV Appliance Using RADIUS Authentication?

When a user attempts to access the ProxyAV appliance, the ProxyAV appliance challenges the user for access credentials. It then forwards the credentials in an Access-Request message to the configured RADIUS server. The RADIUS server

Section A: Configuring User Access to the Management Console

authenticates user and sends an 'access-accept' or 'access-reject' response back along with the value for the Blue-Coat-Authorization attribute defined for the user. The ProxyAV appliance parses the response to check if the user is authenticated and then uses the custom attribute to determine the user's access privileges; the user is then allowed appropriate access or denied access to the ProxyAV appliance.

Example: FreeRADIUS Configuration Procedure

This following example shows the RADIUS configuration steps required to support authentication and authorization of the ProxyAV appliance users on FreeRADIUS server v2.1.10.

The main tasks in this workflow are as follows:

- ❑ Configure the ProxyAV appliance IP address on the FreeRADIUS server.
- ❑ Set up the attributes so that the ProxyAV appliance can receive authentication and authorization attributes from the RADIUS server. Blue Coat provides a dictionary file that contains all the authorization attributes supported on the ProxyAV appliance. You must first obtain this `bluecoat.dictionary` file from the **Authentication** tab on the ProxyAV Management Console. Then you need to manually define the attribute, using the attribute name or number, type, value, and vendor code, for all users that are permitted access to the ProxyAV appliance.

To enable communication between the FreeRADIUS server and the ProxyAV appliance:

1. Add the IP address of the ProxyAV appliance to the freeRADIUS server client configuration file. `/etc/freeradius/clients.conf`
2. Add a shared secret to enable communication between ProxyAV and the FreeRADIUS server. For example:

```
client 10.10.10.0/24 {  
    secret = testing123  
    shortname = ProxyAVNetwork  
}
```

Note: You can define a single machine (10.10.10.107)
or a subnet (10.10.10.0/24)

3. Download and save the **dictionary.bluecoat** file to the `/usr/share/freeradius/` directory. This file is available on the **Authentication** tab on the ProxyAV Appliance Management Console.
4. Add Blue Coat's vendor specific attributes defined in the **dictionary.bluecoat** file to the `/usr/share/freeradius/dictionary` file.

Section A: Configuring User Access to the Management Console

For example, entries in the `/usr/share/freeradius/` dictionary might be as follows:

```
$INCLUDE dictionary.xylan
$INCLUDE dictionary.bluecoat
$INCLUDE dictionary.freeradius.internal
```

5. Add the Blue Coat Authorization attribute to the `users` file in `/etc/freeradius/` directory. Specifying the attributes for users or groups allows you to enforce permissions and regulate access the ProxyAV appliance.

The syntax used is:

```
<User Name> Cleartext-Password := "<password>"
Blue-Coat-Authorization = <RADIUS_VALUE or
INTEGER_VALUE_CORRESPONDING_TO_PRIVILEGE>
```

For example, for an admin user you would specify the following details:

```
ratnesh Cleartext-Password := "oldredken123"
Reply-Message = "Hello",
Blue-Coat-Authorization = Read-Write-Access
```

6. Save your configuration and restart the FreeRADIUS server.

Verifying your Authentication Status

The ProxyAV appliance displays your login name and authentication source in the right-hand side corner of the Management Console banner. If, for example, you have enabled local authentication and RADIUS authentication on the ProxyAV appliance and would like to verify whether you are currently logged in using the local authentication system or the external RADIUS server system, you can verify your authentication status on the Management Console banner.

The banner displays the following message:

Welcome `<Username>` `<Authentication system>`



Modifying the Session Timeout Value

This session timeout is a security feature that logs a user out of the ProxyAV appliance when the user does not interact with the appliance within the specified time interval. This timeout value specifies the number of minutes that a session can remain idle before the ProxyAV appliance terminates it automatically. The default is 10 minutes. After a user is logged out, he/she must re-authenticate before securing access to the Management Console again.

To modify the session timeout value:

1. Log in to the ProxyAV appliance as an administrative user. This setting is valid for both local and RADIUS authentication.
2. In **Authentication > Session timeout**, enter a value in minutes, between 0 and 9999. The default value is 10 minutes.
Note: If you set session timeout value to 0 minutes, the appliance will not challenge you to re-authenticate until you log out of the appliance or change the administrative account password.

Disabling Authentication

Authentication prevents unauthorized users from gaining access to the Management Console. As a best practice, the ProxyAV appliance must have a password to authenticate a user and allow access to the Management Console. Blue Coat advises against disabling authentication.

If you choose to disable authentication, any user who can access the IP address of the ProxyAV appliance will gain full access to the Management Console and can make configuration changes on the appliance.

To disable authentication:

1. Log in to the ProxyAV appliance as an administrative user.
2. Clear all authentication methods that are enabled. Both **ProxyAV Local Authentication** and **ProxyAV RADIUS Authentication** must be disabled to completely disable authentication.

Note: To disable local authentication, you must enter the password in the Current Password field.

3. Click **Save Changes**.

Changing the Protocol for Accessing the Management Console

You can specify which protocols (HTTP and HTTPS) are used to access the ProxyAV appliance Management Console.

Note: When you install or upgrade to this release from a version previous to 2.5.x, the HTTPS protocol on port 8082 is enabled and HTTP is disabled. If you upgrade from 2.5.x, the setting remains the same.

Enabling HTTP Access

By enabling HTTP access, the administrator can access the Management Console without a secure connection. You can specify a different port number.

To enable HTTP access:

1. In the Management Console, select **Network**.
2. Under **Management Console Access**, select **Enable HTTP Administration**.
3. (Optional) Enter a different port number from the default.
4. Click **Save Changes**.

Note: To prevent an administrator from accidentally rendering the ProxyAV appliance inaccessible, an enabled access protocol cannot be disabled unless another protocol is active. For example, if HTTPS is enabled, you cannot clear it if HTTP is not enabled (and saved).

Enabling HTTPS Access

After you enable HTTPS, the connection to the Management Console is encrypted.

To enable HTTPS access:

1. In the Management Console, select **Network**.
2. Under **Management Console Access**, select **Enable HTTPS Administration**.
3. (Optional) Enter a different port number from the default.
4. Click **Save Changes**.

When HTTPS is enabled, you must enter the URL format: `https://interface_IP:port` to access the ProxyAV appliance Management Console. For example, `https://10.0.0.2:8082`.

Enabling or Disabling Ciphers for HTTPS Access

You can select the SSL ciphers to allow for HTTPS Web interface access. However, it is important to verify your browser settings before changing the cipher configuration, and to be very cautious about making changes. For example, disabling any high-strength ciphers could lead to losing access to the HTTPS Management Console.

Important: Before you enable or disable SSL ciphers for HTTPS access, be sure to configure the ProxyAV appliance to be accessed through HTTP. Doing so ensures that you will not lose access to the ProxyAV appliance while making changes to the SSL ciphers. See ["Enabling HTTP Access"](#) on page 27.

To enable or disable ciphers for HTTPS access:

1. Select **Network**. The Network Settings page displays.
2. Under Management Console Access, click **Ciphers list for HTTPS administration**. The Console List page displays. By default, all the ciphers are enabled.
3. If you disable or enable any of the ciphers in this list, click **Save Changes**
4. Be sure to switch from HTTP access back to HTTPS access when you are finished with the SSL cipher configuration.

Section B: Configuring Network Access

The network configurations in this section identify the ProxyAV appliance to the network.

Specifying the Appliance Identification Information

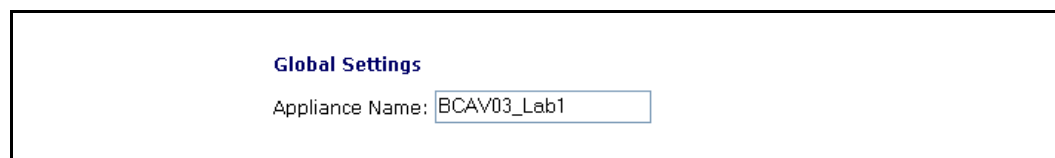
This section describes how to specify the appliance name, current time, and network time protocol (NTP) settings.

Specifying the Appliance Name

This option is not required, but if you have multiple ProxyAV appliance appliances installed, giving each one a unique and relevant name allows you to easily identify a ProxyAV appliance.

To specify or change the appliance name:

1. In the Management Console, select **Network**.



The screenshot shows a web interface with a header 'Global Settings'. Below it, there is a label 'Appliance Name:' followed by a text input field containing the value 'BCAV03_Lab1'. The input field is highlighted with a blue border.

2. Under **Global Settings**, in the **Appliance Name** field, enter a name.
3. Click **Save Changes**.

Specifying the Time and Date

This section describes how to manually enter the system time, date, and time zone.

To specify the date and time:

1. Select **Advanced > Date/Time Settings**.

The screenshot shows the 'Date/Time Settings' page. At the top is the title 'Date/Time Settings' with a help icon. Below it, there are two main sections: 'Date Settings' and 'Time Settings'. 'Date Settings' has input fields for Year (2007), Month (04), and Day (28). 'Time Settings' has input fields for Hour (18), Minute (30), and Second (58). Below these is the 'Time Zone Information' section, which contains a drop-down menu showing '(UTC-08:00) [PST,PDT] Pacific Standard Time'. A link for 'Network Time Protocol' is located below the time zone section. At the bottom is a 'Save Changes' button. Annotations '2a' and '2b' with arrows point to the 'Date Settings' and 'Time Settings' sections respectively.

Date/Time Settings ?

2a → **Date Settings**

Year	Month	Day
2007	04	28

Time Settings

Hour	Minute	Second
18	30	58

2b → **Time Zone Information**

(UTC-08:00) [PST,PDT] Pacific Standard Time ▼

[Network Time Protocol](#)

Save Changes

2. Set the date and time:
 - a. Enter the current date and time values.
 - b. Select a time zone from the **Time Zone Information** drop-down list.
3. Click **Save Changes**.

Configuring the Network Time Protocol (NTP)

The section describes how to adjust the ProxyAV appliance clock to synchronize with a configured time server (or servers) on specified intervals.

To configure the NTP:

1. Select **Advanced > Date/Time Settings**.
2. Click **Network Time Protocol**.

3. Specify NTP server options:
 - a. Enter the hostname of the time server and click **Add**.
 - b. If entering more than one server, repeat Step a.
 - c. (Optional) If you entered more than one NTP server, you can prioritize. Select a server and click **Promote** or **Demote** to change positions in the list.
4. Specify NTP client options:
 - a. Select **Enable**.
 - b. (Optional) To synchronize instantly, click **Acquire Time Now**. Otherwise, synchronization occurs at the next interval, as specified in Step 4c.
 - c. In the **Query Interval** field, enter the duration between synchronization checks. The default is 60 minutes.
5. Click **Save Settings**.

Specifying the Gateway and IP Addresses

The ProxyAV appliance connects to the ProxySG or a switch through a network cable that is attached to Interface 0 or Interface 1. Your ProxyAV appliance model dictates which interface number appears on the **Network** page of the Management Console:

- ❑ Blue Coat ProxyAV 400-E, 210, 510, 810 use interface 0 as the primary interface.
- ❑ Blue Coat ProxyAV 2000-E, 1400, 2400, use interface 1 as the primary interface.

Connection to the second interface is optional. It can be used for either a secondary management connection, a redundant ICAP connection, or both.

The IP address for the secondary interface must observe the following rules:

- ❑ The IP address specified for the secondary interface must be different from that of the primary interface.
- ❑ The secondary interface must be configured on a different subnet than the primary interface.
- ❑ Forwarding between the primary and the secondary interfaces is not supported.

To specify or change the default gateway address:

1. In the Management Console, select **Network**.
2. Under **Global Settings**, in the **Default Gateway** field, enter the gateway address.

Note: If a different IP address is entered from the front panel of the appliance (on supported models), this value automatically changes to reflect that value.

Proxy Servers for Updates

3 → Settings for Interface 0

Default Gateway:	10.9.90.1
IP Address:	10.9.90.100
Subnet Mask:	255.255.255.0

4 → Settings for Interface 1

Cable disconnected	
Enabled:	<input checked="" type="checkbox"/>
IP Address:	10.9.80.100
Subnet Mask:	255.255.255.0

3. Connect the ProxyAV appliance to the network:
 - a. Under **Settings for Interface 0** (except for 2000-E: **Interface 1**), in the **IP Address** field, enter the IP address of the Interface.
 - b. In the **Subnet Mask** field, enter the subnet mask.
 - c. Click **Save Changes**.
4. (Optional) Add a connection to the second interface:
 - a. Select **Enabled**.
 - b. Enter the IP and subnet information for the second connection.
 - c. Click **Save Changes**.

Configuring Client Access

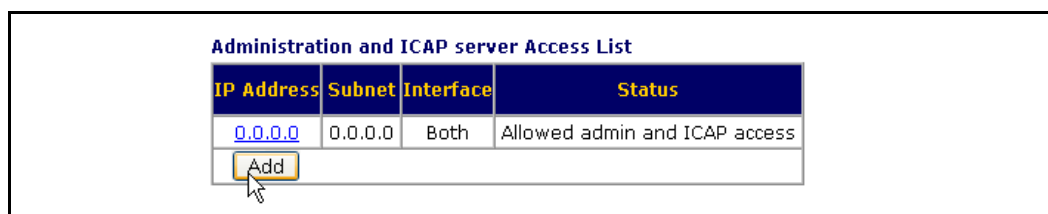
The Admin/ICAP Client List displays the currently defined admin, ICAP client, and SNMP IP addresses that are allowed access to the ProxyAV appliance interfaces. This feature also allows you to:

- ❑ Deny access to subnets or untrusted hosts, while allowing access from others on the LAN; or allow selected subnets, such as your ProxySG clients.

- ❑ Deny other clients from the subnets dedicated for ICAP communications.
- For security reasons, Blue Coat recommends keeping this list limited and specific.

To configure client access:

1. In the Management Console, select **Network**.

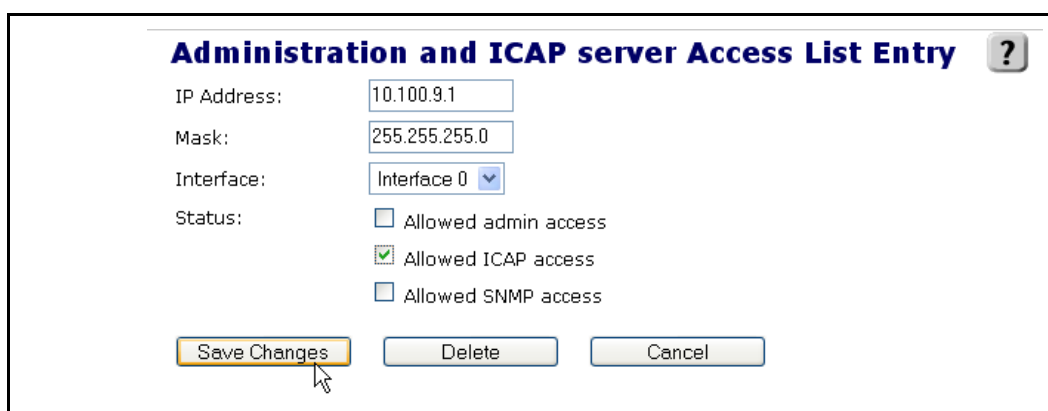


The screenshot shows a table titled "Administration and ICAP server Access List". The table has four columns: IP Address, Subnet, Interface, and Status. There is one row with the values 0.0.0.0, 0.0.0.0, Both, and Allowed admin and ICAP access. Below the table is an "Add" button with a mouse cursor pointing to it.

IP Address	Subnet	Interface	Status
0.0.0.0	0.0.0.0	Both	Allowed admin and ICAP access

Add

2. Under **Administration and ICAP Server Access List**, click **Add**. The Administration and ICAP Server Access Entry page displays.



The screenshot shows the "Administration and ICAP server Access List Entry" form. It contains fields for IP Address (10.100.9.1), Mask (255.255.255.0), and Interface (Interface 0). The Status section has three checkboxes: Allowed admin access (unchecked), Allowed ICAP access (checked), and Allowed SNMP access (unchecked). At the bottom are three buttons: Save Changes, Delete, and Cancel. A mouse cursor is pointing to the Save Changes button.

Administration and ICAP server Access List Entry ?

IP Address: 10.100.9.1

Mask: 255.255.255.0

Interface: Interface 0

Status:

- ☐ Allowed admin access
- ☒ Allowed ICAP access
- ☐ Allowed SNMP access

Save Changes Delete Cancel

3. In the **IP Address** field, enter the IP address of a client or subnet that will or will not be allowed administrative access to the ProxyAV appliance.
4. In the **Mask** field, enter a subnet address.
5. From the **Interface** drop-down list, select the interface to which this configuration applies.

6. Select a **Status**:

- **Allowed admin access:** Allow administrative access to this IP address and subnet.
- **Allowed ICAP access:** Allow access to the IP address and subnet of the ProxySG serving as the ICAP client.
- **Allowed SNMP access:** Allow access to the IP address and subnet of the ProxySG that manages SNMP.

7. Click **Save Changes**.

Note: When there are no entries in the table (or all entries are set to restricted), remote or ICAP access is not allowed.

To access the ProxyAV appliance for remote administrative access, set your browser to use a proxy for HTTP or HTTPS connections. Enter the URL: `http://interface_IP:port` OR `https://interface_IP:port`. For example, `https://10.0.0.2:8082`.

Accessing the ProxyAV Command Line Interface (CLI)

You must use a direct serial port connection to access the ProxyAV CLI.

The ProxyAV supports different levels of command security:

- ❑ Standard, or unprivileged, mode is read-only. You can see but not change system settings and configurations. This is the level you enter when you first access the CLI.
- ❑ Enabled, or privileged, mode is read-write. You can make permanent changes to the ProxyAV configuration.

To access the CLI on your ProxyAV appliance:

1. Configure the terminal or terminal emulation software as follows:
Baud rate: 9600 bps; Data bits: 8; Parity: none; Stop bits: 1; Flow control: none; Emulation: VT100

2. After the system has finished booting, press the computer keyboard <Enter> key three times. The following text displays:

```
Welcome to the Appliance Serial Console
Version: ProxyAV 3.2.4.1, Release id: 42961
----- MENU-----
1) Command Line Interface
2) Setup Console
-----
```

3. Enter **1** to select the Command Line Interface option.

4. Enter the username and password when prompted.
5. At the command prompt, enter **enable**, then enter the enable password that you configured during initial configuration.

```
ProxyAV>enable
Enable Password:
```

You are now in privileged mode.

Generating Keyrings and Certificates for Secure Transactions

SSL is the protocol that provides a secure channel between two appliances across a public network or an internal network. SSL certificates are used to authenticate the identity of a server or a client and facilitate secure communication.

A keyring contains a public/private keypair. It can also contain a certificate signing request or a signed certificate. Keyrings are named, can be created, deleted and viewed.

The ProxyAV appliance provides you with a default SSL keyring and signing certificate upon initial booting of the appliance. You can generate new keyrings and certificates, as required, if you are logged into the ProxyAV appliance Management Console using HTTPS (*not* HTTP). You cannot configure these options if you have logged on using an HTTP connection. For information on enabling HTTPS access, see ["Enabling HTTPS Access"](#) on page 28.

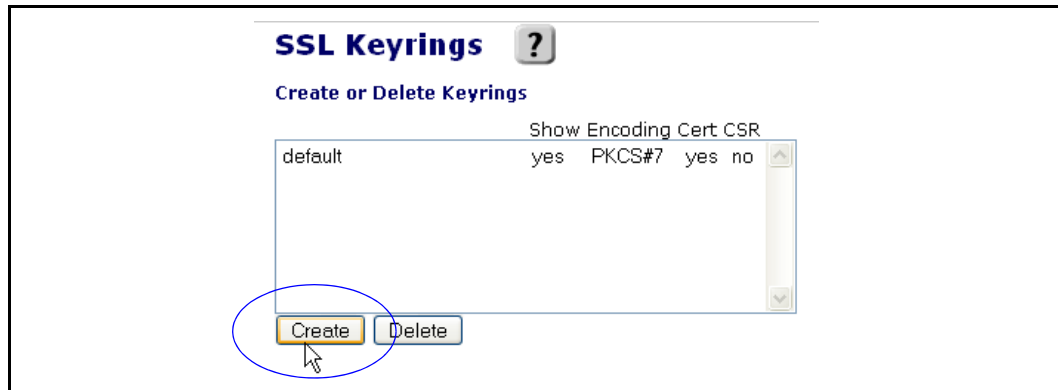
The steps in creating keyrings and certificates on the ProxyAV:

1. Create a keyring. A default keyring is shipped with the system and is used for accessing the Management Console.
2. Create a self-signed certificate and associate it with the keyring. See Or, Import a certificate issued by trusted CA authorities. Recommended for external use over the Internet. To import an SSL certificate, see ["Importing a Server Certificate"](#) on page 40.
3. (Optional) Create Certificate Signing Requests (CSRs) to be sent to Certificate Signing Authorities (CAs).

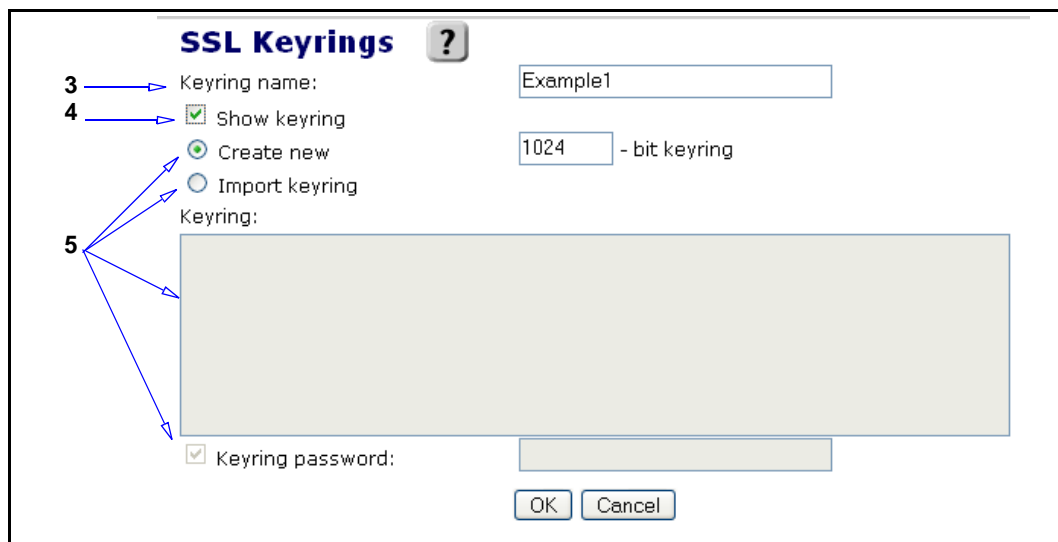
Note: The *Blue Coat ProxySG Appliance Configuration and Management Suite* provides detailed information about SSL, keyrings, and certificates. Refer to that document for conceptual information about these topics.

Generate a new keyring and certificate, and specify the ProxyAV appliance to use them:

1. Select **Advanced > SSL Keyrings**.



2. Click **Create**; a new SSL Keyring page displays.



3. In the **Keyring Name** field, enter a name that identifies this keyring.
4. (Optional) Selecting **Show Keyring** makes the contents of the keyring viewable and exportable.
5. Perform one of the following:
 - Select **Create new** and enter the keyring strength in the **bit keyring** field. A length of 1024 bits is the maximum (and default). Longer keypairs provide better security, but with a slight performance expense on the ProxyAV appliance. Be aware that the maximum key length allowed for international export might be different than the default. For deployments reaching outside of the United States, determine the maximum key length allowed for export. Click **OK**. The keyring, containing a keypair, is created with the name you chose. It does not have a certificate associated with it yet.

- Select **Import keyring**. In the **Keyring** field, paste in an already existing keypair. The certificate associated with this keypair must be imported separately. If the keypair that is being imported has been encrypted with a password, select **Keyring Password** and enter the password into the field. Click **OK**.

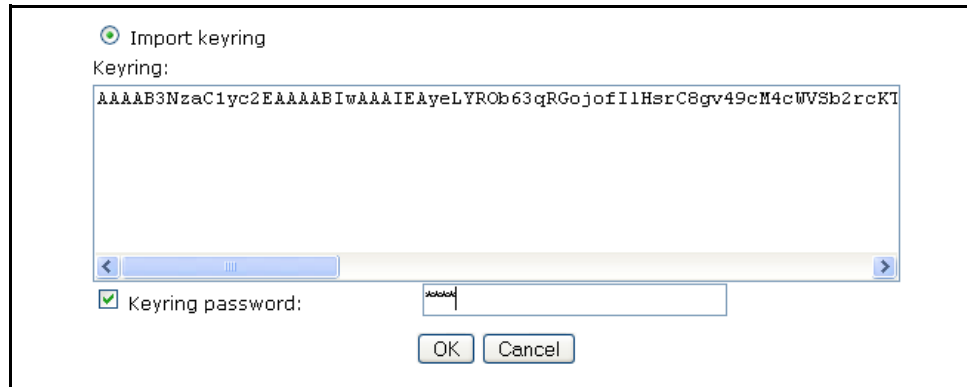


Figure 3-1. Importing a keyring option.

6. Continue with [Creating an SSL Certificate](#).

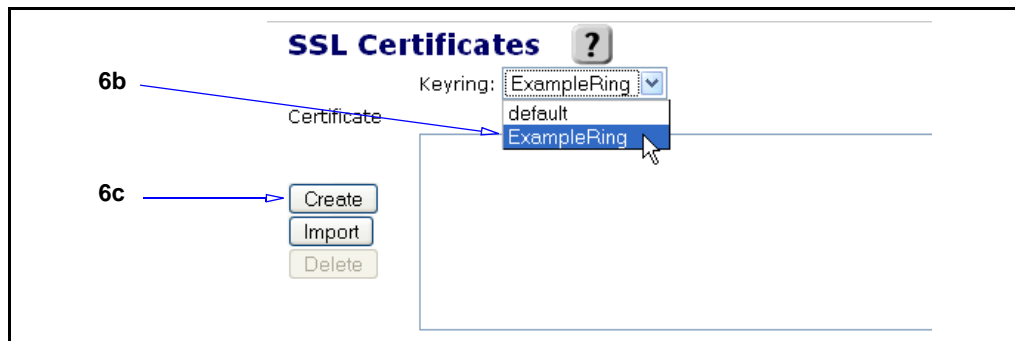
Creating an SSL Certificate

Although the ProxyAV appliance ships with a certificate associated with a default keyring, you can add three kinds of SSL certificates:

- A self-signed certificate
- A certificate signed by a Certificate Authority
- An external certificate

To create a self-signed certificate:

- a. Select **Advanced > SSL Certificates**.



- b. From the **Keyring** drop-down list, select the newly created keyring.
- c. Click **Create**; a new SSL Certificates page displays.

SSL Certificates ?

Create certificate for keyring ExampleRing:

State/Province: CA Country Code: US

City/Location: Sunnyvale, CA

Organization: Blue Coat

Unit: Lab Mgr

Common Name: test.example.com

E-mail Address: lab_mgr@example.com

Not valid after: 2017 May 1

OK Cancel

d. Fill in the fields as appropriate:

- **State/Province**—Enter the state or province where the machine is located.
- **Country Code**—Enter the two-character ISO code of the country.
- **City/Locality**—Enter the city.
- **Organization**—Enter the name of the company.
- **Unit**—Enter the name of the group that will be managing the machine.
- **Common Name**—Contains the URL with which the client accesses that particular server.
- **E-mail Address**—The e-mail address you enter must be 40 characters or less.
- **Not valid after**—From the drop-down lists, select a date after which the certificate is no longer valid.

e. Click **OK**. After the process is complete, this keyring and certificate are available from the **Network** page for HTTPS encryption.

1. Select **Network**.

Management Console Access

☒ Enable HTTP Administration Port 8081 (Default: 8081)

☒ Enable HTTPS Administration Port 8082 (Default: 8082)

Keyring: default

SSL version: default

ExampleRing

Administration and LDAP server Access List

2. Under **Management Console Access**, from the **Keyring** drop-down list, select the newly created keyring. You can also select an SSL version.

3. Click **Save Changes**.

Importing a Server Certificate

Use the following instructions to import a signed server certificate onto the ProxyAV appliance.

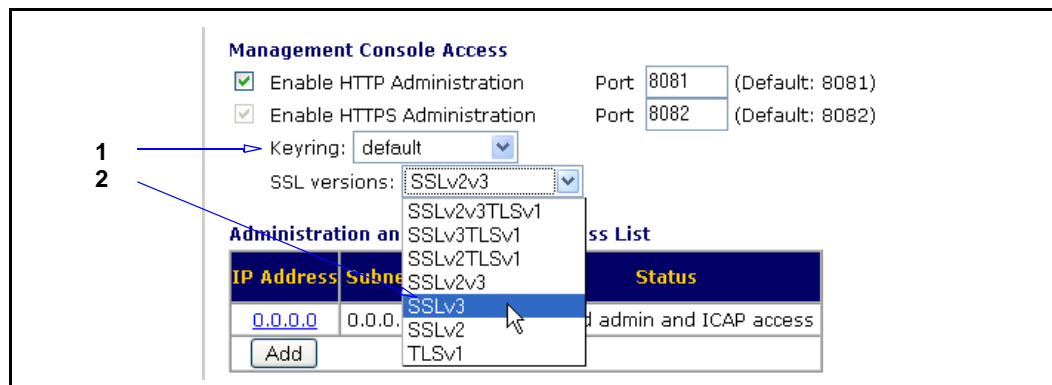
To import a server certificate:

1. Copy the certificate to your clipboard. You must include the `Begin Certificate` and `End Certificate` statements.
2. Select **Advanced > SSL certificates**.
3. Select the keyring for which you want to import a certificate.
4. In the Certificate signing request panel, click **Import**.
5. Paste the certificate you copied into the dialog box. Click **OK**. You can now select this keyring with the associated certificate for HTTPS encryption. For example, you can use this keyring to secure downloads in the **Network** page of the ProxyAV appliance Management Console. See [Securing Downloads to the ProxyAV appliance](#).

Securing Downloads to the ProxyAV appliance

By default, the ProxyAV appliance updates engine and pattern files over an HTTPS connection. The ProxyAV appliance can only connect to a trusted server, which presents a certificate signed by a known CA (**Advanced > CA Certificates**).

To configure the SSL client:



1. From the **Keyring** drop-down list, select a keyring: the default or one that you already created on the **Advanced > Keyring** page.
2. From the **SSL versions** drop-down list, select an SSL version.
3. Click **Save Changes**.

Notes

- ❑ If a SOCKS or HTTP Proxy Server is configured (**Network > Proxy Server for Updates**) it is used for the HTTPS downloads.

- ❑ The custom ProxyAV appliance update location on the **Antivirus > Update** settings page operates independently of this option. You can enter a custom `https://` location URL there, yet not select to enable HTTPS connections here.

Section C: Configuring Network Routing

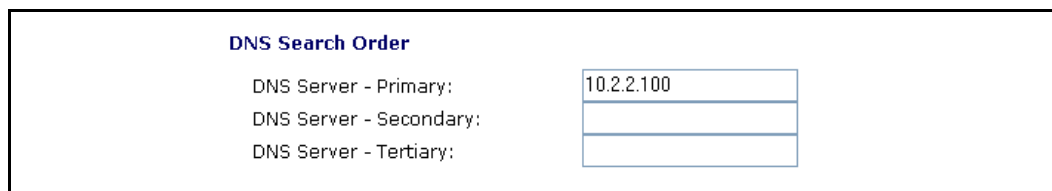
This section describes how to configure network traffic flow.

Specifying the DNS Servers

The ProxyAV appliance allows you to specify up to three default Domain Name Service (DNS) servers. DNS servers are always contacted in the order in which they are listed. The secondary and tertiary servers are not failover servers. The secondary server is contacted only if the primary server does not return a response.

To specify or change the DNS search order:

1. Select **Network**.



The screenshot shows a configuration page titled "DNS Search Order". It contains three labels: "DNS Server - Primary:", "DNS Server - Secondary:", and "DNS Server - Tertiary:". To the right of these labels are three input fields. The first field, corresponding to the Primary server, contains the IP address "10.2.2.100". The other two fields are empty.

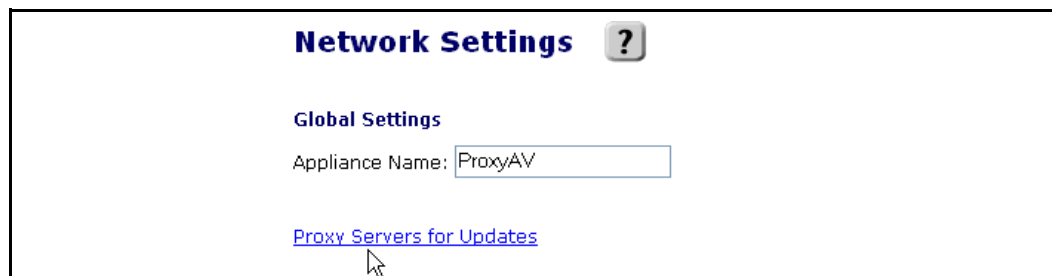
2. Under **DNS Search Order**, specify the IP addresses for the primary, secondary, and tertiary DNS servers.
3. Click **Save Changes**.

Specifying an Upstream Proxy Server

If your deployment requires one or more servers (for redundancy) that proxy to the Internet, they must be identified to allow the ProxyAV appliance to receive pattern-file and scan-engine updates and firmware update information.

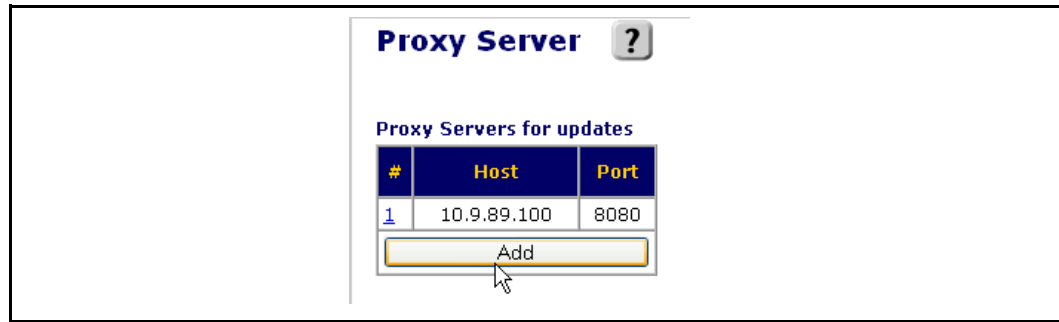
To specify an upstream proxy server for outside access:

1. Select **Network**. The Network Settings page displays.

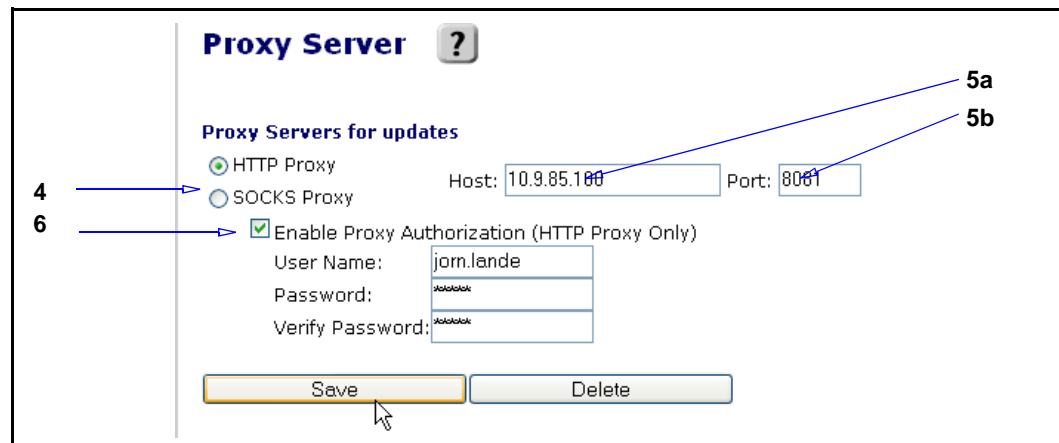


The screenshot shows the "Network Settings" page. At the top, the title "Network Settings" is displayed next to a help icon (a question mark in a circle). Below the title, under the heading "Global Settings", there is a label "Appliance Name:" followed by an input field containing the text "ProxyAV". Further down, there is a blue hyperlink labeled "Proxy Servers for Updates". A mouse cursor is pointing at this link.

2. Click **Proxy Server for Updates** (link). The Proxy Server page displays.



3. Click **Add**. The Proxy Server page displays, which contains fields for adding servers.



4. Select one of the following:
 - **HTTP Proxy:** Proxies this ProxyAV appliance through the defined HTTP proxy server.
 - **SOCKS Proxy:** Proxies this ProxyAV appliance through the defined SOCKS proxy server.
5. Enter server information:
 - a. In the **Host** field, enter the IP address or hostname of the HTTP or SOCKS proxy server.
 - b. In the **Port** field, enter the port number.
6. (Optional; only applies to HTTP Proxy) Select **Enable Proxy Authorization** and define a username and password in the appropriate fields. Re-enter the password for verification.
7. Click **Save**. The server is added to the list.

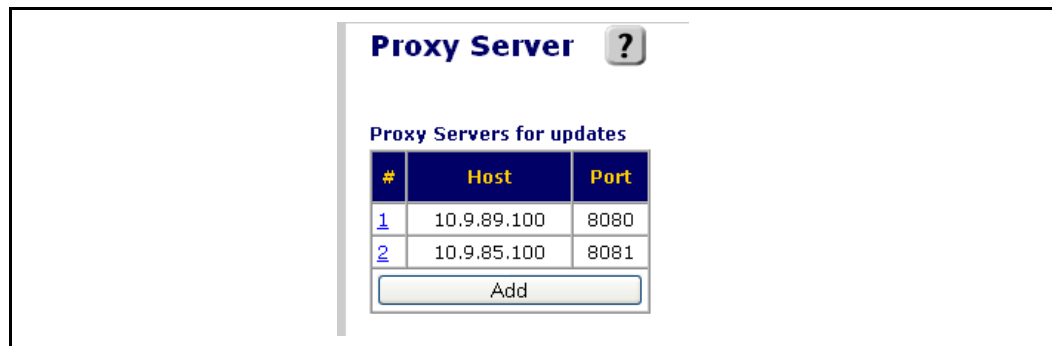


Figure 3–1 A proxy server added to the upstream proxy list.

8. Repeat the procedure to add more servers, if required.

Note: To edit server information or delete an upstream server from the list, click the number link of the server to return to the Proxy Server page. Edit the information or click **Delete**, as required.

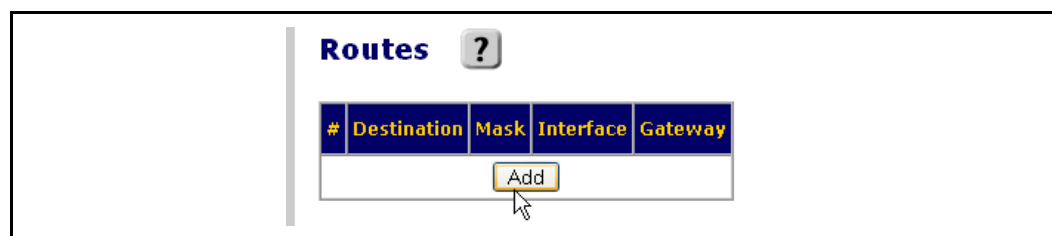
Adding Routes

You can add additional routes for deployments where the ProxyAV appliance default route is not sufficient. A typical requirement for this is when the SMTP or DNS servers to be used by the ProxyAV appliance are located on an internal network.

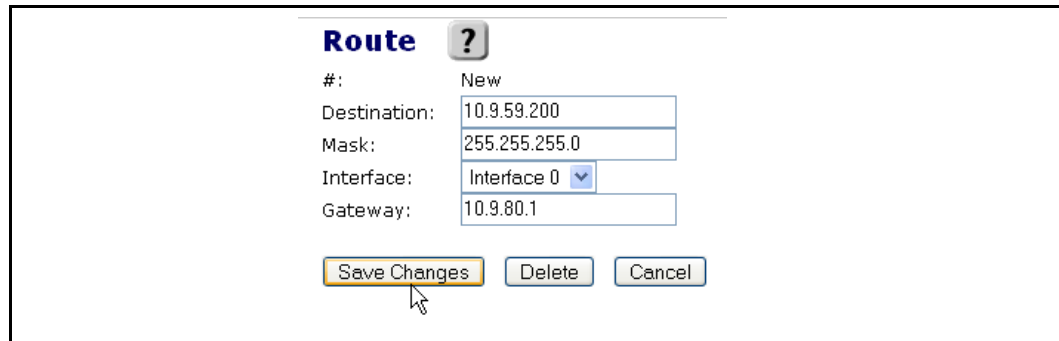
Added routes do not affect traffic that passes through the ProxyAV appliance; they are only used for connections where the ProxyAV appliance is the client. These include updates of pattern and engine files, searching for updates to ProxyAV appliance firmware, and sending alerts.

To add a route to the table:

1. Select **Advanced > Route Table**.



2. Click **Add**. The Routes entry page displays.



3. In the **Destination** field, enter an IP address to be used in routing.
4. In the **Mask** field, enter a subnet.
5. From the **Interface** drop-down list, select the ProxyAV appliance interface for this connection.
6. In the **Gateway** field, enter a gateway address.
7. Click **Save Changes**.
8. Repeat as required.

Adding Address Resolution Protocols

Address Resolution Protocol (ARP) is used to associate a layer 3 address (IP address) with a layer 2 address (MAC address). While an appliance can have any number of layer 3 addresses, it can only have one layer 2 address for an interface. An ARP table maintains a mapping of an IP address and its MAC address, and can contain dynamic and static ARPs.

While dynamic ARP entries are automatically added to the ARP table through the discovery process of the ARP protocol; a static ARP entry, is manually added to the associate the Ethernet MAC address and the IP address of an interface.

Certain firewall configurations, for example, require the use of a static forwarding table. If your network uses failover configurations with virtual IP (VIP) addresses and virtual MAC (VMAC) addresses, you might need to create a static forwarding table that defines the next hop gateway. When a client sends an ARP request to the firewall VIP, the firewall replies with a VMAC (which can be an Ethernet multicast address). However, when the firewall sends a packet, it uses a physical MAC address for the next hop gateway, not the VMAC, which is provided by the static forwarding table.

The following instructions allow you to add static ARPs or clear the dynamic and static ARPs in the ARP table.

To add an ARP value to the table:

1. Select **Advanced > ARP Table**.

IP	MAC	Interface	Flags
10.9.90.1	00:05:5E:15:EC:22	Interface 0	

Clear Arp Table Clear Arp Table (incl. Static)

10.9.92.3 00 : 06 : 4D : 12 : EC : 20 Interface 0 Add

2. At the bottom of the table, enter an IP address in the first field.
3. Enter a MAC address.
4. From the drop-down list, select an interface.
5. Click **Add**.

To clear the ARP table:

1. Click **Clear Arp Table**. This clears all the entries, both static and dynamic ARPs, in the ARP table.

Specifying Link Speed

By default, the ProxyAV appliance automatically detects the link settings. The following procedure allows you to change it.

To specify the link speed:

1. Select **Advanced > Ethernet Adapter Media Type**.

The **Current Media State** field displays the current configuration for the interface. If a cable is not connected, this is stated.

Interface: Current Media State:

Interface 0 100 Mbit/Full 100 Mbit/Full duplex

Interface 1 Auto Cable disconnected

Save Changes

2. For each connected interface, select an option from the drop-down list. The options are: Auto, 10 Mbit/Half, 10 Mbit/Full, 100 Mbit/Half, or 100 Mbit/Full.

Note: The AV810, AV1200, AV1400, and the AV2400 appliances must be set to **Auto** to autosense Gbit Ethernet.

3. Click **Save Changes**.

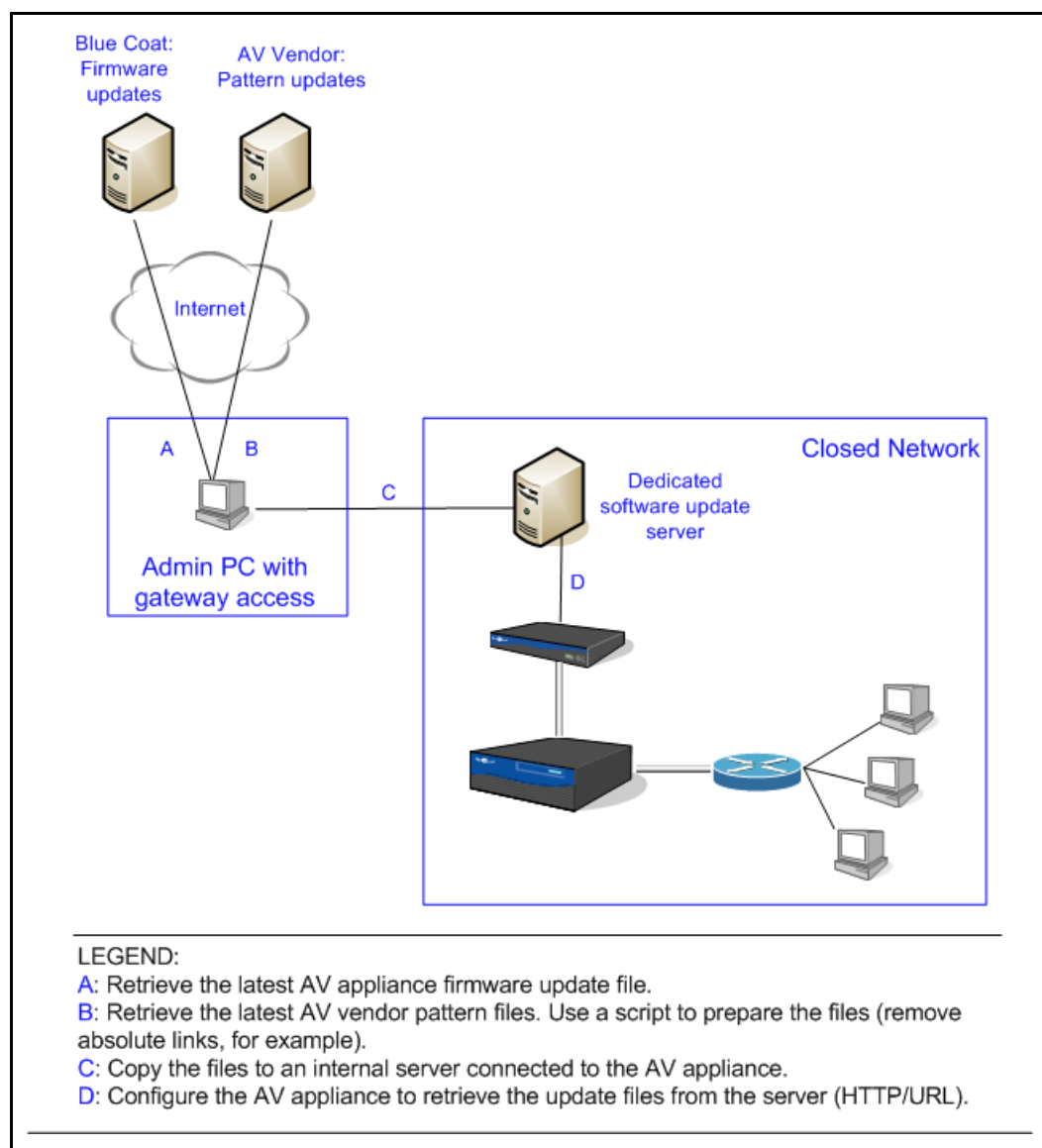
Note: The Ethernet media link speed feature contains a fail-safe so that users do not accidentally lock themselves out of the Management Console by entering an incompatible duplex setting. After selecting a speed/duplex setting and clicking Save Changes, the page refreshes and a new button appears: Confirm Media Type Changes. If you do not click this button, the ProxyAV appliance reverts to the previous setting after two minutes.

Section D: Configuring Closed Network Setup

This section describes how to configure the ProxyAV appliance in a closed network environment.

About the Closed Network Topography

A closed network is a network deployment where the ProxyAV appliance does not have direct access to the Internet. In such a deployment, for heightened security reasons, you must manually retrieve and transfer the antivirus pattern file updates and ProxyAV appliance firmware updates to an internal server and then install the updates on the ProxyAV appliance.



Workflow for Configuring a ProxyAV Appliance in a Closed Network

Use the instructions below to set up the ProxyAV appliance in a closed network deployment:

- ❑ Provide the ProxyAV appliance direct Internet access and complete the tasks below:
 - Update the firmware to the latest 3.x version. This task must be completed if the ProxyAV appliance was upgraded to v3.2 from a previous version. See ["Updating the ProxyAV appliance OS Version"](#) on page 88.
 - Register the ProxyAV appliance through the Blue Coat License Portal. See ["Retrieving an Antivirus License Using the Blue Coat Licensing Portal"](#) on page 14.
- ❑ Download the antivirus pattern update file to an internal server. See [Downloading the Antivirus Pattern File to an Internal Server](#).
- ❑ Deploy the ProxyAV appliance in the closed network. See [Configuring the Closed Network Options](#) on the ProxyAV appliance.

Downloading the Antivirus Pattern File to an Internal Server

All AV vendors provide pattern files that include definitions for identified viruses and malware. As new viruses are discovered every month, a pattern file update provides definitions for the most recent threats. The effectiveness of your scanning engine depends on these pattern file updates. Blue Coat strongly encourages you to regularly update your pattern files to ensure that you are getting the best virus protection available.

In a closed network you must download the update Descriptor file and the .zip file that includes the updates for the pattern file signature required by the AV scan engine. The update descriptor file includes a pointer to the contents of the .zip file and allows the ProxyAV appliance to access and avail of the latest updates.

To download the pattern file signature updates in a closed network:

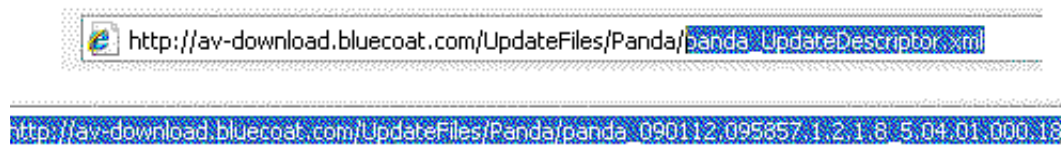
1. On a workstation with internet access, point your web browser to the location of the Blue Coat pattern file update server for your AV vendor. Make sure to use the syntax provided below, because the URL is case sensitive.

AV Vendor	Location
McAfee	http://av-download.bluecoat.com/UpdateFiles/McAfee/mcafeeV2_UpdateDescriptor.xml
Panda	http://av-download.bluecoat.com/UpdateFiles/Panda/panda_UpdateDescriptor.xml
Sophos	http://av-download.bluecoat.com/UpdateFiles/Sophos/sophos_UpdateDescriptor.xml
TrendMicro	http://av-download.bluecoat.com/UpdateFiles/TrendMicro/TrendMicro_UpdateDescriptor.xml

Note: For obtaining pattern updates for the Kaspersky AV engine, you must have direct access to the Internet.

2. Save the XML code in the update descriptor file on a local Web server.
 - a. Right click in the white space of the web browser and select view source.
 - b. On the source page, select file and click save. Save this file with the same name as in the URL, for example, `panda_UpdateDescriptor.xml`.
3. Download and save the pattern update signature files. Save these files on the same Web server on which you saved the update descriptor file.
 - a. View the contents of the update descriptor XML file.
 - b. Highlight the .zip filename in the PACKAGE LOCATION field. Here is an example-

```
<PACKAGE>
<LOCATION><![CDATA[panda_091006.080811.1.4.3.4_5.04.03.0000.184
9858.zip]]></LOCATION>
```
 - c. Replace the XML filename in the Web browser address bar with the .zip filename that you copied in the previous step and press enter. The contents of the .zip file will download.



- d. Save the the contents of the .zip file.

Configuring the Closed Network Options

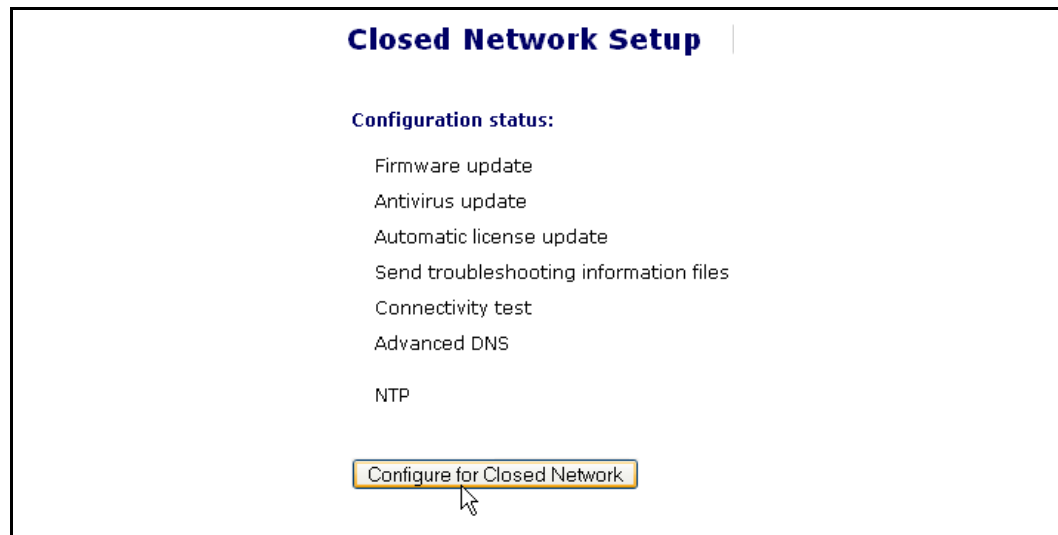
You must invoke the closed network status on the ProxyAV appliance so that the appliance will not attempt to communicate over the Internet. You must specify the network parameters with the closed network values: IP address, gateway address, DNS server, and access lists. In addition, you must instruct the ProxyAV appliance to obtain the pattern file updates from an internal Web server where you manually host the latest pattern update signature files.

To configure the closed network options:

1. Verify that your entries in the network configuration fields correspond to your closed network deployment:
 - Gateway address (**Network** page)
 - IP addresses for both interfaces (**Network** page)
 - DNS server addresses (**Network** page)
 - Admin, ICAP, and SNMP access lists (**Network** page)

- (Optional) NTP servers (**Advanced > Date/Time Settings > Network Time Protocol** page)

2. Select **Advanced > Closed Network Setup**.



3. Click **Configure for Closed Network**. With the exception of **Firmware update**, **Antivirus update**, and **NTP**, all of the settings that require Internet access display as **Disabled**.
4. Specify the location of the Webserver from which to retrieve pattern file updates:



- a. On the **Antivirus** update line, click **set URL**. The Update Setting page displays.

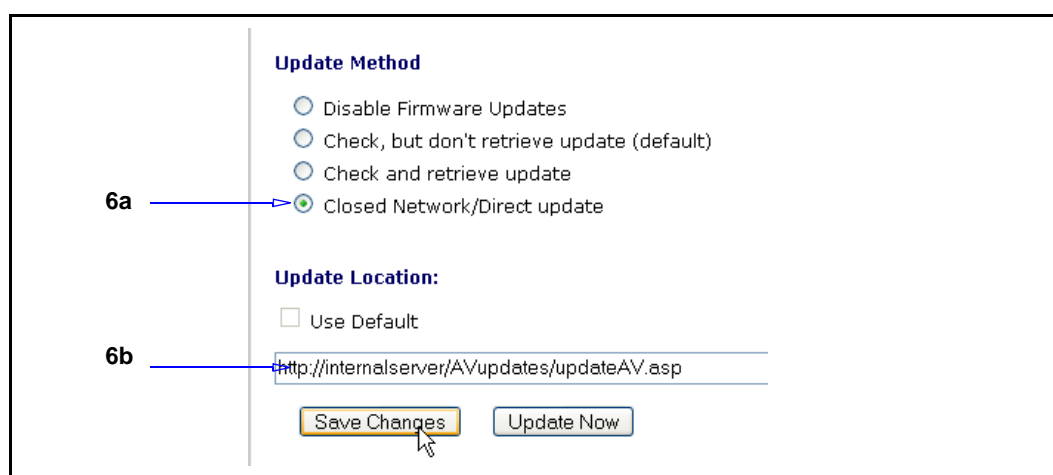


- b. Specify the **Update frequency** as 1 minute, to assure that the most current pattern files are employed.
- c. Select **Custom** and enter the path to the .zip file on the internal Web server.
- d. Click **Save Changes**.
- e. From the **AntiVirus Settings** link, click **Force Update**. This forces an immediate update of the pattern update file.

Antivirus Settings ?

Vendor	Scan Engine Version	Pattern File Version	Days Remaining	Action
Panda Software	1.2.1.8_5.04.01.0000	#: 3 Number of virus definitions: 505172 Timestamp: 2007-06-01 15:13:47	34	<input type="button" value="Update"/> <input checked="" type="checkbox"/> Force update

- f. Select **Firmware Update**.



5. Specify where to retrieve AVOS version (firmware) updates:
 - a. Select **Closed Network/Direct update**.

- b. Enter the path to the AVOS update file on the internal Web server.
- c. Click **Save Changes**.

Exiting Closed Network Status

To exit Closed Network status, you must manually set each feature on its respective Management Console page and click **Save Changes**.

Section E: Configuring SNMP

Simple Network Management Protocol (SNMP) is used in network management systems to monitor network devices for conditions that require administrative attention. SNMP information allows for integration with network management tools. MIB II and AV MIB are supported, and SNMPv2 and SNMPv3 are both supported.

Prerequisite: To allow SNMP access for SNMP clients in your network, see ["Configuring Client Access"](#) on page 33.

To configure SNMP options:

1. Select **Advanced > SNMP**. The SNMP page displays.
2. In the **sysLocation** field, enter a string that describes the physical location of the system. For example: **1stFloorLab**.
3. In the **sysContact** field, enter a string that describes the contact person responsible for maintaining this appliance. For example: **LabTechNigel**.
4. Specify the Trap Community in the **Trap Community** field, and enter it again in the **Verify Trap Community** field.
5. Select an interface from the **Interface for SNMP** drop-down list.
6. In the **Send Traps To** fields, enter up to three IP addresses that receive the traps.
7. Select **Enable Authorization Traps** to allow the ProxyAV to send traps when SNMP authentication failures occur.
8. Select SNMPv2 or SNMPv3:
 - a. For SNMPv2: Enter the read community name and verification.
 - b. For SNMPv3: Specify the settings for a read-only user.
9. Click **Save Changes**.

Downloading MIB Files

A Management Information Base (MIB) is a document (written in the ASN.1 data description language) that contains descriptions of managed objects. SNMP uses a specified set of commands and queries, and the MIBs contain information about these commands and the target objects. The MIBs for ProxyAV appliance are provided by Blue Coat in a zip file you can download.

To download the MIB files:

Click **Download MIBs here**. The Opening AV_MIBs.zip dialog displays.

- To open the zip file, click **Open**.
- To save the zip file to your hard drive, select **Save** and navigate to the location on your hard drive to save the file.

Note: Depending on your Web browser, the procedure to open or save the zip file might vary slightly.

Chapter 4: Configuring Antivirus Scanning

This chapter provides basic antivirus (AV) information and describes how to integrate and configure the ProxySG and ProxyAV virus protection solution.

This chapter contains the following sections:

- ❑ [Section A: "Introduction to Antivirus Protection"](#) on page 56—Provides basic AV information and terms.
- ❑ [Section B: "Managing Antivirus Subscriptions"](#) on page 58—Describes how to assign your AV vendor and specify pattern file and scan engine update behavior.
- ❑ [Section C: "Configuring the ProxyAV for Content Scanning"](#) on page 65—Describes how to configure the ProxyAV ICAP Server service used by the ProxySG.
- ❑ [Section D: "Configuring Antivirus Parameters"](#) on page 67—Describes how to configure ProxyAV scanning behavior.
- ❑ [Section E: "Enabling and Configuring Alerts"](#) on page 78—Describes how to configure the ProxyAV to send alert messages.

Section A: Introduction to Antivirus Protection

Section A: Introduction to Antivirus Protection

This section provides basic information and terminology concerning antivirus (AV) scanning. For a discussion about deploying the ProxySG/ProxyAV integration, see [Appendix B: "Deploying the ProxyAV"](#).

Introduction

The total Blue Coat ProxyAV capabilities are implemented using ICAP as the communication mechanism between the ProxySG and the ProxyAV. The policy definition for content scanning is fully integrated into the Blue Coat policy framework and defined using either the Blue Coat Visual Policy Manager (VPM) or Blue Coat Content Policy Language (CPL).

Virus-free content is cached for a *scan once, serve many* benefit when scanning cacheable Web objects.

File Terminology

This section provides descriptions of file types as they pertain to AV scanning. Along with the descriptions are configuration tips. Blue Coat recommends understanding these descriptions and tips before configuring your ProxySG/ProxyAV solution.

- ❑ Simple File—A file type that is not an archive or container of other files.
- ❑ Archive File—A file type that contains additional files inside itself. This characteristic can be nested to multiple levels.
- ❑ Compressed File—A simple or archive file can be in compressed or decompressed format. A compressed format reduces the file size from its original size. When decompressed, the file size expands to its original size.
- ❑ Original File Size—The size of the file sent to the ProxyAV from the ProxySG for scanning. This can be an archive or a simple file. If the file is compressed, the real size is not known until it is decompressed.
- ❑ Decompressed File Size—For a simple file, the actual file size after decompressing. Or the total of all files if the original file is an archive file.
- ❑ Maximum Individual File Size—A settings parameter defined by the ProxyAV to regulate the upper limit file size that can be passed to an AV engine. The file size check is applied to the original file size, independent of archive or compressed status. The upper limit for a file size can be negated by the ProxyAV **File Scanning Timeout** option. If the maximum file size is a large value, but the file scanning value is small, the operation can time out before the size limit is reached.
- ❑ File Size Within Archive—It is common for AV engine vendors to have rules for specific decompressed file size limits for individual files in an archive. The AV engine sets the preset value, which is currently set to be equal to the maximum file size, but you can specify the limit on the ProxyAV.

Section A: Introduction to Antivirus Protection

- ❑ **Total Size of All Files Within an Archive**—It is common for AV engine vendors to have specific rules for the total decompressed file size limit for all files in an archive. For Sophos, this is indirectly manageable, and the value is larger than the **Maximum File Size**. More dynamic control before invoking AV vendor calls is planned for a future release.
- ❑ **File Scanning Timeout**—On the ProxyAV, the maximum time allowed for scanning a file; when the timeout value is reached, scanning stops. The time starts when the AV engine receives the file.
- ❑ **Connection Timeout**—On the ProxySG, the time the ProxySG waits for a response from the ProxyAV on an ICAP connection.
- ❑ **Maximum Archive Layers**—The maximum number of archives. For example, if the depth level is 3, the AV engine scans files that are part of a three-embedded zipped file (zipped files in a zipped file in a zip file). Depending on the vendor, the depth is usually in the 16 to 20 range.
- ❑ **File Extension**—The original files can be distinguished by the file extension following the file name. The ProxySG can prevent the passing of a specific file extension to the ProxyAV.
- ❑ **File Extension Within Archive**—It is common for AV engine vendors to have rules for specific file extensions within archives (for example, rules to exclude scanning certain types of file extensions).

Section B: Managing Antivirus Subscriptions

Section B: Managing Antivirus Subscriptions

This section describes how to obtain and manage antivirus vendor engine licenses. Although Blue Coat provides licenses from multiple vendors, you select one vendor for your virus scanning. When your antivirus vendor engine license is about to expire, Blue Coat provides the option to renew it or obtain an engine license from a different antivirus vendor.


Viewing the Current AV Vendor License Status

The ProxyAV appliance is set to check and update the AV license automatically every 30 days, providing that the license you purchased is up-to-date. For example, if you purchased a license that is set to expire soon, you need to contact Blue Coat to purchase a renewal license for that vendor or a license for a different AV vendor.

The ProxyAV appliance automatically alerts when the license is about to expire. The frequency of license expiry notification on the ProxyAV is not configurable. The ProxyAV appliance will automatically send email alerts 30 days prior to expiration, and the 15, 7, 3 and 1 day prior to license expiration.

To view your current AV license and status:

Select **Licensing**. The Licensed Components table displays the name of your AV vendor, the status of your license (active or expired), the expiration date, and number of days remaining until the license expires.

Licensed Components	
Component	Status
 Kaspersky Labs AV scanner	active, will expire on 10/03/2011 (347 days left)

Automatically Renewing an AV Vendor License

If the ProxyAV has direct Internet access, you can automatically apply a renewal for your current AV vendor license. If your ProxyAV does not have direct Internet access, see ["Retrieving a License Key File from the Blue Coat Licensing Portal"](#) on page 59.

To automatically apply an AV vendor license:

1. Call Blue Coat to purchase the license.
2. In the Management Console, Select **Licensing**. The Licensing page displays.
3. Under License Key Automatic Installation, click **Update**.

Section B: Managing Antivirus Subscriptions



The screenshot shows a dialog box titled "License Key Automatic Installation". Inside the dialog, there is a button labeled "Update" followed by the text "license key from Blue Coat". To the right of this text is a checked checkbox labeled "Use Auto-Update".

4. Refresh the page to view the updated license information in the Licensed Components table.
5. Click **Save Changes** to commit your changes to the ProxyAV.

Retrieving a License Key File from the Blue Coat Licensing Portal

If the ProxyAV does not have direct Internet access, you can use a Web browser and the Blue Coat Web Licensing Portal (BCLP) to retrieve a license key file from the BCLP.

To retrieve a license key file from the BCLP:

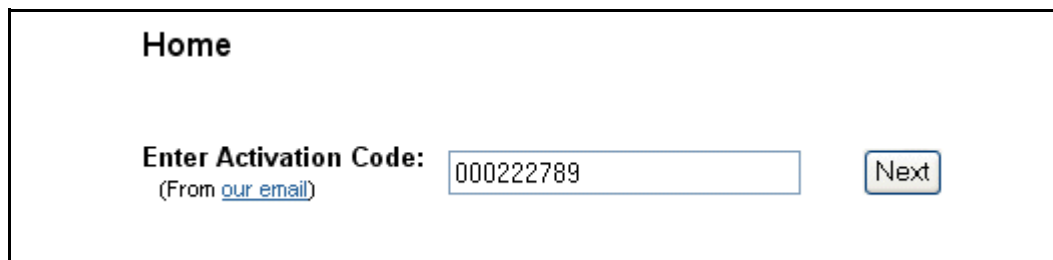
1. In the Management Console, Select **Licensing**. The Licensing page displays.
2. Under License Administration, click **Activate/Manage**. The Blue Coat Licensing Portal displays.
3. Enter your WebPower credentials and click **Login**. If you received an activation code in an e-mail, continue with ["Using an Activation Code"](#) on page 59. If you already working ProxyAV appliances and a subscription number for your antivirus vendor, continue with ["Using a Subscription Number"](#) on page 61.

Using an Activation Code

When you first purchase a ProxyAV appliance and AV vendor license, Blue Coat sends you an e-mail which contains the activation code. After you log in to WebPower, perform the following procedure.

To retrieve a license key file using an activation code:

1. Copy the activation code from the e-mail you received from Blue Coat and paste it into the **Enter Activation Code** field.



The screenshot shows a web form titled "Home". Below the title, there is a label "Enter Activation Code:" with a sub-label "(From [our email](#))". To the right of the label is a text input field containing the value "000222789". To the right of the input field is a button labeled "Next".

2. Click **Next**.

Section B: Managing Antivirus Subscriptions

Retrieve License File

Please enter your hardware serial number

Hardware Serial Number:

3. Enter the hardware serial number into the **Hardware Serial Number** field, and click **Next**. The End User License Agreement (EULA) displays.
4. Accept the EULA, verify the information that displays, and click **Submit**. The Download AV License page displays.

Download AV License

You can obtain your license file below

Hardware Serial Number:	4206100161
Hardware Type:	Blue Coat AV510-A
Antivirus Type:	Software, McAfee AV, 50,000+ USERS - 1 YR.
Antivirus Expiration Date:	2007-07-01
Download:	Download License File
Open:	Open License File in a Browser Window

5. Perform one of the following:
 - a. Click **Download License File**. In the File Download dialog, click **Save** to open the Save As dialog and navigate to the location to save the ProxyAV license file. Then click **Save** to save the file in that location.
 - b. Click **Open License File in a Browser Window**, then copy the contents of the license file and paste it into the **License Key Manual Installation** field on the Licensing page.

License Key Manual Installation

b6DqYY/B72Z/QQ5v6mVpH4SxImxrAYpgUP41ZU1BtYfFAHIoMLodyfpDao5YRg6y/jn43j16iYre
 L/dOHw1FpZ0mOSU3NPAtdwASBJVAEwOPfGZlmy1/uoh4AsVWOkZ0eTktGv+xlN/GIx/h63WzaJ2r
 QgaUjSMefVBCkmvgXeI8P3htbCB2ZXJzaW9uPSIxLjAiIGVuY29kaW5nPSJVVEYtOCI/PgoKICA8
 Qmx1ZWVYXRMaWN1bnN1S2V5PgogICAgPENsaWVudEN1cnRpZmljYXR1Pi0tLS0tQkVHSU4gQ0VS

6. Click **Save Changes** to commit your changes to the ProxyAV. Your AV vendor and status information should now display in the **Licensed Components** table at the top of the Licensing page.

Section B: Managing Antivirus Subscriptions

Using a Subscription Number

If you have active ProxyAV appliances, you can apply your AV vendor subscription number to a new unit by using the BCLP.

To use a subscription number to retrieve a license key file from the BCLP:

1. After you log in to the BCLP, click **Retrieve a License Key File**. The Retrieve License File page displays.

Retrieve License File

Please enter your hardware serial number

Hardware Serial Number:

2. Enter your hardware serial number and click **Submit**. The Download AV License page displays. (Your hardware serial number is available on the ProxyAV Licensing page under General License Information and on the ProxyAV Home page.)

Download AV License

You can obtain your license file below

Hardware Serial Number:	4206100161
Hardware Type:	Blue Coat AV510-A
Antivirus Type:	Software, McAfee AV, 50,000+ USERS - 1 YR.
Antivirus Expiration Date:	2007-07-01
Download:	Download License File
Open:	Open License File in a Browser Window

3. Perform one of the following:
 - a. Click **Download License File**. In the File Download dialog, click **Save** to open the Save As dialog and navigate to the location to save the ProxyAV license file. Then click **Save** to save the file in that location.
 - b. Click **Open License File in a Browser Window**, then copy the contents of the license file and paste it into the **License Key Manual Installation** field on the Licensing page.

Section B: Managing Antivirus Subscriptions

License Key Manual Installation

b6DqYY/B72Z/QQ5v6mVpH4SxImxrAYpgUP4lZU1BtYffAHIoMLodyfpDao5YRg6y/jn43j16iYre
L/dOHw1FpZ0mOSU3NPAtdwASBJVAEwOPfGZlmy1/uch4AsVWOkZ0eTktGv+x1N/Gix/h63WzaJ2r
QgaWjSMefVBCkmvgXeI8P3htbCB2ZXJzaW9uPSIxLjAiIGVuY29kaW5nPSJVVEYtOCI/PgoKICA8
Qmx1ZWVvYXRMaWN1bnN1S2V5PgogICAgPENsaWVudEN1cnRpZmljYXRlPi0tLS0tQkVHSU4gQ0VS

Save Changes

- Click **Save Changes** to commit your changes to the ProxyAV.

Managing AV Pattern Files and Scan Engines

AV vendors constantly update their pattern files and scan engines to provide you with the best protection. The AV engine is the antivirus scanning program. The AV engine uses the pattern files to compare to the scanned live Web content and detect viruses.

The table on the Antivirus page in the Management Console provides the status of the AV engine currently employed by the ProxyAV and provides a way to update the scan engine and pattern files.

To view the Antivirus Settings table:

In the Management Console, select **Antivirus**. The following table displays.

Antivirus Settings ?				
Vendor	Scan Engine Version	Pattern File Version	Days Remaining	Action
Panda Software	1.4.3.4_5.04.03.0000	#: 3 Number of virus definitions: 1273364 Timestamp: 2008-03-03 11:01:33	12	<input type="button" value="Update"/> <input type="checkbox"/> Force update

- Vendor:** Displays the name of your current AV vendor.
- Scan Engine Version:** Displays the current scan engine version.
- Pattern File Version:** Displays the number of the pattern file, the number of virus definitions, and the timestamp at which the version was updated.
- Days Remaining:** Displays the current days remaining for this vendor license before it expires. You can extend this period by updating the license key file.
- Action:** By default, the ProxyAV checks for new engine and pattern file versions once every 30 minutes. To reset this interval, see ["Specifying a Time Interval"](#) on page 63.
 - If you click **Update**, the ProxyAV checks if there are newer versions than the files currently installed. If new versions exist, they are downloaded and installed.

Section B: Managing Antivirus Subscriptions

- Selecting **Force Update** and clicking **Update** forces the ProxyAV to download and install the latest file versions, regardless of the file versions currently residing on the ProxyAV.

Related CLI

The `show licenses` command displays the current licensing state: main and AV vendor serial numbers, AV vendor name, days remaining until subscription expiration, and the grace period during which you can renew your license before it expires.

```
show licenses
  McAfee, Inc. (expired on 08/26/2007, grace period - 3 days left)
  Sophos, Plc. (expired on 08/26/2007, grace period - 3 days left)
  Kaspersky Labs (expired on 08/26/2007, grace period - 3 days left)
```

Specifying a Time Interval

This option allows you to determine how often the ProxyAV contacts a server (internal or external) that provides pattern or engine updates.

To specify a time interval:

1. Select **Antivirus**. The Antivirus Settings page displays.

Vendor	Scan Engine Version	Pattern File Version	Days Remaining	Action
Sophos, Plc.	2.53.1	#: 4.25E Number of virus definitions: 332884 Timestamp: 2008/01/21 17:36:00	26	<input type="button" value="Update"/> <input type="checkbox"/> Force update

[Scanning Behavior](#)

[Update Settings](#)

2. Click the **Update Settings** link. The Update Settings page displays.

Update frequency: min

3. In the **Update Frequency** field, enter a value in minutes (the default is 30).
4. Click **Save Changes**.

Section B: Managing Antivirus Subscriptions

Specifying Pattern File and Engine Update Locations

By default, the ProxyAV checks for updates at the default vendor location. You can specify an alternate location to retrieve pattern file or engine updates, which is required in a deployment where the ProxyAV is not allowed to connect to the Internet for updates.

To specify an alternate location for updates:

1. Select **Antivirus**.
2. Click the **Update Settings** link. The Update Settings page displays.

Update location

☐ Default

☒ Custom

3 →

4 →

3. Under **Update Location**, select **Custom**.
4. In the text field, enter the location of the update information. For example:
`http://www.company.com/AVserver/patterns/`
5. Click **Save Changes**.

Section C: Configuring the ProxyAV for Content Scanning

Section C: Configuring the ProxyAV for Content Scanning

This section describes how to configure the ProxyAV Internet Content Adaptation Protocol (ICAP) Server service for antivirus scanning. You can configure the ICAP service to perform secure ICAP scanning or plain ICAP scanning. Using secure ICAP ensures that no unencrypted HTTPS data can pass between the ProxyAV and the ProxySG.

Configuring the ProxyAV ICAP Service

An ICAP service is a collection of attributes that defines the communication between the ProxySG and the ProxyAV. You must configure an ICAP service on both the ProxyAV and the ProxySG to send HTTP based content to the ProxyAV for content scanning. The service configuration includes the server IP address or hostname, ICAP scanning method, and a host of other options.

When you add a ProxyAV appliance in your network, the ICAP service on the ProxySG appliance detects the optimal number of simultaneous ICAP connections supported by the ProxyAV model deployed in your network. The number of ICAP connection that can be processed are auto-sensed values that efficiently meet the need of most networks, and you cannot modify these values.

The number of simultaneous ICAP connections supported by each model are as follows:

- ❑ ProxyAV210: 25
- ❑ ProxyAV510: 50
- ❑ ProxyAV810, 1200, 1400 and 2400: 100

To configure and use secure ICAP, you must be running SGOS 5.3 or higher with a valid SSL license. You must also configure both the ProxySG and ProxyAV to use secure ICAP in order to use this feature.

To configure the ProxySG for ICAP scanning, see:

- *Configuring Threat Protection in Blue Coat ProxySG Configuration and Management Guide* for SGOS 5.5.x and later.
- *Malicious Content Scanning Services in Blue Coat ProxySG Configuration and Management Guide* for SGOS 5.4.x and earlier.

To configure the ICAP service on the ProxyAV:

1. Select **ICAP Settings**. The ICAP Server Settings page displays. By default, both plain and secure ICAP are enabled.
2. Select **plain**, **secure**, or both plain and secure ICAP.
 - Select **plain** ICAP if your ICAP client (ProxySG) supports only plain ICAP or is configured for plain ICAP.
 - Select **secure** ICAP if your ICAP client (ProxySG) supports and is configured for secure ICAP. You can configure the ProxySG to scan HTTPS on a private network, as well.

Section C: Configuring the ProxyAV for Content Scanning

- Select both **plain** and **secure** ICAP if your ICAP client (ProxySG) supports and is configured for both plain and secure ICAP.
- 3. Set the port(s) to connect to the ICAP server. For plain ICAP, the default port is 1344. For secure ICAP, the default port is 11344.
- 4. If you enabled secure ICAP, select the SSL keyring to use from the **Keyring** drop-down list. To create or import new keyrings, see "[Generating Keyrings and Certificates for Secure Transactions](#)" on page 36.
- 5. In the **Antivirus service name** field, enter the name of the ICAP service performing the scanning.

The name you enter in this field must be appended to the ProxyAV IP address in the ProxySG ICAP Client service. For example, if the interface IP address of this ProxyAV is 10.0.0.2 and you enter **avscan** as the antivirus service name, in the Service URL field of the ProxySG Edit ICAP Service dialog enter: `icap://10.0.0.2/avscan`.

- 6. Click **Save Changes**.

The ProxyAV ICAP Server service is configured to communicate with this ProxyAV. The next section discusses how to configure file-scanning parameters.

Section D: Configuring Antivirus Parameters

Section D: Configuring Antivirus Parameters

This section describes how to configure the ProxyAV virus scanning capabilities.

Determining Which File Types to Scan

As the delivery of viruses and malicious code is ever-evolving, Blue Coat recommends scanning all file types. However, the ProxySG/ProxyAV integrated solution allows you determine which file types are scanned, or more appropriately, not scanned. By default, the ProxySG forwards all file types for scanning, but you can create policy that includes or excludes specific file types.

Blue Coat recommends scanning all file types to attain maximum security against harmful content. The following file types are known to harbor viruses:

```
" " ; ARJ ; BAT ; BIN ; BMP ; BOO ; CAB ; CHM ; CLA ; CLASS ; COM ; CSC ; DAT ; DLL ; DOC ; DOT ; DRV ;  
EML ; EXE ; GIF ; GZ ; HLP ; HTA ; HTM ; HTML ; INI ; JAR ; JPG ; JPEG ; JS ; JSE ; LNK ; LZH ; MDB ; MP  
D ; MPP ; M  
  
PT ; MSG ; MSO ; NWS ; OCX ; OFT ; OVL ; PDF ; PHP ; PIF ; PL ; POT ; PPS ; PPT ; PRC ; RAR ; REG ;  
RTF ; SCR ; SHS ; SYS ; TAR ; TIF ; VBE ; VBS ; VSD ; VSS ; VST ; VXD ; WML ; WSF ; XLA ; XLS ; XL  
T ; XML ; Z ; ZIP ; { * ;
```

At the time of this printing, the following MIME file types are deemed low risk to contain harmful content:

```
audio ; pdf multipart ; x director video
```

Note: Blue Coat recommends scanning image files, but there might be a noticeable performance latency impact.

ProxySG Policies

The policy example in this section is relevant for SGOS 5.4 or earlier versions. To achieve a performance increase, you might opt to instruct the ProxySG to exclude low risk files from scanning.

If your ProxySG is running SGOS 5.5.1 or later, you do not have to create policy manually. Blue Coat provides a built-in threat protection policy with a set of predefined rules. These rules are invoked when you enable malware scanning. By default, the high performance policy is invoked. This policy is designed to ensure network safety while maintaining quick response times for enterprise users. For example, file types that are deemed to be low risk for malware infection, such as certain image types, are not scanned.

CPL Example: Excluding File Types

This policy excludes the Real Media file type from being scanned because it is at very low risk to contain harmful content.

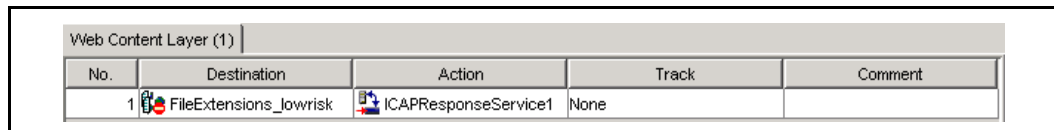
```
define condition FileExtension_lowrisk  
url.extension = rm  
end condition FileExtension_lowrisk
```

Section D: Configuring Antivirus Parameters

```
<Cache>
    condition= ! FileExtension_lowrisk
response.icap_service(icap,fail_closed)
```

VPM Example: Excluding File Types

In the **Destination** column, a **File Extension** object is created, which contains the Real Media file type; the object is then *negated* (notice the symbol):





Web Content Layer (1)				
No.	Destination	Action	Track	Comment
1	 FileExtensions_lowrisk	 ICAPResponseService1	None	

Figure 4-1 A Web Content Layer with a rule to negate the low-risk file extension.

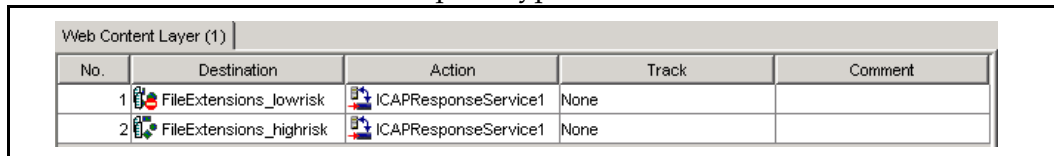
CPL Example: Including File Types

This policy specifies that HTML and Zip file types are to be scanned:

```
define condition FileExtension_highrisk
url.extension=html
url.extension=zip
end condition FileExtension_highrisk
<Cache>
    condition=FileExtension_highrisk
response.icap_service(icap,fail_closed)
```

VPM Example: Including File Types

Another rule is added. In the **Destination** column, a **File Extension** object is created, which contains the HTML and Zip file types:







Web Content Layer (1)				
No.	Destination	Action	Track	Comment
1	 FileExtensions_lowrisk	 ICAPResponseService1	None	
2	 FileExtensions_highrisk	 ICAPResponseService1	None	

Figure 4-2 Subsequent rule with the high-risk file types added.

Applying ProxyAV Policies

This section describes how to apply policies based on file contents (available if you are using the Kaspersky or Sophos AV engine) and policies related to scanning by file extensions for original files and files within archives.

Specifying Apparent Data Types

This feature is only available if you have selected either the Kaspersky or Sophos AV engine. These options allow you to determine what is blocked, scanned, and served unscanned, based on file contents. The ProxyAV is able to identify various file types, including graphics (such as JPG and GIF files), documents, archives, executables, encodings, media, macros, and other file types.

Furthermore, the ProxyAV recognizes all files within an archived or compound Microsoft file. If any individual files in these compound files are specified to be blocked, the entire compound file is blocked. For example, a zip file contains Word files and JPG files. By policy, Word files are allowed, but JPG files are to be blocked. Therefore, the entire zip file is blocked.

To specify apparent data types and policy for each type:

1. Select **Antivirus > Scanning Behavior**. The Scanning Behavior page displays.
2. Click the **Policies for file types** link.

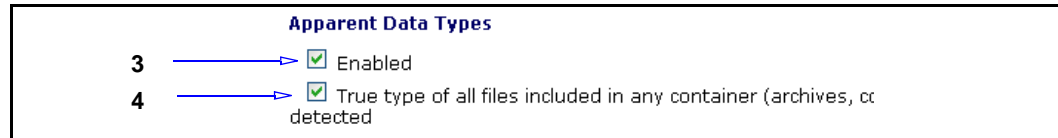


Figure 4-3 Apparent Data Types for Kaspersky

3. Under **Apparent Data Types**, select **Enabled**.
4. (Optional) Depending on whether you are using Kaspersky or Sophos, do one of the following:
 - a. (Kaspersky only) Select **True type of all files included in any container** to enable recognition of individual files in compound files. If this option is enabled, when an unknown file is detected within a container, the unknown policy is applied to the entire container file. If this option is disabled, then unknown files within containers are scanned.
 - b. (Sophos only) Select **Detect weak types** to enable recognition of file types that otherwise might be difficult for the ProxyAV to identify with 100% confidence.
5. Specify policy for each file type:
 - **Don't scan**—The file is served back to the ProxySG without AV scanning occurring.
 - **Block**—No scanning occurs and the ProxyAV returns a response to the ProxySG that the file was blocked (code type: `file_type_blocked`).
 - **Scan**—The ProxyAV scans the object for malicious content and returns the content or modified response to the ProxySG.
6. Click **Save Changes**.

Note: The **Unknown file type** applies to all files not recognizable by the ProxyAV.

File Extensions

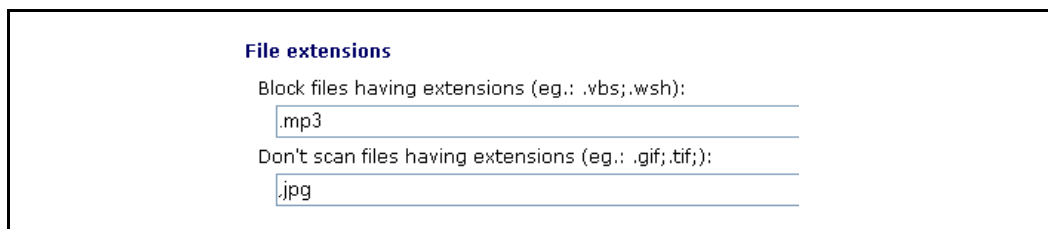
The ProxyAV scans original files and files within an archive. You can specify file types that are blocked—neither scanned, nor served to the client (deny)—or served to the client unscanned (allow). Checks are performed on the original file and files inside an archive.

To prevent overhead on the ProxyAV, you can create policy on the ProxySG to restrict specified file extensions from being sent to the ProxyAV for scanning. For more information, see *Malicious Content Scanning Services* in *Blue Coat ProxySG Configuration and Management Guide*.

Use the following instructions on the ProxyAV Management Console to block or pass through specific file types.

To specify blocked or passed-through file types:

1. Select **Antivirus > Scanning Behavior**. The Scanning Behavior page displays.
2. Click the **Policies for file types** link.



File extensions

Block files having extensions (eg.: .vbs;.wsh):

Don't scan files having extensions (eg.: .gif;.tif;):

3. Under **File Extensions**, enter file types as appropriate:
 - **Block files having extensions**—Any file types with these extensions are blocked and not served to the client.
 - **Don't scan files having extensions**—Any file types with these extensions are passed through unscanned to the client. If you enable this option, consider the Blue Coat advisory that viruses and other malicious code can be embedded in many file types, including image formats.
4. Click **Save Changes**.

Configuring Scanning Behavior

The scanning behavior features allow you to define the parameters and actions the ProxyAV follows when performing AV scans.

About the Heuristic Parameters

Heuristic is enabled by default on the ProxyAV appliance. This option allows the appliance to learn about traffic patterns on your network and adjusts accordingly to increase performance. After an initial learning period, the ProxyAV appliance should be able to accelerate about 15% to 30% of the network's traffic. The learning process restarts whenever a new virus pattern file or an updated scanning engine is downloaded.

Enabling Heuristics on the Kaspersky Engine

The Kaspersky AV engine provides you with the ability to catch potential viruses for which pattern signatures might be unavailable. This feature is enabled by default on the AV1200, AV1400, and the AV2400 models and disabled on the AV210, AV510, and the AV810 models.

Because the Kaspersky antivirus engine heuristics requires additional system resources, Blue Coat recommends that you verify that CPU usage is within the normal operating range for the appliance before enabling heuristics on the AV210, AV510 and the AV810.

To verify CPU utilization on the appliance:

1. Select **Advanced > On Board Diagnostics**. The onboard diagnostics page displays.
2. Verify that the **Current State** for CPU utilization is **OK**.

Note: Do not enable Kaspersky heuristics if the current CPU utilization is in a **Warning** or **Critical** state.

To enable Kaspersky AntiVirus Engine Heuristics:

1. Select **Antivirus**.
2. Click the **Scanning Behavior** link; the Scanning Behavior page displays.
3. Under **Extended options**, enable the Anti-virus engine heuristic option.
4. Click **Save Changes**.

Disabling Heuristics

To disable the heuristic parameters:

1. Select **Antivirus**.
2. Click the **Scanning Behavior** link; the Scanning Behavior page displays.
3. Under **Heuristic parameters**, clear the **Enabled** checkbox.
4. Click **Save Changes**.

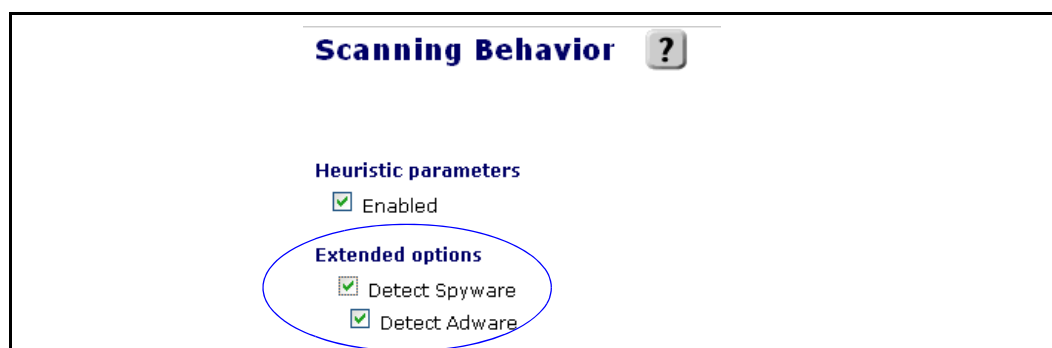
Recognizing Spyware

To identify malware, the ProxyAV appliance uses the selected vendor's extended database, which includes virus signatures and spyware signatures. The ICAP protocol cannot differentiate between a virus and spyware; both are regarded as a virus.

- ❑ If spyware detection is enabled, scanning stops at the first detection of a virus or spyware.
- ❑ If spyware detection is not enabled, scanning only stops when a virus is detected (but not spyware).
- ❑ In reports, such as access logs or exceptions, the virus names for spyware and adware vary, depending on the AV vendor. For example, Kaspersky uses not-a-virus:
 - not-a-virus:AdWare.Xupiter.o
 - not-a-virus:Dialer.Win32.PlayGames.g
 - not-a-virus:Downloader.Win32.Agent.b

To enable spyware detection on your AV engine:

1. Select **Antivirus**.
2. Click the **Scanning Behavior** link. The Scanning Behavior page displays.



3. Under **Extended options**, make a selection based on the options available on your AV engine:

Table 4–1 Extended options available on the ProxyAV appliance by vendor

Vendor	Available Options	Default setting
Kaspersky	Detect Spyware/Detect Adware	Enabled by default. It can be disabled, but it cannot be enabled without selecting Detect Spyware .
	Enable Anti-virus engine heuristic	Enabled on the AV1200, AV1400 and AV2400 hardware platforms and disabled on all other platforms. Before enabling this option, see "Enabling Heuristics on the Kaspersky Engine" on page 70.
Trend Micro	Detect Adware	Disabled
	Detect Spyware	Disabled
Sophos	Detect Spyware/Detect Adware	The Sophos AV engine detects both viruses and spyware. If you enable Sophos, the spyware/adware options are selected and cannot be disabled.
McAfee	Detect Potentially Unwanted Programs	Enabled
Panda	Detect Spyware	Enabled

4. Click **Save Changes**.

Specifying the Level of Macro Detection

This setting is used for generic macro virus detection. Lower levels employ stricter rules for virus detection. Thus, if the higher level is used for generic macro virus detecting, there are more chances to detect a generic macro virus; however, it also increases the possibility of a false alarm.

This feature might be able to catch a virus or malicious code before to it is officially identified as such.

To specify the level of macro detection:

1. From the Management Console, select **Antivirus**.
2. Click the **Scanning Behavior** link; the Scanning Behavior page is displayed.
3. Under **Level Of Macro Detection**, select **Low**, **Medium**, **High**, or **Highest**. The Blue Coat-recommended level of Medium is the default.
4. Click **Save Changes**.

Specifying the Antivirus File Scanning Timeout Value

Specifying timeout values allow you to conserve the resources required to perform AV scanning.

There are two ICAP Timeout values: a ProxySG Connection Timeout and a ProxyAV File Scanning Timeout.

- ❑ The ProxySG Connection Timeout is the duration the ProxySG waits for a response from the ProxyAV after it completes sending the data to the ProxyAV. When the timeout interval is reached, the ProxySG closes the connection with ProxyAV. The default value for the ProxySG Connection Timeout is 70 seconds. This setting protects against TCP connection issues.
- ❑ The ProxyAV File Scanning Timeout is the maximum time allowed to scan a file. When the timeout value is reached, the ProxyAV stops scanning the file and sends the ProxySG a 500 - ICAP Communication error. It also logs the reason for the file scanning failure in the AlertsLogFile.log file. This value is specified on the **Antivirus > Scanning Behavior** page.

Additionally, you can specify whether to block or pass through a file upon scanning timeout by selecting **Timeout under Block file if an error occurs during antivirus scan**. See "Specifying an Action Upon Content Scan Error" on page 75.

Note: Some files, while not viruses themselves, are designed to disable a virus scanner. While these files cannot disable a ProxyAV, they can use up system resources and slow down overall throughput. Defining a timeout value allows the ProxyAV to reclaim those resources.

To specify a timeout value:

1. From the Management Console, select **Antivirus**.
2. Click the **Scanning Behavior** link; the Scanning Behavior page displays.

<p>File scanning timeout</p> <p>Limit: <input type="text" value="800"/> sec</p>
--

3. Under **Files scanning Timeout**, enter the amount of time (in seconds) the ProxyAV is to scan a file. The default is 800 seconds; the minimum is ten seconds; the maximum is 3600 seconds (60 minutes).
4. Click **Save Changes**.

Specifying the Limits of Scannable Files

You can impose limits on the file sizes and numbers allowed to be scanned.

- ❑ Maximum individual file size—An individual file size cannot exceed the specified size (MB). This limitation also applies to each file within an archive. Depending on RAM and disk size of different ProxyAV platforms, the Maximum Individual File size that can be scanned is as follows:
 - ProxyAV 210 and AV510: 768 MB
 - ProxyAV 810, AV1200, AV1400 and AV2400: 2GB
- ❑ Maximum total uncompressed size—An uncompressed file or archive cannot exceed the specified size (MB). The maximum is:
 - ProxyAV 210 and AV510: 3000 MB
 - ProxyAV 810, AV1200, AV1400 and AV2400: 4GB
- ❑ Maximum total number of files in archive—An archive cannot contain more than the specified number of files. The maximum is 100,000.
- ❑ Maximum archive layers—An archive cannot contain more than the specified number of layers. The maximum is:
 - Panda: 30
 - McAfee: 300
 - Trend Micro: 20;
 - All others: 100

If any of these options are exceeded, the object is not scanned.

Loggable Errors

In addition to the ProxySG logging capabilities (the `X-Error-details` and `X-Virus-Details` ICAP header fields are sent from the ProxyAV to the ProxySG for logging and exception page capabilities), the ProxyAV logs all file-scanning errors in a file, which is accessible from the **Log File** screen (See [Chapter 5: "Logging"](#)).

An alert is sent or logged when triggered by any of the policy options listed on the **Antivirus > Scanning Behavior** page.

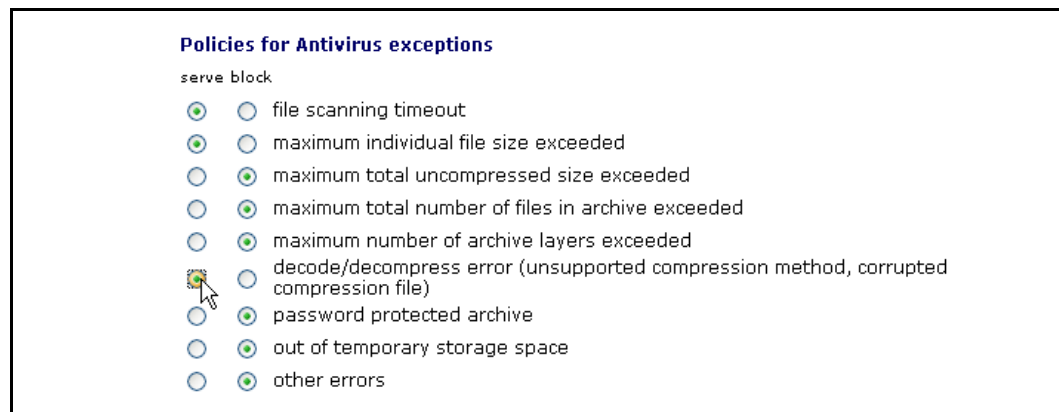
Specifying an Action Upon Content Scan Error

If the ProxyAV experiences an error, or *exception*, during a content scan of a file, scanning immediately stops. If the file has several potential exceptions, the first error encountered is the one of record.

You can specify what action the ProxyAV takes when a timeout or other error occurs during a content scan. The default selection is blocked. If a **serve** option is selected, the file undergoing scanning when the error occurs is passed on to the client, unscanned.

To specify an action upon a content scan error:

1. Select **Antivirus**.
2. Click the **Scanning Behavior** link; the Scanning Behavior page displays.



3. Under **Policies For Antivirus Exceptions**, select **Serve** or **Block** for:
 - **File scanning timeout**—The time required to scan the file exceeds the specified or appliance limit.
 - **Maximum individual size exceeded**—A file size exceeds the specified or maximum appliance limit.
 - **Maximum total uncompressed size exceeded**—An uncompressed file size exceeds the specified or maximum appliance limit.
 - **Maximum total number of files in archive exceeded**—An archive contains more files than the specified or maximum appliance limit.
 - **Maximum archive layers exceeded**—An archive contains more archive layers than the specified or maximum appliance limit. This option is only supported by AnhLab, Kaspersky, and McAfee. Sophos generates an antivirus engine error, which is categorized by the **Other errors** policy option.
 - **Decode/decompress (unsupported compression method, corrupted compression file)**—An error occurred during decoding or during decompression of a compressed file. For example, a corrupted file or a method used to decompress the file is unsupported. (Does not apply to Panda.)
 - **Password protected compressed file**—A compressed file that requires a password to access. (Does not apply to Panda.)
 - **Out of temporary storage space**—The ProxyAV buffer capacity for files to be scanned is full.

- **Other errors**—Any miscellaneous error that causes irregular behavior.

4. Click **Save Changes**.

Configuring Intelligent Connection Traffic Monitoring

Intelligent Connection Traffic Monitoring (ICTM) allows the ProxyAV to drop download connections that are taking longer than a normal time frame to complete. This keeps resources available to download other objects. These *slow* downloads might be suspected infinite stream connections, such as a stock ticker. As this type of download never ends, excessive ProxySG and ProxyAV resources are consumed.

When ICTM is enabled, the ProxyAV checks for slow downloads. If the specified warning threshold is reached, the ProxyAV notifies the administrator of the dropped URLs (through an e-mail or SNMP trap, if the option is selected), which allows for the creation of ProxySG policy to ignore these URLs. If the critical threshold is reached, the ProxyAV terminates the oldest, slowest connections so that the level below the threshold is maintained.

To configure ICTM:

1. From the Management Console, select **Intelligent Connection Traffic Monitoring (ICTM)**.

Intelligent Connection Traffic Monitoring ?

2 → ☒ Enable Intelligent Connection Traffic Monitoring (ICTM)

3 → ICAP connections are considered "slow" when the download time exceeds seconds. (min. 30 seconds.)

4a → Log a warning when more than connections are "slow" (0 - to disable)

4b → ☒ Send an alert when warning level is reached

4c → Repeat warning alert every minutes (0 - to disable)

5a → Drop older "slow" connections when more than connections are "slow" (0 - to disable)

5b → ☒ Send an alert any time connections are dropped

2. Select **Enable Intelligent Connection Traffic Monitoring (ICTM)**.
3. Enter the number of seconds a connection lasts before it is determined to be a slow download. The minimum is 30 seconds. Blue Coat recommends the default of 60 seconds. The larger the value, the more resources are wasted on suspected infinite stream URLs. Conversely, lower values might tag the downloads of large objects as slow, thus targeting them for termination before the download is complete.

4. Specify warning threshold parameters:
 - a. Enter how many allowed concurrent connections that exceed the duration specified in Step 2 before a warning message is sent. The allowed maximum is the maximum number of ICAP connections allowed by the ProxyAV platform. See the "[Default Threshold Calculations](#)" on page 77 for how default values are calculated.
 - b. By default, an e-mail warning is sent if this threshold is reached. The e-mail is sent to recipients specified on the **Alerts > Alerts Settings** page. If you clear this option, no warning is sent and nothing is logged in the AlertLog file.
 - c. Enter the interval, in minutes, that the Blue Coat ProxyAV repeats the warning messages if the threshold remains breached. Enter zero (0) to disable this option.
5. Specify critical threshold parameters:
 - a. If the number of concurrent slow connections reaches this threshold, the ProxyAV drops enough of these connections (beginning with the oldest connections) to maintain a level below the critical threshold. Oldest connections are dropped first. This value must be larger than the warning threshold (Step 4).
 - b. Just as for the warning threshold (Step 4b), you can select to send an alert to administrators for each connection that is dropped. See "[Default Threshold Calculations](#)" on page 77 for how default values are calculated.
6. Click **Save Changes**.

Default Threshold Calculations

The ProxyAV employs the following default threshold settings:

- ❑ Warning threshold ([Step 4](#) on page 77): 70% of the recommended maximum ICAP connections.
 - ProxyAV 210: 17
 - ProxyAV 510: 35
 - ProxyAV 810, 1200, 1400 and 2400: 70
- ❑ Critical threshold ([Step 5](#) on page 77): 90% of the recommended maximum ICAP connections.
 - ProxyAV 210: 22
 - ProxyAV 510: 45
 - ProxyAV 810, 1200, 1400 and 2400: 90

Section E: Enabling and Configuring Alerts


This section describes how to enable and configure alerts and SNMP traps for various events on the ProxyAV.

Enabling Alerts and SNMP Traps

The following list describes the alerts and SNMP traps you can enable.

- ❑ **E-mail:** Sends an e-mail to the administrator. To configure e-mail alerts, see ["Configuring Alert Notification Information"](#) on page 79.
- ❑ **Logging:** Creates an entry in the `AlertLogFiles.log` file.
- ❑ **SNMP Trap:** Sends a trap to the SNMP manager.

Note: If all of the alert settings are disabled, one entry is still written to the `InternalInfo.log` file for each state change.

Alerts 

[Alerts Settings](#)

Enable			Type
E-mail	Logging	SNMP Trap	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Virus is found
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	File was passed through without being scanned
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	File was blocked (exclude virus case)
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Failed to connect for update
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Successful update
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Subscription Expiring
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	On Board Diagnostics
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Intelligent Connection Traffic Monitoring (ICTM)

To enable alerts and SNMP traps:

1. In the Management Console, select **Alerts**. The Alerts page displays.
2. Select the alert or SNMP trap for each event, as required.
 - **Virus is found:** A virus was found in an ICAP session.
 - **File was passed through without being scanned:** Several settings on the **Antivirus** page enable the administrator to allow files to pass through ProxyAV unscanned. For example, there is an antivirus file scanning timeout.

- **File was blocked (exclude virus case):** A file is blocked for any reason other than a virus infection. For example, the administrator decides to block password protected compressed files.
- **Subscription Expiring:** Your license to use AV software on the ProxyAV requires annual renewals. The ProxyAV reminds you when the end of the subscription period is getting near.
- **Firmware update available:** The latest firmware image is available for the ProxyAV. To access and install the image, see ["Updating the ProxyAV appliance OS Version"](#) on page 88.
- **Firmware update failed:** The firmware update failed due to an error in retrieving or installing the latest image.
- **Firmware update succeeded:** A new version of the ProxyAV firmware has been installed.
- **License update failed:** An attempt to update the antivirus engine license failed.
- **License update succeeded:** A new license has been installed. Information about the vendor and validity of the license will be logged or sent to the email address configured, if alerts are enabled.
- **Antivirus update failed:** The antivirus pattern file update failed. Enable alerts to receive information on the reason for the failure.
- **Antivirus update succeeded:** The antivirus pattern file has been updated.
- **On Board Diagnostics:** If the state of a monitored ProxyAV appliance metric changes, and that metric is configured to generate an alert or SNMP trap, an alert or SNMP trap is generated.
- **Intelligent Connection Traffic Monitoring (ICTM):** If the maximum specified concurrent *slow connection* warning or critical thresholds are reached, an alert is sent.

3. Click **Save Changes** to commit the changes to the ProxyAV.

Configuring Alert Notification Information

This section describes how to specify recipients of alerts and authentication.

To configure alert notification information:

1. From the Management Console, select **Alerts**.
2. Click **Alerts Settings**.

Alerts Settings ?

Sender e-mail address: ProxyAV_123@example.com

Recipient e-mail address: user1@example.com,user2@company.com

SMTP server address: mail.example.com

☒ SMTP Authorization (POP-Before-SMTP) Enabled

Port: 110

User: labmgr

Password: ****

Verify Password: ****

Save Changes

3. In the **Sender e-mail address** field, enter the source e-mail address (the address that identifies to the reader which appliance is sending the notification). For example: ProxyAV_123@example.com.
4. In the **Recipient e-mail address** field, specify who the ProxyAV alerts when an event occurs. Send alerts to multiple addresses by using a comma-separated list; for example:
user1@company.com,user2@company.com,consultant@otherco.com. If this field does not contain a recipient address, the ProxyAV neither attempts to send an email nor makes an entry in the **AlertErrors.log**.
5. In the **SMTP server address** field, enter the server IP address or name (example: mail.example.com).
6. Some SMTP servers require authentication. If yours does:
 - a. Select **SMTP Authorization Enabled**.
 - b. Enter 110 as the port number.

The ProxyAV uses POP before SMTP to authenticate; therefore, your username and password is submitted to the mail server on port 110 before sending the alert.
 - c. Enter a valid username and password; re-enter for verification.
7. Click **Save Changes**.

Note: By default, the ProxyAV also keeps a log file of events. See [Chapter 5: "Logging"](#).

Customizing Messages

Each alert contains information about the event that triggered it. Because different events can trigger an alert, there can be many different alert forms. In the **Advanced > Messages** table, the first three columns—**Protocol**, **Event**, and **Command Type**—define each type of event.

The **Alert** column defines what information is included in the alert that is logged or sent through e-mail to the administrator.

The **Substitute** column defines what text is substituted and sent to the client for the original data.

To customize alert messages:

1. Select **Advanced > Messages**.

Messages ?

#	Protocol	Event	Command Type	Alert	Substitute
1	ICAP	Virus	Download	default: Modify	default: Modify
2	ICAP	Virus	Upload	default: Modify	default: Modify
3	ICAP	Can't scan	Download	default: Modify	
4	ICAP	Can't scan	Upload	default: Modify	
5	ICAP	ICAP header X-Virus-Details	-		default: Modify
6	ICAP	ICAP header X-Error-Details	-		default: Modify
7	ICAP	ICTM Warning	-	default: Modify	
8	ICAP	ICTM Critical	-	default: Modify	

2. Each virus and error message type has a default message. Click **Modify** in the **Alert** (for e-mailed/logged messages) or **Substitute** (for messages displayed on the client) column to display the Message page.
3. Select **Custom**.
4. Modify the messages. For Alert messages displayed on clients, messages are delivered in either text format or HTML format. Both fields are modifiable.
5. Click **Save Changes**.

Chapter 5: Logging

This chapter describes how to configure ProxyAV logging options.

Configuring Logging

On the ProxyAV you can either use the Blue Coat log receiver application, or you can use your own *syslog* application. ConnLog.exe and ConnLogXP.exe are Blue Coat's log receiver applications. The ConnLog.exe is a command line-based utility and the ConnLogXP.exe is a Windows-based utility.

By default, they listen for a connection from the ProxyAV on port 8001. The application writes a new log file for each day into the current directory; the logs are in plain text format and can be imported into most log analyzer applications.

Download the Blue Coat log receiver:

1. Go to the **Log Files** page.
2. Click **Get log receiver application** (ConnLog.exe) or **Get Windows based log receiver application** (ConnLogXP.exe).
3. (Optional) To change the default port that the application listens on for a connection from the ProxyAV, double click to launch the application and
 - a. For ConnLog.exe, edit the `/p:<port_number>` parameter to change the listening port.
 - b. For ConnLogXP.exe, click the **File** tab to edit the port.

Defining Where Logs are Sent

The ProxyAV allows you to forward detailed logging information, connections between the Management Console and the file scan process, to any system on your network.

To define where logs are forwarded:

1. From the Management Console, select **Log Files**.

2. Under Logging, select **Enable** sending logging information to remote computer.
3. In the **Address** field, enter the IP address of the destination server.
4. Select the communication protocol: **TCP/IP** or **UDP**.
5. Select the logging format:
 - **ProxyAV Classic:** The Blue Coat logging format.
 - **MS Proxy 2.0:** Microsoft Proxy logging format.
 - **ISA W3C:** Extended log file format.
 - **User Defined:** A log format you specify using the format string.
6. (Optional) If you selected **User Defined** format, you can select **Include W3C headers** to include them.
7. (Optional) If you selected **User Defined**, you can specify the **Delimiter** format, **Comma**, or **Space**.
8. The **Format String** field displays the default logging tokens, based on the selected log format, that define what detailed information appears in the logs. If you selected **User Defined** format, you can modify this as required. To display a list of valid tokens, click **Token list**.
9. Click **Save Changes**.

Configuring CSV Logging

This option allows the ProxyAV to log viruses in CSV format.

Configure CSV logging:

1. From the Management Console, select **Log Files**.

CSV Logging

2 → ☒ Enable logging of viruses to CSV format file

3 → Create new log file every: Day ▼

4 → Field delimiter: ;

Save Changes

Get log receiver application [here](#)

2. Under **CSV Logging**, select **Enable logging of viruses to CSV format**.
3. Select to create a new file every **Hour, Day, Month, or Week**.
4. In the **Field delimiter** field, enter what symbol is used to separate log entries.
5. Click **Save Changes**.

Viewing Log Files

The Log Files table at the bottom of the Management Console **Log Files** page allows you to view the generated log files. The log files include:

- ❑ **AlertErrors:** This file is a log of alert errors. When the ProxyAV cannot send alerts to the administrator(s) designated in the **Alerts** page, the event is logged here. The most common entry to this log is an inaccessible SMTP server.
- ❑ **AlertLogFile.log:** If **Enable alerts logging to file** is enabled on the **Alerts** page, all events are logged here. This log is different from the `AlertErrors.log` in that it includes all alerts, not just those that could not be sent to the administrator by e-mail.

Note: When the `AlertLogFile.log` reaches 1 MB, it is renamed to `AlertLogFile_YYYY_MM_DD_N.log` and the `AlertLogFile` log starts over. When the total of `AlertLogFile` log files reaches 35 MB, the ProxyAV begins deleting the oldest alert logs.

- ❑ **boot.log:** Records all reboots of the machine. Using this information, Blue Coat Technical Support can assist you with troubleshooting.
- ❑ **diagnosticS.log:** Debug information: thread counts for AV scanning; number of active threads, and scanning queue length.
- ❑ **diagnosticSprev.log:** When the **diagnosticS.log** grows to more than 3MB, it is renamed to **diagnosticSprev.log**.
- ❑ **diagnosticT.log:** Periodic dumps of internal information. Blue Coat might request the contents for diagnosing any issue.
- ❑ **diagnosticTprev.log:** When the **diagnosticT.log** grows to more than 3MB, it is renamed to **diagnosticTprev.log**.
- ❑ **virus-log-date.csv:** Log files generated by virus logging in CSV format.

Other data, diagnostics, and packet logs provide detailed scanning data that Blue Coat Technical Support can use to diagnose any issues. See [Section D: "Troubleshooting"](#) on page 93.

Chapter 6: Maintenance and Troubleshooting

This chapter describes the features used to maintain and troubleshoot the ProxyAV appliance. This chapter contains the following sections:

- ❑ [Section A: "Updating the ProxyAV appliance OS Version"](#) — Describes how to upgrade to the latest version of the ProxyAV appliance firmware.
- ❑ [Section B: "Managing Configuration Files"](#)—Describes how to save and load the ProxyAV appliance configuration files.
- ❑ [Section C: "Statistics"](#)—Describes the History, Detailed Statistics, and Requests History pages.
- ❑ [Section D: "Troubleshooting"](#)—Provides help to solve basic problems that might arise on the ProxyAV appliance including information on rebooting the appliance and restoring factory defaults.

Section A: Updating the ProxyAV appliance OS Version

Section A: Updating the ProxyAV appliance OS Version

This section provides information on how to upgrade the ProxyAV appliance firmware (AVOS) and restrict administrator access to only allow HTTPS.

For information on upgrade/downgrade issues, see [Appendix A: "Upgrade/Downgrade Issues"](#). For information on the new features introduced in a release, and for a list of fixes and known issues, refer to the *Release Notes* for the appropriate ProxyAV appliance OS version.

About Firmware Updating

The ProxyAV appliance OS (AVOS) is called firmware in the UI. Firmware updates represent changes to the functionality of the ProxyAV appliance and can include new features, changes to the user interface, and optimizations for speed and reliability.

The update options are located on the Firmware Update page.

You can manage update behavior:

- ☐ **Disable Firmware updates**—The ProxyAV appliance does not check for the latest update package and you cannot perform a manual update without first clearing this option.
- ☐ **Check, but don't retrieve updates**—At the specified interval, the ProxyAV appliance checks for package updates. If a newer software version is identified on the server, the information changes, but no update occurs. You must invoke the update manually (see below).
- ☐ **Check and retrieve update (Recommended)**—At the specified interval, the ProxyAV appliance checks for package updates. If a new software version is identified on the server, it is downloaded to the ProxyAV appliance. Click **Update Now**.
- ☐ **Closed Network/Direct Update**—This option is for ProxyAV appliance appliances that do not have direct Internet access. They retrieve their updates from a dedicated, internal server. For information on a closed network, see ["Configuring Closed Network Setup"](#) on page 48. For upgrade instructions, continue with the next section.

Under **Update Location**, you can select **Use Default** for the default Blue Coat location, or enter a URL in the field (Default must be cleared).

Note: This update applies to the base ProxyAV appliance OS only. The ProxyAV appliance continues to check for updated AV engine and pattern files at the interval specified in the **Update frequency** field on the **Antivirus > Update Settings** page.

Upgrading to the Latest ProxyAV Appliance Software Version

This section describes how to update the ProxyAV appliance software when you have direct Internet access and when you are in a closed network deployment and the ProxyAV appliance does not have access to the Internet.

To upgrade the ProxyAV appliance with direct Internet access:

1. In the Management Console, select **Firmware Update**. This page provides the status of your current build. If a new ProxyAV appliance update is available, the **Update Now** button is enabled.

Section A: Updating the ProxyAV appliance OS Version

2. Click Update Now.

A splash screen displays as the ProxyAV appliance prepares to download the build. The Management Console then returns to the Home page. Statistics under Current Downloads track the progress of the build. As the new OS installs, the ProxyAV appliance is temporarily unable to accept the clicking of any option. When the installation completes, the Management Console refreshes itself and is ready for configuration.

To upgrade the ProxyAV appliance without direct Internet access:

1. Log into the Blue Touch Online portal (<https://bto.bluecoat.com/download/ProxyAV>).
2. Obtain the direct download link for the latest version of the OS.
3. Using a Web browser to download the image and save it on an internal Web server.
4. In the Management Console, select Firmware Update.
5. Click **Closed Network/Direct update** and add the URL of the webserver (including the filename) in the **Update Location** field.
6. Click **Update Now**. This action will install the latest AVOS on the ProxyAV appliance.

Section B: Managing Configuration Files

Section B: Managing Configuration Files

his feature allows you to archive and retrieve the ProxyAV appliance configuration files. You can save the current ProxyAV appliance configuration to a secure location on your network and access the file to reconfigure the same ProxyAV appliance or to configure a newly installed ProxyAV appliance.

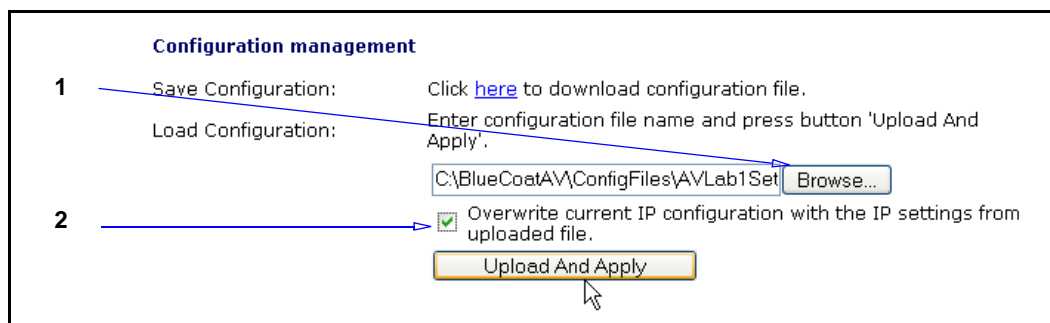
Note: The ProxyAV appliance where you upload the configuration file must be running the same firmware version as the ProxyAV appliance that generated the file. Otherwise, the file is refused.

To save a configuration file:

1. In the Management Console, select **Utilities**.



2. Save the configuration file:
 - a. In the **Save Configuration** line, click the link. A File Download dialog appears.
 - b. Click **Save**. A Save As dialog appears.
 - c. Navigate to where you want to save the file.
 - d. (Optional) Name the file.
 - e. Click **Save**.

To load a configuration file:

1. If you know the location of the configuration file, enter the path in the field ~or~ click **Browse** and navigate to the file location.
2. (Optional) **Select Overwrite current IP configuration with the IP settings from uploaded file** to use the IP definitions of the saved file. The IP definitions include the IP address, subnet mask, and gateway of the ProxyAV appliance main interface.
3. Click **Upload and Apply**.

Section C: Statistics

Section C: Statistics

This section describes the ProxyAV appliance Management Console statistics pages.

History Statistics

Displays various resource usage, connections, and object statistics in three grades: every minute for the last 60 minutes; every hour during the last 24 hours; and every day for the last 30 days.

View History Statistics:

1. In the Management Console, select **Advanced > History stats**.
2. Click a button to change the view:
 - **CPU Usage**—Displays the percentage of CPU resource consumed, on average for the interval.
 - **Memory Usage**—Displays the highest level of memory percentage used during the interval.
 - **ICAP Objects**—The number of ICAP objects received and put into the queue for scanning during the interval.
 - **Connections**—The maximum number of concurrent connections made during a given interval. For example, for a one-minute interval with 70 ICAP connections during the first 30 seconds and 60 ICAP connections during the second 30 seconds, the maximum number of ICAP connections is 70.
 - **ICAP Bytes**—The total size in bytes of ICAP objects received during the interval.

Detailed Statistics

Displays detailed statistics of current transactions.

To view detailed statistics:

In the Management Console, select **Advanced > Detailed stats**.

- ❑ **Requests History:** Click this link to view the Requests History page, which displays the results of past antivirus scans.
- ❑ **Concurrent connections:** Displays the current number of connections to the ProxyAV.
- ❑ **Total objects being processed:** Displays the number of objects the ProxyAV is currently scanning.
- ❑ A table provides detailed statistics of the objects currently being scanned.
 - The path and name of the object being scanned.
 - The current state of the transaction: *Receiving*, *Queued*, *Scanning*, or *Replying*.
 - The IP address of the ProxySG that sent the request.

Section C: Statistics

- The number of bytes received for scanning.
- The total time spent processing the object (including the receiving time).
- The mode used for scanning: Plain or Secure ICAP.

For example:

```
http://www.website.com/images/pic.gif
Receiving, 111 bytes, 14 ms, Plain
http://banners.advertise/adview.php?what=welcome
Scanning, 21,631,234 bytes, 30 ms, Secure
```

Requests History

The Requests History page allows you to set the number of past requests to view and refresh the list of requests.

In the Management Console, select **Advanced > Detailed stats** and click the **Requests History** link.

- ❑ **Number of requests:** This number determines the number of requests that display in the list. Enter a number from zero to 1,000. When the number is set to zero, request logging is disabled. The default number of requests is 50. Click **Save Changes** to commit your changes to the ProxyAV.
- ❑ **List of requests:** Requests are listed in reverse chronological order. The list includes the following information for each request:
 - **Timestamp:** Date and time the request was processed.
 - **ProxySG IP:** IP address of the ProxySG that generated the request.
 - **Size:** Total size (in bytes) of the requested object.
 - **Result:** Scan result of `Clean`, `Virus`, or `Error`.
 - **Time taken:** Total time (in ms) it took for the ProxyAV to process the request.
 - **Mode:** Corresponding ICAP service mode (Plain or Secure).

Click **Refresh Now** to obtain the most current data about processed requests.

Section D: Troubleshooting

Section D: Troubleshooting

This section describes the ProxyAV appliance utilities provided to aid with local troubleshooting.

Debugging ICAP Communication Errors

If you receive a **500-ICAP Communication Error** response, perform the following to diagnose the issue:

- ❑ Examine the error response. The page contains the description of the error and additional details from the antivirus engine.
- ❑ Examine the ProxySG event log messages. If the ProxySG is not able to establish a connection with ProxyAV appliance, it logs the following message: **Cannot establish connection to service.**
- ❑ Examine the ProxyAV appliance **AlertLogFile.log** file for the failure reasons. All file-scanning failures, such as timeout, file too big, and decompression errors, are logged here.

Important: When you open the **AlertLogFile.log** file using the option **View log file** in browser, the complete file might not be displayed, as the file is often too big to be displayed in the browser. Use a text editor to open the log file to see all the error messages. The most recent error messages display at the bottom of the file.

Preventing a ProxyAV appliance Pattern File Update Failure

If the ProxyAV appliance is proxied through the ProxySG, an error occurs if the ProxySG is serving patience pages during pattern file updates (this does not occur if the ProxyAV appliance has direct Internet access). The reason is that the ProxySG views the ProxyAV appliance as a client during these updates. The following policy instructs the ProxySG to disable patience pages when the user-agent is the ProxyAV appliance:

CPL:

```
inline policy local eof
<Cache>
    response.icap_service(respav)
<Proxy>
    request.header.User-Agent="ProxyAV"  patience_page(no)
eof
```

Section D: Troubleshooting

VPM:

1. Select **Policy > Add Web Access Layer**.
2. Right-click the **Source** column; click **Set**.
3. Click **New**; select **Request Header**.
4. In the **Header Name** drop-down list, select **User-Agent**.
5. In the **Header Regex** field, enter **ProxyAV**.
6. Click **OK**; click **OK** to add the object to the rule.
7. Select **Policy > Add Web Content Layer**.
8. Right-click the **Action** column; click **Set**.
9. Click **New**; select **ICAP Response Service**.
10. In the **Use ICAP Response Service** drop-down list, select the ICAP service.
11. Click **OK**; click **OK** to add the object to the rule.
12. Install the policy.

Pinging

Ping a server to verify its state.

Ping a server:

1. From the Management Console, select **Advanced**; click the **Ping Utility** link.
2. In the **IP Address** field, enter the IP address of the server to be pinged.
3. Click **Ping**.

Managing Log Files for Troubleshooting

The ProxyAV appliance provides the ability to retain and download log files, as well as upload log files to the Blue Coat support server by service request (SR) numbers. The troubleshooting options on the appliance allow you to collect information about the system health and network conditions prior to an event or error on the ProxyAV appliance and save them in a log format. The log files can be downloaded in a zip file format from the appliance and uploaded to the Blue Coat Support server. Blue Coat Technical Support can use the logged diagnostic information for debugging purposes, to help identify the cause that triggered the event and to resolve it.

Note: Enabling these options impacts performance of the appliance in your network, so these knobs must be used only under the guidance of a Blue Coat Support Representative.

The ProxyAV appliance offers the following options for troubleshooting:

- ☐ **Enable Keeping Troubleshooting Information Files:** Instructs the ProxyAV appliance to save log files that record the history of events on the appliance.

- ❑ **Enable Additional Kaspersky Diagnostic Logging:** (Only applicable for the Kaspersky AV engine) Enables logging of Kaspersky AV engine information that is relevant for diagnosing engine errors, such as the date and time of the last engine definition file download. When enabled, this information is logged in the **InternalInfo.log** in **Utilities > Diagnostics** and the **AVScannerInternal.log** in the **Log Files** menu.
- ❑ **Enable ProxyAV Driver Logging:** Logs information about the system level driver components used by the appliance. The system drivers are responsible for processing all packets sent and received by the ProxyAV appliance, monitoring the LED panel display and the serial console communication on the appliance. When enabled, the appliance logs the details in the `driver.log` in the **Log Files** menu and on reboot this log file is saved as the `driver.prev.log` file.
- ❑ **Enable ProxyAV Application Logging:** Enables logging of the processes running and the execution flow on the appliance. You can configure the application level logging to one of three levels — high (detailed application and trace logging), medium (logging of critical and severe events), low (logging of critical events only). By default, application logging is disabled. Because application logging is CPU intensive, Blue Coat recommends enabling this feature only when advised by Blue Coat Technical Support.

When enabled, the appliance logs the details in the `configurator.log` and `Debugger.log` in **Log Files** menu. On reboot the `Debugger.log` is saved as the `Debugger.prev.log` file.

In addition to these two log file formats, the `MPLOG` file is also generated when you enable application logging. The three types of `MPLOG` files are `MPLOG0`, `MPLOG1` and `MPLOG_Critical`.

- `MPLOG0.Out` contains the most recent logs for normal execution flow for all three levels. When the file size reaches 25 MB the `MPLOG0.Out` is saved as `MPLOG0.Prev.Out`.
 - `MPLOG1.Out` contains information about other ProxyAV execution processes, such as an AV signature update. The `MPLOG1.Out` is saved as `MPLOG1.Prev.Out` when a new process execution is triggered.
 - `MPLOG_Critical.Out` is logged when an unknown restart occurs and it culls information from the `MPLOG0.Out` and `MPLOG0.Prev.Out` logs. When multiple restarts occur on the ProxyAV appliance, the `MPLOG_Critical.Out` is saved as `MPLOG_Critical_Prev.Out` and the most current event is recorded in the `MPLOG_Critical.Out` file. These files aid in analyzing the execution flow just before unknown restart occurred and help Blue Coat Technical Support troubleshoot the possible causes for the system issues.
- ❑ **Enable ProxyAV Task Monitor:** Monitors and logs the health states of the antivirus processes that are running. When enabled, the appliance logs the details in the `AVStats.log` in the **Log Files** menu.

- ❑ **Enable Email Alert on ProxyAV Reboot:** Sends an email to the email address configured in **Alerts > Alert settings**, whenever the appliance restarts. The email notification is sent on any kind of system restart — whether you manually press the power button to reboot, or if the appliance recovers from a system event that caused an automatic reboot.

Saving Log Files

You can configure the ProxyAV appliance to save log files, which you can then view from the Log Files table.

To save log files:

1. From the Management Console, select **Advanced**, then click the **Troubleshooting** link. The **Troubleshooting Information** page displays.

Troubleshooting Information ?

☒ Enable keeping Troubleshooting Information files

Caution: Enabling the following options will have performance impact on ProxyAV application. We recommend you to change these options in consultation with a Blue Coat representative.

☐ Enable additional Kaspersky diagnostic logging

☒ Enable ProxyAV Driver Logging

☒ Enable ProxyAV Application Logging

☒ Enable ProxyAV Continuous Packet Logging (Enabling this option will STOP any active "Packet and Data logging" in [Diagnostics Page](#))

☒ Enable ProxyAV Task Monitor

☒ Enable ProxyAV Watchdog Timer Extension (Changing this setting will result in reboot of ProxyAV appliance.)

☒ Enable Email Alert on ProxyAV Reboot (This feature will work only if you've configured email address in [Alert settings menu](#))

Click [here](#) to download troubleshooting file.

Send Service Information

Service Request Number:

Status: No information about recent SR uploads available.

Log Files

File Name	Created
-----------	---------

2. Select the **Enable Keeping Troubleshooting Information Files** check box. The files are saved so you can view them and send them to customer support.
3. Click **Save Changes**.

Downloading Log Files

Downloaded log files are delivered in one zip file, which contains all the log files that are available. This enables you to send one zip file for troubleshooting purposes.

To download log files:

1. In the **Troubleshooting Information** page, click the "[Click here to download the troubleshooting file](#)" link. The File Download dialog displays, prompting you to open or save the zip file.
2. Click **Save**. The Save As dialog box displays.
3. Navigate to the location where you want to save the zip file, then click **Save**. All of the log files in the zip file contain diagnostic information.

Uploading Log Files to the Blue Coat Support Server

You can use a service request (SR) number to upload log files to the Blue Coat Support server. To receive an SR number, call or e-mail Blue Coat Technical Support or log in to your WebPower account. The log files that are sent include the ones that display on the **Advanced > Troubleshooting** page, the ones in the **Log Files** table on the Logging page, and the ProxyAV appliance configuration log files.

The destination host is <https://upload.bluecoat.com> and the destination port is 443, which is the HTTPS port that the majority of firewalls have open by default.

Note: If outgoing ProxyAV connections go through the ProxySG, make sure that SSL intercept is not enabled for <https://upload.bluecoat.com>. If SSL intercept is enabled, it can cause the upload of log files to fail.

If you are using a proxy server, be sure to configure it at **Network > Proxy Servers for Updates**. See "[Specifying an Upstream Proxy Server](#)" on page 42.

To upload log files by service request numbers:

1. From the Management Console, select **Advanced**, then click the **Troubleshooting** link. The **Troubleshooting Information** page displays.
2. Enter the SR number in the **Service Request Number** field.
3. Click **Send**. The ProxyAV appliance initiates the upload of the file *logs.zip* to the Blue Coat Support server. The Send Service Information dialog displays the SR number and the upload status.

Send Service Information	
Service Request Number: 2-38713841	
Send status: 243/3481 KB	<input type="button" value="Cancel"/>

4. To stop the upload, click **Cancel**. If the ProxyAV appliance cannot connect to upload.bluecoat.com, the status prompts you that there was a problem connecting to the remote host.

Send Service Information
Send status: Unable to connect with remote host.
Service Request Number:

5. To attempt the upload again, click **Send**.

Note: If the transfer continues to fail, verify that the SR number is valid and has not previously been resolved.

Troubleshooting Services

The following options allow you to specify additional ProxyAV appliance communication services that can assist administrators or Blue Coat Technical Support to diagnose difficulties. To access these options, from the Management Console, select **Advanced**; click the **Additional Services** link.

- ☐ **Enable sending Troubleshooting Information files:** Allows files containing troubleshooting information to be sent by e-mail to Blue Coat Technical Support.
- ☐ **Enable tech support remote access:** Allows Blue Coat Technical Support to access this ProxyAV appliance.
- ☐ **Enable ping to Interface IP:** Allows you to ping the interface IP address of this ProxyAV appliance.

If you invoke any of these options, you must click **Save Changes**.

Troubleshooting Utilities

These options are designed to help you resolve technical troubles with a ProxyAV appliance. To access these options, from the Management Console, select **Utilities**.

Reload AV Engine

The ProxyAV appliance reloads its current AV engine by stopping and restarting it. This is similar to rebooting the appliance, but is faster, because it reloads only the AV engine. Reloading the AV engine temporarily interrupts the TCP/IP traffic until the reload is complete.

Refresh Engine and Signatures

This option refreshes all AV engine and signature files downloaded on the appliance. Clicking this options removes all existing versions and re-fetches the latest versions available for your vendor.

Reload Drivers

The ProxyAV appliance reloads its drivers. This is similar to rebooting the appliance, but is faster, because it reloads only its drivers. Use this option if you perform a configuration change that does not appear to be in effect. Reloading the drivers temporarily interrupts the TCP/IP traffic until the reload is complete.

Soft Reboot

This is the equivalent of restarting a computer. It physically reboots the machine. A new entry in the `boot.log` occurs. Performing a soft reboot temporarily interrupts the TCP/IP traffic until the reboot is complete.

Diagnostics

Diagnostics create relatively large and detailed log files that provide information for troubleshooting certain network configurations. A Blue Coat Technical Support representative might ask you to invoke these internal diagnostics. This additional logging activity affects system performance. Therefore, Blue Coat does not recommend using this option except at the request of Blue Coat Technical Support.

DNS Cache

These options allow you to view and clear the contents of the DNS cache.

Configuration Management

The options in this section enable you to manage the ProxyAV appliance configuration files. You can save the current ProxyAV appliance configuration to a file and load a ProxyAV appliance configuration from a local file. For full details, see [Section B: "Managing Configuration Files"](#) on page 90.

Configuring On Board Diagnostics

The ProxyAV monitors its vital system components and displays the current status for CPU, memory use, status of the environmentals on the hardware, and network metrics.

The following table shows the On Board Diagnostics for a ProxyAV appliance510.

Alert Enabled	SNMP Trap Enabled	Metric Name	Current State	Unit	Current Value	State Change Interval (seconds)	Upper Critical	Upper Non Critical	Lower Non Critical	Lower Critical
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3.3V voltage	OK	Volts	3.34	32	3.63	3.46	3.13	2.97
<input checked="" type="checkbox"/>	<input type="checkbox"/>	5V voltage	OK	Volts	5.05	32	5.50	5.25	4.75	4.50
<input checked="" type="checkbox"/>	<input type="checkbox"/>	5V standby voltage	OK	Volts	5.03	32	5.50	5.25	4.75	4.50
<input checked="" type="checkbox"/>	<input type="checkbox"/>	12V voltage	OK	Volts	11.84	32	13.20	12.60	11.40	10.80
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CPU core voltage	OK	Volts	1.57	32	1.80	1.70	1.30	1.20
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3V battery voltage	OK	Volts	3.17	32	3.30	3.21	2.85	2.70
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CPU1 temperature	OK	Celsius	35	32	70	65	-17	-27
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Motherboard temperature	OK	Celsius	32	32	65	60	-17	-27
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fan1 speed	OK	RPM	4219	0	8500	8000	3700	3400
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fan2 speed	OK	RPM	4561	0	8500	8000	3700	3400
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Fan3 speed	OK	RPM	4327	0	8500	8000	3700	3400
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CPU utilization	OK	%	0	120	95	80		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Memory pressure	OK	%	37	120	90	85		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Interface 0 utilization	OK	%	0	120	90	60		
<input type="checkbox"/>	<input type="checkbox"/>	Interface 1 utilization	OK	%	0	120	90	60		

To configure onboard diagnostics:

1. In the Management Console, select **Advanced > Onboard Diagnostics**. The current state, unit, numerical value, and state change interval for each metric is provided, as well as the acceptable upper and lower critical and non-critical values.

The *state* indicates the severity of the metric as a health issue:

- **OK**—The monitored system or device is behaving normally.
 - **WARNING**—The monitored system or device is outside typical operating parameters and might require attention.
 - **CRITICAL**—The monitored system or device is either failing or is far outside normal parameters and requires immediate attention.
2. Select the alert and SNMP trap for the metrics, as required.
 - **Alert Enabled:** When selected, sends an e-mail alert or writes a log entry in the AlertLogFile log file when there are changes in the metric's state. Clear a check box to disable an alert.
 - **SNMP Traps Enabled:** When selected, SNMP traps are enabled for CPU, memory, and network interfaces. However, SNMP traps are generated only when a state changes from OK or Warning to Critical.

Note: If alerts or SNMP traps are not enabled, the check boxes in the On Board Diagnostics table are not available. See ["Enabling Alerts and SNMP Traps"](#) on page 78.

3. To configure the state change interval, upper critical, and upper non-critical values for CPU, memory, and network interfaces, enter a number for the time interval. The default values display in the table.

Note: The **State Change Interval** (in seconds) indicates the amount of time allowed before a state change alert is generated. For example, if you set CPU utilization at 80% and it remains at 100% for more than the state change interval you configured, the state changes to Critical and an alert is generated.

4. Click **Save Changes** to commit your changes to the ProxyAV appliance.

Rebooting the ProxyAV Appliance

Rebooting or resetting the ProxyAV is the process of restarting the appliance. This can be accomplished in various ways:

- ❑ Performing a Soft reboot- Click the **Soft Reboot** option in the **Utilities** tab to physically reboot all models of the ProxyAV appliance. For information on reloading the AV engine or the drivers. see ["Troubleshooting Utilities"](#) on page 98.
- ❑ Re-plugging the power cord: Disconnecting the power cord and reconnecting it, reboots the ProxyAV appliance 210, AV510 and AV810 models. These models do not have a button for powering on the appliance.
- ❑ Pressing the Reset button: The ProxyAV appliance 1400 and AV2400 can be rebooted by depressing the Reset button on the front panel of the appliance.

Note: The NMI button on the front panel of the AV1400 and AV2400 appliances is invalid and does not perform any action. The Reset button reboots the appliance.

Restoring Factory Defaults

Only use this option in scenarios where you can no longer manage your ProxyAV appliance. For example, your configuration changes have caused the ProxyAV appliance to become unstable or you have lost the console access password.

Resetting to factory defaults forces the ProxyAV appliance to restore the system with the factory default settings. You can restore factory defaults on the ProxyAV appliance using the front panel or the Command Line Interface (CLI).

To restore default settings using the front panel (only for ProxyAV appliance 510 and 810):

1. Verify that the System LED on the front panel is lit.
2. Press the **Enter** button to change to Configure mode.
3. Press the up or down arrow to cycle to **Restore factory defaults**.
4. Press the **Enter** button to initiate the restoration.

To restore factory default settings using the command line interface (CLI):

Note: These instructions are applicable for all ProxyAV appliance models. The AV210, AV1200, AV1400 and AV2400 can be restored to factory defaults using the CLI only.

1. Access the ProxyAV appliance CLI, see "[Accessing the ProxyAV Command Line Interface \(CLI\)](#)" on page 35.
2. At the command prompt, enter **enable**, then enter the enable password that you configured during initial configuration.

ProxyAV>**enable**

Enable Password:

You are now in privileged mode.

3. Enter restore-defaults

ProxyAV#**restore defaults**

Restoring the Default Settings Using the CLI Boot Menu

The CLI boot menu allow you to perform a complete system restore. You can access the boot menu on any ProxyAV appliance only when the appliance boots up.

The options available in the boot menu on the ProxyAV appliance are as follows:

- **Restore hardware def.?**—Forces the ProxyAV appliance to boot using an archived system image, restores the system with the *factory* default settings, and reverts the firmware to the original version. If you reset the ProxyAV appliance with this option, you *must* go to the **Firmware** page on the Management Console and update the firmware to the current version. To update your firmware, see "[Updating the ProxyAV appliance OS Version](#)" on page 88.
- **Restore boot?**—Forces the ProxyAV appliance to boot using an archived system image. If the appliance does not boot upon power-up, Blue Coat recommends invoking this option first.
- **Reboot**—reboot this appliance
- **Exit**—Exits the reboot menu; the ProxyAV appliance continues to boot.

To restore default hardware settings using the CLI Boot menu:

1. Access the ProxyAV appliance CLI using a direct serial port connection. For details, see "[Accessing the ProxyAV Command Line Interface \(CLI\)](#)" on page 35.
2. Press any key when the prompt `Press any key during 5 seconds to access Boot menu displays.`
3. Select `Restore hardware def.?`. All your existing system configuration is erased. The firmware and the hard disk drive partitions on the ProxyAV appliance are reverted to the factory defaults.

Chapter 7: Example Scenario

This chapter provides an example configuration for a common ProxyAV deployment:

Note: The *Malicious Content Scanning Services* chapter of the *Blue Coat SGOS Administration Guide* contains more examples of content scanning policies.

Scenario: Basic Antivirus Deployment

The following scenario describes how to configure the ProxySG and ProxyAV to scan for viruses on content responses and display a patience page during scans.

The Task

Deploy the ProxyAV as an ICAP server to scan for viruses and display a patience page with a customized message if the scan takes longer than five seconds for interactive traffic (downloadable HTTP objects) and data trickling for non-interactive objects (non-downloadable HTTP objects).

The task flow varies by the SGOS version installed on the ProxySG.

- ❑ If you are running SGOS 5.5 and later, see "[ProxySG Configuration for SGOS 5.5 and Later](#)".
- ❑ If you are running SGOS 5.4 or earlier, see "[ProxySG Configuration for SGOS 5.4 and Earlier](#)".

This scenario uses the ProxyAV IP address: 10.0.0.2 and the ProxySG IP address: 10.1.1.1

ProxySG Configuration for SGOS 5.5 and Later

Blue Coat introduces the threat protection solution in SGOS 5.5.1. The threat protection solution is a cohesive solution that provides the intelligence and control required to manage Web traffic in your network. It includes the ProxyAV that provides in-path threat protection from malware, and the Blue Coat WebFilter and WebPulse service that provide URL filtering and a Web-based community watch service.

In addition to providing reputation and Web categorization information, the WebPulse service proactively notifies all Blue Coat WebFilter subscribers of emerging malware threats. This notification is possible because of the malware feedback mechanism between the ProxySG and the ProxyAV.

The ProxySG monitors the results of the ProxyAV scan and notifies the WebPulse service when a new virus or malware is found. This notification triggers an update of the Blue Coat WebFilter database and all members of the

WebPulse community are protected from the emerging threat. For information on WebPulse and configuring malware notifications, see *About Blue Coat WebFilter and the WebPulse service* in the *SGOS Administration Guide*.

The threat protection solution provides a threat protection policy that is implemented when you integrate the appliances and enable malware scanning. The malware scanning policy that is implemented is a built-in security policy that offers immediate, out-of-the-box protection. This policy can be set to optimize either your network security needs or your network performance needs.

Perform the following tasks on the ProxySG to enable malware scanning:

1. Add the ProxyAV to the ProxySG for ICAP scanning in **Configuration > Threat Protection > Malware Scanning**.
2. Enable malware scanning. When enabled, malware scanning automatically invokes the built-in threat protection policy. You do not have to create policy manually, as in earlier versions of the SGOS.
3. Customize the feedback mechanism. See "[Customize Feedback](#)" on page 109.

For more information on the threat protection policy, see *Configuring Threat Protection* in the *SGOS Administration Guide*.

ProxySG Configuration for SGOS 5.4 and Earlier

The work flow to configure the ProxySG to communicate as an ICAP client with the ProxyAV for content scanning is provided below:

1. Configure an ICAP service on the ProxySG.
2. Customize the feedback mechanism — this example uses a patience page.
3. Add the ProxySG as an ICAP client on the ProxyAV.
4. Create policy to begin content scanning between the ProxySG and the ProxyAV.

Note: The example in this section uses SGOS 5.2.x. Previous versions are similar, but a few options vary or are relocated and data trickling is not an ICAP feedback option. For more option details, refer to the appropriate *Blue Coat Configuration and Management Suite* volume for your SGOS release.

Configure an ICAP Service

An ICAP service must be created on the ProxySG. This service identifies the ProxyAV as the ICAP server.

Create and Configure an ICAP Service:

1. Select **Configuration > External Services > ICAP Services**.
2. Click **New**; the Add List Item dialog appears.
3. In the **ICAP service name** field, enter **icap_response1**; click **OK**.
4. Highlight **icap_response1** and click **Edit**; the Edit ICAP Service dialog appears.

5a → Service URL: icap://10.0.0.2/avscan

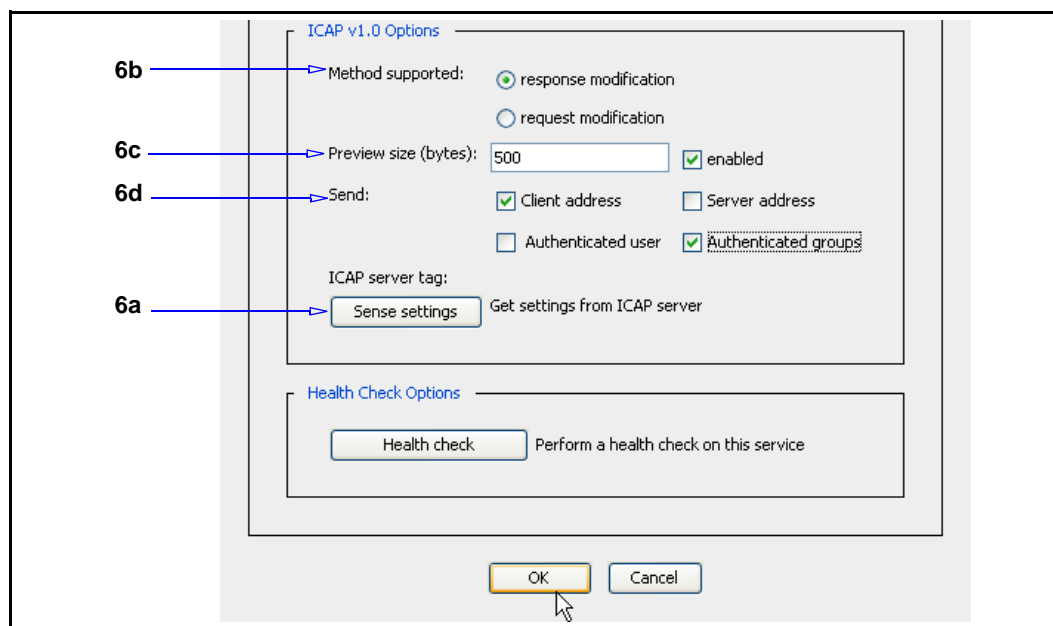
5b → Maximum number of connections: 5

5c → Connection timeout (seconds): 70

5d → Notify administrator: ☒ Virus detected

5e → "Virus Found" page: ☒ Use vendor's "virus found" page

5. Enter or select the following information:
 - a. Service URL field: enter the location of the ProxyAV:
icap://10.0.0.2/avscan
The default port number is 1344, which can be changed. For example:
icap://10.0.0.2:91/avscan
 - b. The **Maximum Number of Connections** field specifies the maximum possible connections at any given time between the ProxySG and the ICAP server.
 - c. The **Connection timeout** field specifies the number of seconds the ProxySG waits for replies from the ICAP server.
 - d. Select **Notify administrator: Virus detected** to send an e-mail to the administrator if the ICAP scan detects a virus. The notification is also logged in the Event Log and sent to the Event Log e-mail list.
 - e. Select **Virus found page: Use vendor's "virus found" page** (SGOS 5.2.x) to display the default vendor error exception page to the client instead of the ProxySG exception page.



6. The following steps configure ICAP v1.0 features:
 - a. (Optional) Clicking **Sense Settings** automatically configures the ICAP service using the ICAP server parameters.
 - b. Select the ICAP method: response modification or request modification.

Note: An ICAP server (not the ProxyAV) might have separate URLs for response modification and request modification services.

- c. In the **Preview size (bytes)** field, enter a byte value and select **preview size enabled**. The ICAP server reads the object up to the specified byte total. The ICAP server either continues with the transaction (that is, receives the remainder of the object for scanning) or opts out of the transaction. The default is **0**. Only response headers are sent to the ICAP server; more object data is only sent if requested by the ICAP server.
 - d. (Optional) The **Send** options specify additional information that is forwarded to the ICAP server: **Send: Client address**, **Server address**, **Authenticated user**, or **Authenticated groups**.
 - e. Click **OK** to close the dialog.
7. Click **Apply**.

Customize Feedback

Customize the patience page that is displayed when HTTP clients experience delays as Web content is scanned. Configure the ProxySG to allow data trickling (available in SGOS 5.2.x or later) for slow connections (narrow bandwidth or relatively large objects, for example) or display patience pages for relatively shorter scan durations.

Select a Feedback Option:

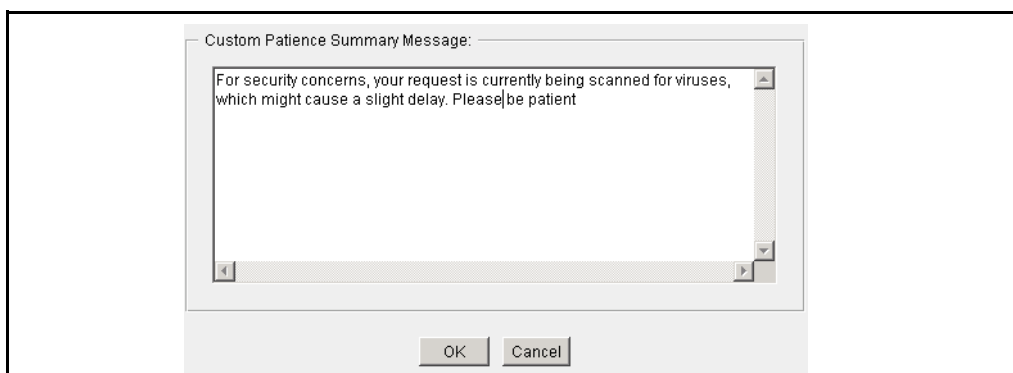
1. Select **Configuration > External Services > ICAP > ICAP Feedback**.

2. Configure options for interactive traffic (fully downloadable objects over HTTP):
 - a. The default duration to wait before notifying a client an ICAP scan is occurring is five seconds.
 - b. Select the feedback method: **Return patience pages**: The client displays a Web page to the user providing a description of the delay (ICAP scanning). This page is customizable, as described in the next section).
3. Configure options for non-interactive traffic (content such as flash animation over HTTP):
 - a. The default duration to wait before notifying a client an ICAP scan is occurring is five seconds. You can change this value, but if you make the value too long, users might become impatient and manually close the client, believing the connection is hung.
 - b. Select the feedback method: **Trickle object data at end**. The client receives most (99%) of the object data, but the final bytes are sent one per second while the ICAP scanner performs the scan. If the response from the ICAP server is clean, the client receives the rest of the object data at the best connection speed possible. If the scan detects malicious content, the connection is dropped. This is the least secure method, as most of the data has already been delivered to the client. However, this method provides the best user experience.

4. Click **Apply**.

Customize the Patience Page:

1. Select **Configuration > External Services > ICAP > ICAP Patience Page**.
2. Click **Summary**. The Customize Patience Summary dialog appears.
3. Create a message: **For security concerns, your request is currently being scanned for viruses, which might cause a slight delay. Please be patient.**



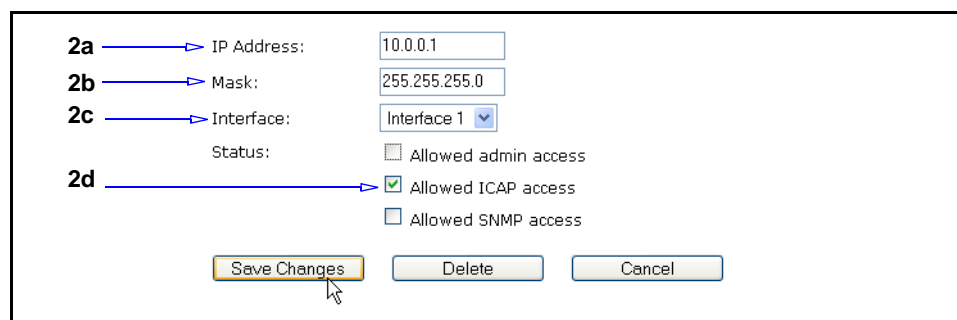
4. Click **OK**, then click **Apply**.

Blue Coat ProxyAV Configuration

Configure the ProxyAV to communicate with the ProxySG and serve as the ICAP server.

Configure ICAP from the ProxyAV Management Console:

1. Select **ICAP Settings**; the ICAP Server Settings page appears.
2. Click the **Permitted clients** link.
 - a. In the **Client Access List** table, click **Add**; the Administration and ICAP server Access List Entry page appears.



- b. In the IP address field: enter 10.1.1.1 (the ProxySG IP address).
- c. From the Interface drop-down list, select **Interface 1**.
- d. Select **Allow ICAP access**.
- e. Click **Save Changes**.

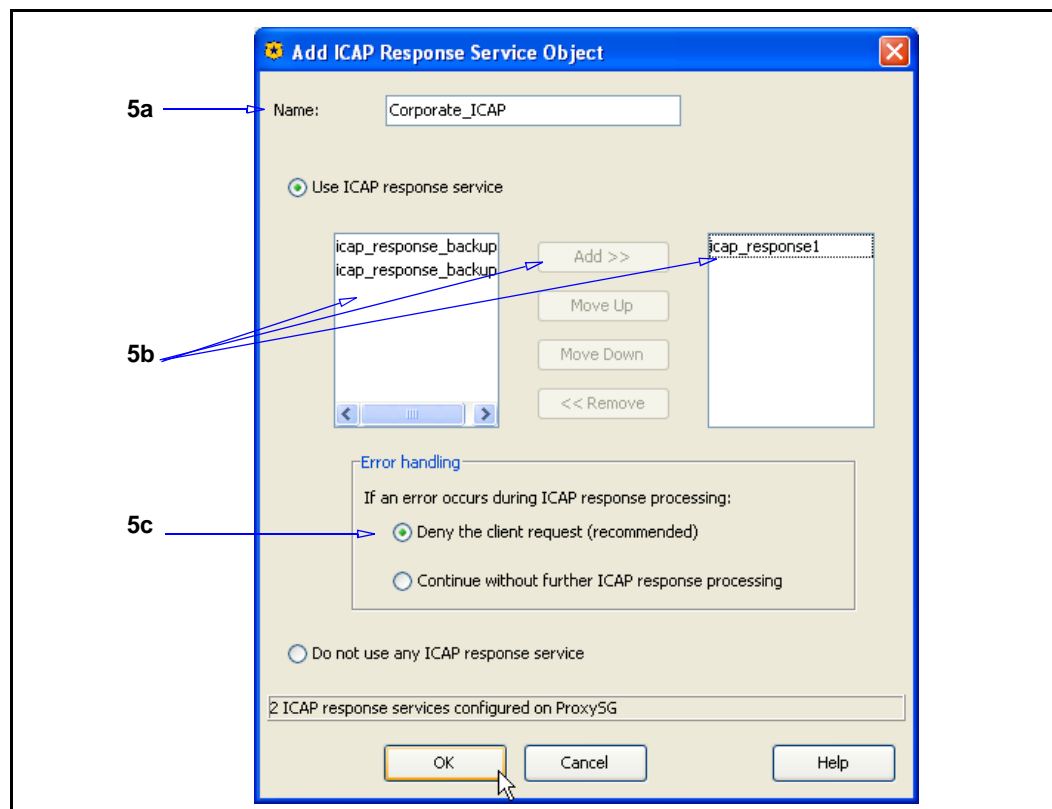
Visual Policy Manager: Create Policy

Now that the ProxySG and ProxyAV are configured, you must create a policy to instruct the AV services what actions to perform. This section demonstrates using the Visual Policy Manager (VPM) to create a policy that assigns the created ICAP service, returns a patience page to the client when a scan takes longer than five seconds for downloadable HTTP objects, and trickles data at the end for slow downloads.

Note: See the Malicious Content Scanning Services chapter in *Volume 7: Managing Content* for more detailed information about ICAP traffic feedback, including patience pages and data trickling.

Use the VPM to create policy:

1. In the VPM, select **Policy > Add Web Content Layer**; the Add New Layer dialog appears.
2. Name the layer: **Virus Scan: Corporate**; click **OK**.
3. In the **Action** column, right-click and click **Set**; the Set Action dialog appears.
4. Click **Set**; select **Set ICAP Response Service**; the Add ICAP Response Service Object dialog appears.



5. Create the service object:
 - a. Name the object: **Corporate_ICAP**.
 - b. In the left-most available service field, select **icap_response1**; click **Add**; the service is moved to the right-most, active field.
 - c. **Deny the client request** is the default if an ICAP error occurs.
 - d. Click **OK**.
 - e. With the **Corporate_ICAP** object highlighted, click **OK** to add the object to the rule.

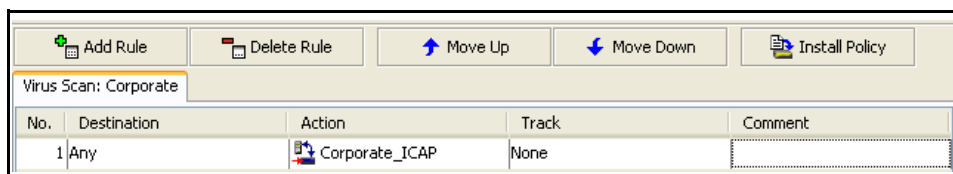
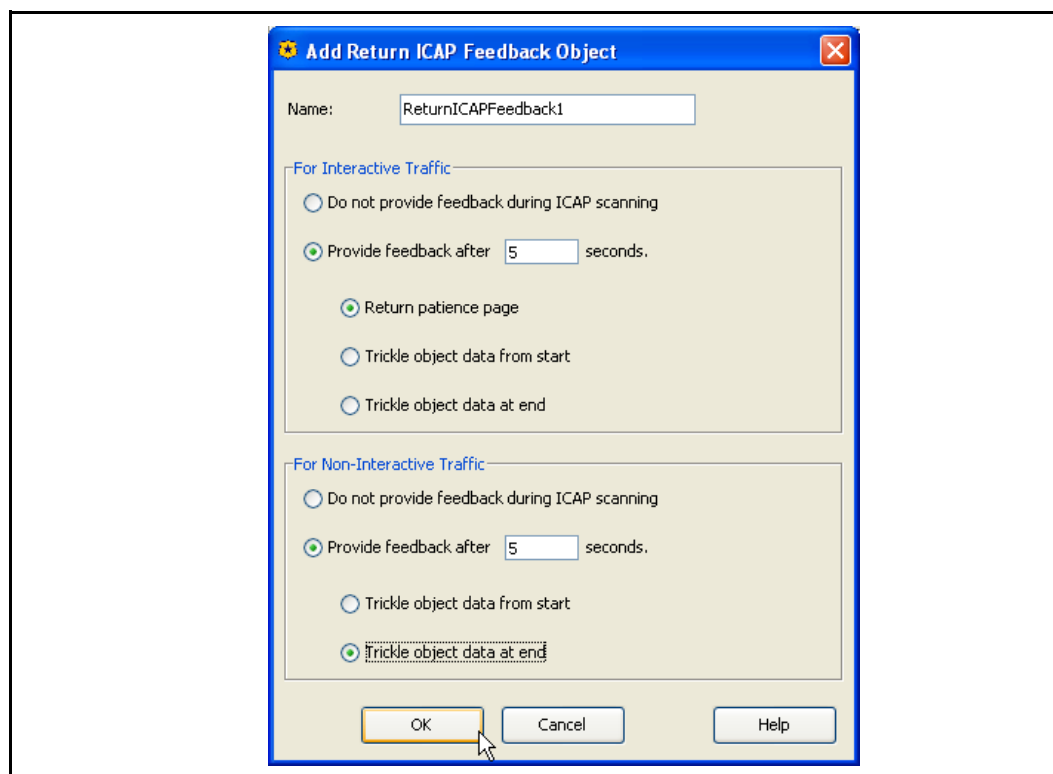


Figure 7-1. Response service object added to the rule.

6. In the VPM, select **Policy > Add Web Access Layer**; the Add New Layer dialog appears.
7. Name the layer: **Feedback: Corporate ICAP**; click **OK**.
8. In the **Action** column, right-click and click **Set**; the Set Action dialog appears.
9. Click **New**; select **Return ICAP Feedback** (in previous SGOS releases, this object is **Return ICAP Patience Page**); the Add ICAP Feedback Object dialog appears.



10. For interactive traffic feedback:
 - a. Select **Provide feedback after** to activate these options.
 - b. Select **Return patience page**.
11. For non-interactive traffic feedback:
 - a. Select **Provide feedback after** to activate these options.
 - b. Select **Trickle object data at end**.
12. Click **OK**.
13. With the **Corporate_ICAP_Patience** object highlighted, click **OK** to add the object to the rule.

Virus Scan: Corporate		Feedback: Corporate ICAP					
No.	Source	Destination	Service	Time	Action	Track	Comment
1	Any	Any	Any	Any	ReturnIC...	None	

Figure 7-2. Feedback object added to rule.

14. Click **Install Policy**.

Appendix A: Upgrade/Downgrade Issues

This appendix describes behavior changes attributed to upgrading or downgrading your ProxyAV OS version and contains the following sections:

- ❑ [“Upgrade Issues” on page 115](#)—Describes the features impacted by upgrading to current ProxyAV releases.
- ❑ [“Downgrade Issues” on page 115](#)—Describes erratic behavior of features upon downgrading to a previous ProxyAV release.

For information upgrading the ProxyAV to the latest release, see [“About Firmware Updating” on page 88](#).

Upgrade Issues

Upgrading to ProxyAV 3.2 changes all downloads of AV update files to HTTPS. The setting is on the Advanced > SSL Client page: Enable Client/Server HTTPs connection.

Downgrade Issues

This section describes feature behavior changes attributed to downgrading to a previous ProxyAV release.

PXA Number

Some deployments might require to downgrade a new ProxyAV running v3.x to v2.x. This is allowable, but you must have a PXA number to enable the v2.x license. Contact Blue Coat Support to obtain a new PXA number. Refer to the licensing sections of the *Quick Start Guide* or *Configuration and Management Guide* for that release for license installation instructions.

Management Console Access

The Administration and ICAP Server Access List for v3.2 is different than v2.x. With v3.2, you can separate admin, ICAP, and, new in v3.2, SNMP access. If you upgraded to v3.2 from v2.x, the data structure was changed. You can downgrade to v2.x; however, before downgrading you must add an access list entry that provides all access. If you do not, after the downgrade you must perform a *restore to defaults* operation or configure admin access through the setup console to gain Management Console access.

If such an access list does not yet exist, create one with the following attributes:

- ❑ IP: 0.0.0.0
- ❑ Subnet: 0.0.0.0
- ❑ Interfaces: Both
- ❑ Services: admin, ICAP and SNMP

See Chapter 2, [Section B: “Configuring Network Access”](#) for more access list information.

Appendix B: Deploying the ProxyAV

This appendix provides high-level information about the deployment of an AV solution into your network.

The Challenges of Web Scanning Integration

A Web AV solution must accomplish its task without impacting productivity. Previously, because of the number of users and high Web traffic, AV scanning of Web traffic was impractical because of the unacceptable increase in latency.

Most enterprises are configured to provide some level of infrastructure security by the way of firewalls and authentication directories. Furthermore, products, such as the Blue Coat ProxySG appliances, are employed to provide proxy and caching services, which regulate Web usage and increase network performance and bandwidth gain.

The following diagram presents a *non-integrated* AV scanning solution:

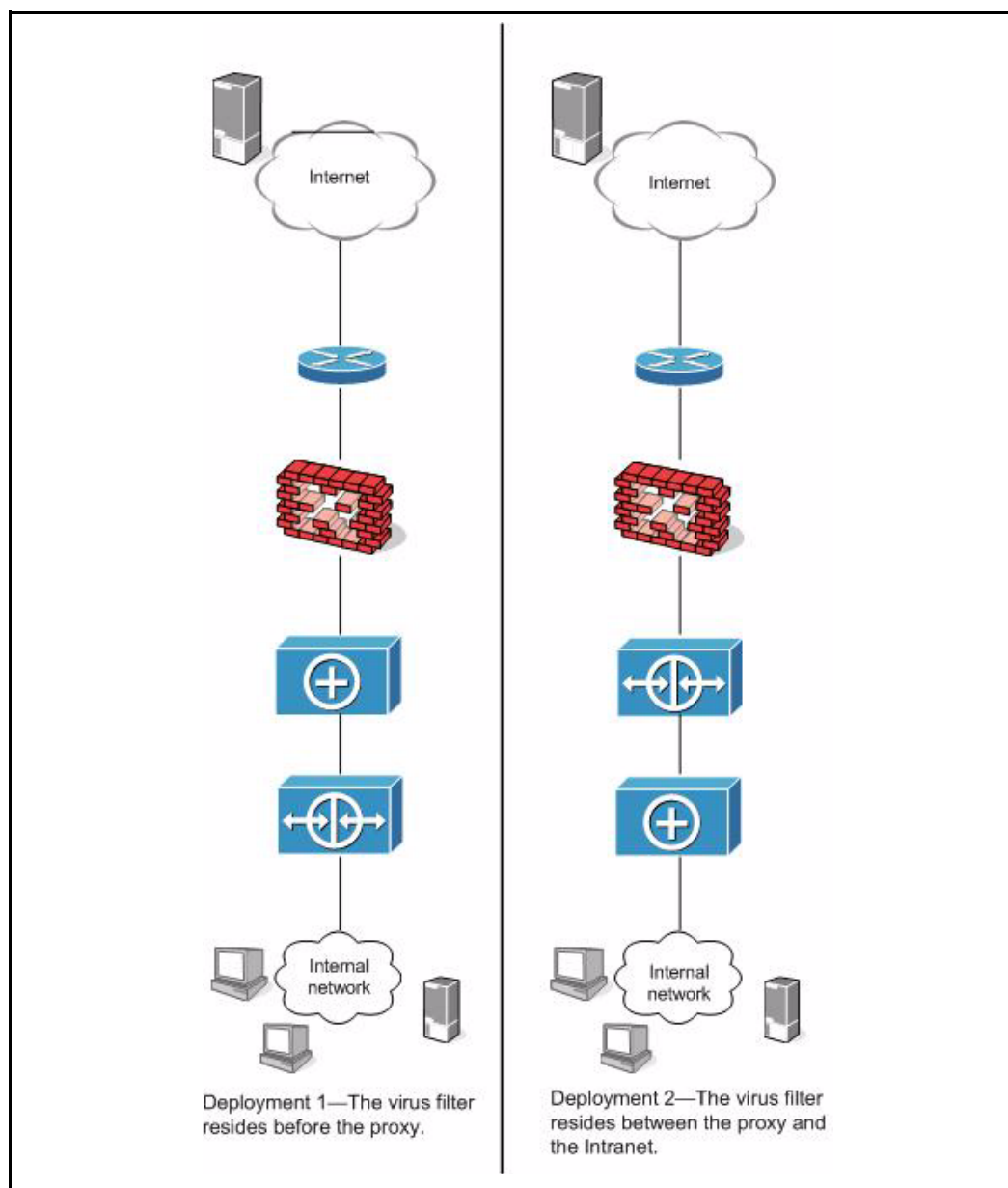


Figure B-1. Non-integrated Web AV deployments

These two deployments present the following issues:

- ❑ Deployment 1—A lag time between the presence of a virus and the availability of the pattern file used to purge the virus allows a single threat to get cached and thus easily spread through the entire network.
- ❑ Deployment 2—All viruses are intercepted before they can be cached; however, as the virus filter is repeatedly bombarded, denial of service is likely to occur.

Both of these deployments might require the constant clearing of the cache, which negates any gains attained by bandwidth management provided by the proxy.

The Blue Coat ProxyAV Solution

While the Blue Coat ProxySG product provides flexible and granular control of Web traffic and access, the ProxyAV provides high-performance AV scanning of both cached and non-cached content. The ProxySG and the ProxyAV share underlying Blue Coat processes, which allows for easy deployment and integration. After the integration, this solution allows for the scanning and purging of harmful viruses and other malicious code without compromising the network control, bandwidth gains, or security attained from the proxy.

If an AV scanner must scan all cached and uncached content, performance suffers. The ProxyAV deployment provides a *scan one, serve many* benefit when scanning cacheable objects:

- ❑ Cached objects are time-stamped and compared against an AV signature database to verify no further scanning is required.
- ❑ Non-cacheable objects are fingerprinted against the current AV signature database; these objects are not scanned again unless either the object or AV database changes.

This provides three benefits:

- ❑ Outbreaks are smaller.
- ❑ Containment is faster.
- ❑ Performance gain is attained by not scanning unchanged objects.

The ProxyAV allows you to select from a number of well-known industry AV vendors the scanning engine that is preferred by your enterprise.

Determining Network Location

This section illustrates a simple network topography featuring ProxyAV and ProxySG integration and provides guidelines for allowable traffic.

Internet-Access Deployment Diagram

The following diagram illustrates the Blue Coat-recommended deployment of multiple ProxyAV and ProxySG appliances, all residing on the same subnet. The ProxyAV appliances have access to the Internet for pattern file and firmware updates.

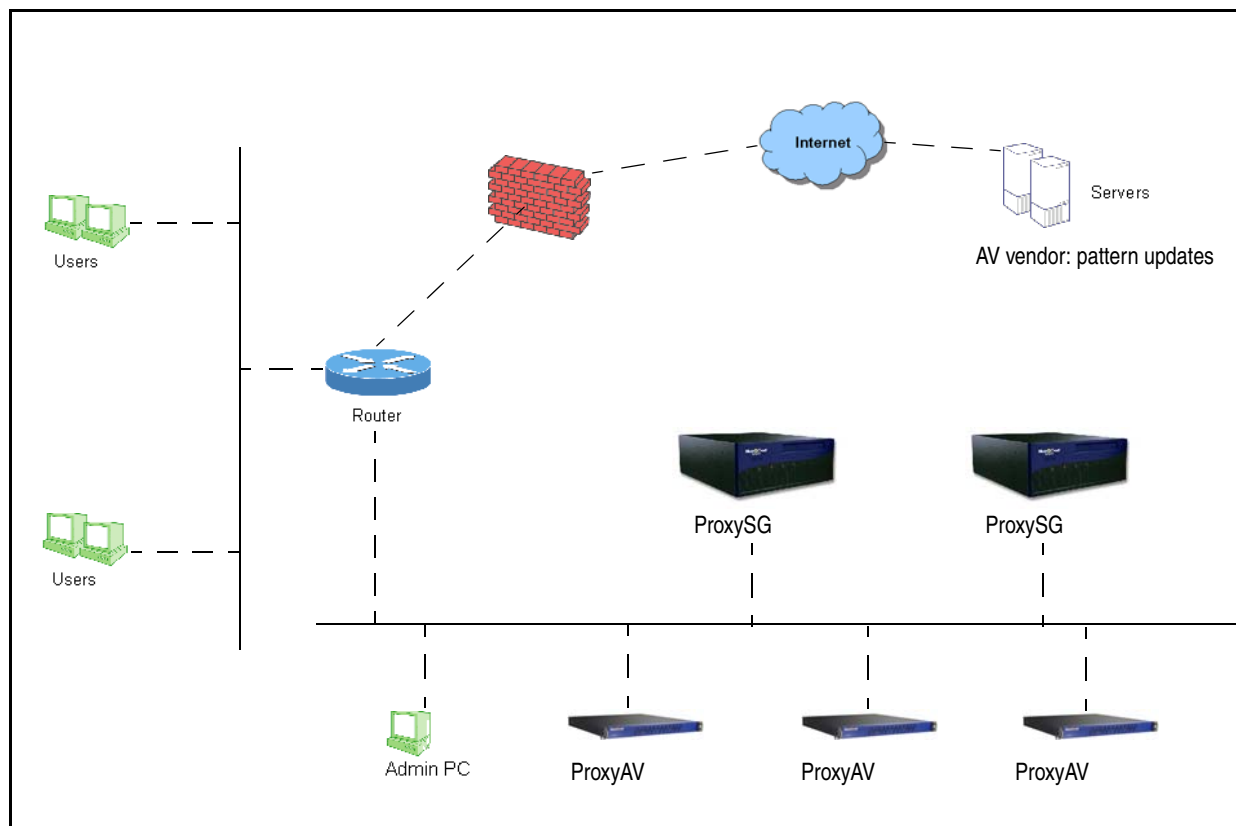


Figure B-2. Deployed ProxyAV and SG appliances connected to the Internet through a router.

Note: If the ProxyAV is physically connected to a Cisco™ router, a cross-over cable must be used. The exception is a ProxyAV 2000-E with the Ethernet Media Link Speed configured to Auto Negotiate. Although a patch cable works with Auto Negotiating, Blue Coat recommends using a cross-over cable if the ProxyAV is connected to a Cisco router to avoid conflicts with the differing behavior. If you are using a Cisco switch, a patch cable can be used.

Deployment Guidelines

Consider the following:

- ❑ Blue Coat recommends that all ProxySG appliances reside on the same subnets as the ProxyAV appliances they are clients to. This includes using multiple ProxySG appliances sharing multiple ProxyAV appliances.
- ❑ The ProxyAV must have access to the Internet for system and pattern file updates.
- ❑ It is not necessary to proxy the ProxyAV through a ProxySG.

Allowable Traffic

The ProxyAV network segment must be configured for the following protocols:

- ❑ Incoming ICAP.
- ❑ Incoming HTTPS (for remote configuration and diagnostic and statistic information).
- ❑ Incoming/outgoing SNMP (monitoring).

- ❑ Outgoing HTTP and HTTPS (firmware, pattern, and engine updating; licensing, registration, and serviceability).
 - ❑ Outgoing DNS (only required to resolve the default AV and Firmware update sites).
- No other protocols are required and should not be allowed.

High-level Integration

The following phases are involved to deploy a ProxyAV with an ProxySG to create an integrated Web scanning service:

1. Configure the ProxySG for ICAP scanning, including specifying the IP address of the ProxyAV as the ICAP service URL.
For more information on the configuration tasks, see [“ProxySG Configuration for SGOS 5.5 and Later” on page 105](#) and [“ProxySG Configuration for SGOS 5.4 and Earlier” on page 106](#)
2. Configure the ProxyAV Web scanning services and features.
3. Define and install Web scanning policies as required in your enterprise. This is accomplished through the Visual Policy Manager (VPM) or by creating Blue Coat Content Policy Language (CPL).

For more information on integrating the ProxyAV/ProxySG solution for malware scanning, refer to the integration guide titled *Integrating the ProxyAV and the ProxySG Appliances*.

Appendix C: Third-Party Copyrights

This appendix contains the current third-party copyright information at the time of this release.

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Vincent Rijmen, Antoon Bosselaers, Paulo Barreto

AES in libhcrypto

rijndael-alg-fst.c

@version 3.0 (December 2000)

Optimised ANSI C code for the Rijndael cipher (now AES)

@author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>

@author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>

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DES core in libhcrypto
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@author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>

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Python 2.5 license

This is the official license for the Python 2.5 release:

A. HISTORY OF THE SOFTWARE

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Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see <http://www.cwi.nl>) in the Netherlands as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see <http://www.cnri.reston.va.us>) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team.

In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see <http://www.zope.com>). In 2001, the Python Software Foundation (PSF, see <http://www.python.org/psf/>) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see <http://www.opensource.org> for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

Table C.1:

Release	Derived From	Year	Owner	GPL-compatible? (1)
0.9.0 thru 1.2	-	1991-1995	CWI	yes
1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6 1.5.2	-	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no
2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3	2.1.2	2002	PSF	yes
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes

Table C.1:

Release	Derived From	Year	Owner	GPL-compatible? (1)
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.5	2.4	2006	PSF	yes

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Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

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Written by Bengaly (R) 2003-2005.

As a part of the Proview (a.k.a PVDasm).

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zip.cpp

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zlib.h -- interface of the 'zlib' general purpose compression library

version 1.2.3, July 18th, 2005

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The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files <http://www.ietf.org/rfc/rfc1950.txt> (zlib format), [rfc1951.txt](http://www.ietf.org/rfc/rfc1951.txt) (deflate format) and [rfc1952.txt](http://www.ietf.org/rfc/rfc1952.txt) (gzip format).

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libarchive 2.3.1

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NTP 3.5

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OpenSSL 0.9.7

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