Web Appliance Configuration Guide
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Introduction

The purpose of this guide is to:

• continue assisting you with the installation and configuration of your Sophos appliance after you have completed the procedures described in the Setup Guide, which provides physical (rack) installation instructions for your Sophos appliance.
• provide you with pre-configuration planning information about the deployment of your appliance in your network.
• assist you with the basic configuration steps in the Sophos appliance setup wizard.
• List some essential post-configuration tasks that you should perform.

This guide assumes that you have already completed all of the steps in the Setup Guide.

While this guide contains enough information to prepare your appliance for live web traffic, it should not be considered a substitute for the Online Help, which contains complete instructions on configuring and managing your appliance. You can access the appliance’s Online Help from the administrative web interface, and it also can be found on the Sophos Web Appliance Documentation site.

The Sophos Web Appliance Documentation site (http://ca-repo1.sophos.com/docs/wsa/) provides access to the following manuals for the appliance:

• The Setup Guide (PDF) provides hardware installation instructions for the Web and Management Appliances.
• The SWA Configuration Guide (PDF) provides descriptions of the network deployment options and step-by-step instructions for the initial software installation and configuration of a Sophos Web Appliance.
• The SMA Configuration Guide (PDF) provides step-by-step instructions for the software side of an initial installation and configuration of a Sophos Management Appliance.
• The Online Help provides complete instructions on configuring and managing the Web and Management Appliance.
• The Release Notes list the New Features and the Resolved Issues for each release of the Web Appliance and Management Appliance software, as well as the Known Issues and Limitations for these products.

The Web Appliance Knowledge Base (http://www.sophos.com/support/knowledgebase/topics/1289/1293) is a collection of articles dealing with a variety of issues relating to the Web and Management Appliance, including:

• Common questions received by Sophos Web Appliance and Management Appliance Support.
• Technical issues that are not commonly encountered by Web Appliance and Management Appliance administrators.
• Technical issues that involve third-party hardware or software products that affect Web Appliance and Management Appliance deployment or operations.

The appliance setup wizard guides you through the processes of:

• Activating the Appliance
• Setting the Time Zone
Although the wizard allows you to configure the appliance’s essential components, many additional configuration options are available in the administrative web interface, which launches automatically when you complete the wizard. The "Post-Installation Configuration" section of this guide describes the configuration options that you should set once installation is complete.

## Features

### Sophos Web Appliance Features

The Web Appliance is an enterprise solution for organizations of various sizes.

**Fast, full-spectrum protection and control**

The Web Appliance provides protection against all web-based threats, while controlling access to undesirable content. The Web Appliance:

- is a highly efficient unified scanner that guarantees accurate detection with low system impact and negligible latency.
- inspects and secures web traffic against spyware, viruses, adware, potentially unwanted applications, and other malicious threats.
- prevents access to known malicious websites, hidden malicious code, phishing sites, and undesirable content.
- provides extensive, regularly updated URL categorization data upon which customizable web access policies can be based.

### Sophos Management Appliance Features

The Management Appliance works with multiple Web Appliances to provide:

- centralized management of up to 50 Web Appliances
- centralized policy configuration
- centralized reporting and activity searches
- a centralized dashboard that provides a status overview for any joined Web Appliances
- storage for as many as 2,000 users (on the SM2000) or 10,000 users (on the SM5000). Three years of reporting data is available.

### Common Features

**Easy to use**

The appliances reduce administrative effort by providing quick access to relevant information. The appliances offer:

- an intuitive management console that enables optimal control with minimal time and effort.
- a unified security policy that eliminates the complexity of administering effective web security.
- powerful reports that deliver unprecedented insight on inbound and outbound web traffic.

**Dependable**
The appliances offer a complete infrastructure built to replace customers' concerns about security with the assurance of protection. The appliances provide:

- dynamic threat response with instant protection against new web-based threats every 5 minutes.
- remote “heartbeat” monitoring that proactively ensures up-to-date protection and optimal hardware and software performance.
- industry-leading 24/7/365 live support directly from Sophos.
- on-demand remote assistance that provides easy, direct access to Sophos Technical Support.
- a robust hardware platform designed specifically to Sophos specifications.
- a hardened Linux operating system optimized for Sophos software.

## Network Deployment

You can deploy the Sophos Web Appliance in a variety of configurations, depending on the requirements of your organization and your existing network architecture.

### Basic Deployment Options

Three basic network deployments are possible for the Sophos Web Appliance:

- **Explicit Deployment**: All client web browsers are explicitly configured to use the appliance, although this can be done centrally by using distributed Active Directory Group Policy Objects (GPO). Explicit Deployment also supports FTP over HTTP.
- **Transparent Deployment**: The firewall or router is configured to redirect port 80 and port 443 traffic through the Web Appliance. In this mode, web traffic filtering is transparent to users, who only see evidence of the Web Appliance if they attempt to connect to certain URLs and are presented with a notification page.
- **Bridged Deployment**: All outbound network traffic is routed through the Web Appliance’s bridge card, but only port 80 and port 443 traffic is examined. This deployment requires the optional bridge card included with some appliance models. With a Bridged Deployment, network traffic continues to flow in the event of an appliance failure.

### Alternative Deployment Options

There are three additional deployments that allow the Web Appliance to work with some common network topologies. You may want to use one of the following, depending on the structure of your existing network.

- **Bypass for Internal Servers**: Allows clients to access specific internal servers directly. This is recommended for use with Explicit Deployment.
- **Use with an Existing Cache**: Allows the Web Appliance to work in conjunction with a pre-existing investment in a web-caching server in any one of the three basic network deployments (Explicit, Transparent, or Bridged).
- **Use with an ISA/TMG Server**: Allows the Web Appliance to work with a downstream or upstream Microsoft Internet Security and Acceleration (ISA) or Microsoft Forefront Threat Management Gateway (TMG) Server in any one of the three basic network deployments (Explicit, Transparent, or Bridged).

### Network Deployment Recommendations

It may be necessary to make additional adjustments to accommodate the requirements of your network.

**Important**: If Active Directory integration is not enabled, the Web Appliance allows connections from any user or computer that can access it. This means that it could allow people from outside of your organization to use your Web Appliance as a proxy, consuming your bandwidth and creating traffic that appears to come from your organization. Sophos strongly advises that you take the following steps to prevent this:

1. Configure your firewall to prevent inbound connections to the Web Appliance from outside your network. The Web Appliance does not require that any inbound ports be open for external traffic.
2. Configure the Web Appliance to accept requests only from your own network. To do this:
a. Select Configuration ➤ Group Policy ➤ Default Groups.
b. Create a custom user group consisting of all your internal subnets and add this group to the Selected groups list.
c. Select the Only the users/groups selected below option, and click Apply.

Configure your firewall to allow email with attachments from the Web Appliance to wsasupport@sophos.com. This is necessary information for Sophos, which uses system status snapshots that you submit as email attachments to ensure that your Web Appliance is operating within acceptable thresholds.

Network Deployments Comparison Table

The following table presents the key characteristics of each basic supported deployment scenario. For details of each, see the sections that follow.

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Note: If you use the Transparent or Bridged deployment, see Switching from Transparent Mode to Explicit Mode (page 16) or Switching from Bridged Mode to Explicit Mode (page 16) to learn about making the transition to Explicit Deployment.

Explicit Deployment

This deployment involves explicitly configuring all client web browsers to use the Web Appliance, although you can also do this centrally by using distributed Active Directory Group Policy Objects (GPO).

- Inspects HTTP, HTTPS, and FTP over HTTP traffic.
- All clients require configuration (may be done centrally; see the “Configuration” section below).
- If the deployment fails, all clients must be reconfigured (may be done centrally; see the “Configuration” section below).

Operation
- Users' HTTP, HTTPS, and FTP over HTTP requests are passed to the Web Appliance.
- The Web Appliance assesses URLs, blocks disallowed requests, checks if allowed URL requests are currently cached, and passes URL requests that are not cached through the firewall to retrieve them from the internet.

  **Note:** Port 80, port 443, port 20, and port 21 requests from users are blocked at the firewall; URLs are only accepted by the firewall if they are from the Web Appliance.

- The Web Appliance receives any new pages or files and caches them; it passes the pages or files of allowed requests back to the users.
- The users receive only safe and allowed pages and files or a notification page.

**Configuration**

1. Connect your organization's LAN to the Web Appliance's LAN port.
2. Configure each user's web browser to use the Web Appliance via port 8080 as their web proxy for HTTP, HTTPS, and FTP. (Ports 3128 and 8081 are also supported, but their use is only suggested if the Web Appliance is replacing a previous proxy configuration that used one of these ports.)

  **Note:** For information about adding support for HTTPS applications that use non-standard ports, see “Using the Local Site List Editor” in the Group Policy section of the documentation.

  **Note:** Configuring all users' browsers to use the Web Appliance as a web proxy can be done centrally in Windows networks by using any of the methods described in the *Sophos Web Appliance: Configuring your network for Explicit Deployment* Knowledgebase article, which also includes links to the following:

  - *Creating, Testing, and Deploying a proxy.pac File*
  - *Publishing Proxy Information as a wpad.dat File*
  - *Creating a GPO*

3. In the Web Appliance's administrative web interface, on the Configuration ➤ Network ➤ Network Interface page, set the Deployment Mode to Explicit proxy.
Transparent Deployment

This deployment involves configuring the firewall or router to route all port 80 and port 443 traffic to the Web Appliance. In this mode, web traffic filtering is transparent to users. Unlike Explicit Deployment, you are not required to configure end user browsers.

- Inspects HTTP and HTTPS traffic.
- Only the firewall and/or the router requires configuration.
- If it fails, only the firewall and/or the router must be reconfigured.

Operation

1. Users make HTTP/HTTPS requests from their clients that are sent out to the LAN.
2. The router receives all network traffic and bounces all HTTP/HTTPS requests to the Web Appliance.
3. The Web Appliance assesses URLs, blocks disallowed requests, checks if allowed URL requests are currently cached, and passes URL requests that are not cached out to the LAN.
4. The router passes all HTTP/HTTPS requests from the Web Appliance out through the firewall to retrieve the URLs from the internet.
5. The Web Appliance receives the new pages or files and caches them; it passes the pages or files of allowed requests back to the users.
6. The users receive only safe and allowed pages and files or a notification page.

Configuration

1. Connect the Web Appliance’s LAN port to your organization’s LAN.
2. In the Web Appliance’s administrative web interface, on the Configuration ➤ Network ➤ Network Interface page, set the Deployment mode to Transparent.
3. Configure your router so that it redirects all port 80 traffic to port 80 and port 443 traffic to port 443 on the Web Appliance. In this case, the destination of each packet remains unaltered, but the packets are sent by the router to the Web Appliance. Traffic on port 80 and 443 from the Web Appliance should be passed to the firewall. All other port traffic is passed as usual.

Note: With Active Directory enabled in Transparent mode, a Windows issue causes Internet Explorer to be repeatedly prompted for authentication. When deploying in Transparent mode, all workstations must be able to resolve the hostname of the Web Appliance into a FQDN (for instance http://ws1000 must resolve to http://ws1000.example.com). For more information, please see http://support.microsoft.com/kb/303650. Firefox users may need to type their password.
repeatedly unless browser settings are reconfigured. For more information, see Configuring Firefox for Active Directory in Transparent mode or Bridged mode.

## Bridged Deployment

This deployment is similar to Transparent Deployment in that all outbound network traffic flows through the Web Appliance. Bridged Deployment, however, requires the optional bridge card included with some appliance models.

- Inspects HTTP and HTTPS traffic.
- Only the Web Appliance requires configuration.
- If it fails, you must power down the Web Appliance, but network traffic will continue to flow.

### Operation

This deployment uses the Web Appliance's bridge card, with the Network Interface page's Deployment mode set to Bridged. In this configuration, the Configuration port to which you connect your laptop or PC to run the setup wizard still appears along the bottom of the appliance, as illustrated in the diagram below (to the right of the middle on the back of the appliance ❶), but this is the only RJ45 port at that location.

There are two ports on the bridge card in the upper-right corner of the back of the appliance. Immediately to the left of these is a small group of six LEDs ❷ that indicate LAN connection status, as described in the "Appliance Hardware" page. Of the two RJ45 ports on this card, the one to the left is the WAN port, which you connect to your firewall for WAN or internet access ❸; the port to the right is the LAN port ❹, which you connect to your LAN.

All outbound and inbound traffic passes through the Web Appliance, which filters all port 80 and 443 traffic, allowing only secure and permissible web content to be accessed by your users, while non-web network traffic is passed through.

If the Web Appliance shuts down, the bridge card will be shut down with the LAN circuit closed, meaning that all LAN traffic will pass through.
• All outbound network traffic passes through the Web Appliance ④. Users' URL requests are intercepted by the Web Appliance ② on their way to the firewall ①. All other traffic passes through.

• The Web Appliance ② assesses all URL requests, blocks disallowed requests, checks if allowed URL requests are currently cached and passes uncached URL requests through the firewall ① and retrieves them from the internet ③.

• The Web Appliance ② receives any new pages or files and caches them; it passes the pages or files of allowed requests back to the users ④.

• The users ④ receive only safe and allowed pages and files or a notification page.

**Configuration**

1. Connect the Web Appliance's LAN port to your organization's LAN.
2. Connect the Web Appliance's WAN port to your organization's firewall.
3. In the Web Appliance's administrative web interface, on the **Configuration ➤ Network ➤ Network Interface** page, set the **Deployment mode** to **Bridged**, and click **Configure** to create a list of IP addresses or IP ranges for internal web servers that are exempted from handling by the Web Appliance.

   ![Diagram](image)

   **Note:** You are not required to configure users’ web browsers.

**Bypassing for Internal Servers**

This option allows clients to access specific internal servers directly. You might choose this setup if you want to let users access internal web pages without routing requests through the appliance. When based on the Explicit Deployment, this option does the following:

• Inspects HTTP, HTTPS, and FTP over HTTP traffic.
• Supports individual user opt-outs.
• Requires configuration for all clients.
• If it fails, all clients must be reconfigured, although clients can be configured to bypass the Web Appliance should it fail.

**Operation**

• Users' HTTP, HTTPS, and FTP requests are examined by the PAC script ② or similar configuration and forwarded to the appropriate server: the Web Appliance ① or another server ④.
When requests are forwarded to the Web Appliance, it assesses the URLs, blocks disallowed requests, checks if allowed URL requests are currently cached, and passes URL requests that are not cached through the firewall to retrieve them from the internet.

Note: Port 80, port 443, and port 21 requests from users are blocked at the firewall; URLs are only accepted by the firewall if they are from the Web Appliance.

- The Web Appliance receives any new pages or files and caches them; it passes the pages or files of allowed requests back to the users.
- The users receive only safe and allowed pages and files or a notification page.

Configuration

1. Connect your organization's LAN to the Web Appliance's LAN port.
2. Configure each client with either a PAC file (the more flexible method) or by distributing the configuration to users via Active Directory Group Policy (the easier method).

Note: When using .pac files with Internet Explorer, we highly recommend disabling automatic proxy caching. Specific instructions can be found in this Microsoft Support article: http://support.microsoft.com/kb/271361.

3. In the Web Appliance's administrative web interface, on the Configuration ➤ Network ➤ Network Interface page, set the Deployment mode to Explicit proxy.

Existing Cache Deployment

This option allows the Web Appliance to work in conjunction with an existing web-caching server.

Operation

The operation will vary according to the deployment scenario that you choose. As an example, the deployment shown in the diagram above and described in the points below is based on a Bridged Deployment.

- Users' URL requests are passed to the Web Appliance.
- The Web Appliance passes allowed requests to the cache server.
- If the cache server does not have the pages or files cached, it passes the request through the firewall; if it has the requested pages or files cached or when the request is returned through the firewall, the cache server passes the requested pages or files back to the Web Appliance.
**Note:** Even with the presence of a cache server, the Web Appliance will cache static content.

**Note:** This configuration is not intended to work with Microsoft Internet Security and Acceleration (ISA) servers or Microsoft Forefront Threat Management Gateway (TMG) servers. If you want a network deployment that will work effectively with ISA/TMG servers, try either the Downstream ISA/TMG Server Deployment or the Upstream ISA/TMG Server Deployment.

- The Web Appliance 2 scans the pages or files and passes allowed requests back to the users 1.
- The users 1 receive only safe and allowed pages and file or a notification page.

**Configuration**

Follow the configuration instructions for the basic network deployment scenario that you want to use (Explicit Deployment, Transparent Deployment, or Bridged Deployment), but with the following differences:

- Ensure that your existing cache server is between your Web Appliance and your firewall.
- Ensure that your cache server is configured to be transparent to the Web Appliance.

**Downstream ISA/TMG Server Deployment**

This option, which uses either a Microsoft Internet Security and Acceleration (ISA) server or a Microsoft Forefront Threat Management Gateway (TMG) server, is based on the Explicit Deployment. This deployment is different in that it includes an ISA/TMG server (and optionally an Active Directory server) between users and the Web Appliance.

- Allows the Web Appliance to work with an ISA/TMG Server.
- If the Sophos ISA/TMG plug-in is installed, and an Active Directory server is on the network side of the ISA or TMG server, then clients (users) can be seen as usernames.
- Allows you to use multiple Web Appliances in a simple load-balancing deployment.
- If the Sophos ISA/TMG plug-in is not installed, all traffic will be identified as coming from one user: the ISA/TMG server.
- If the Sophos ISA/TMG plug-in is not installed or an Active Directory server is not on the network side of the ISA/TMG server, then clients (users) will appear as IP addresses only.
- Does not support individual user opt-out, although with the ISA/TMG plug-in installed custom policy can be applied to an individual user or group.

**Operation**
• Users' HTTP and HTTPS requests are passed through an ISA/TMG server that uses NTLM or IWA Authentication.
• The ISA/TMG server passes URL requests to the Web Appliance.
• The Web Appliance assesses the URL.
• The Web Appliance blocks disallowed requests, checks if allowed URL requests are currently cached, and passes URL requests that are not cached through to the firewall.

> **Note:** Port 80 and 443 requests from users are blocked at the firewall, which retrieves the URL’s material from the internet. URLs are only accepted by the firewall if they are from the Web Appliance.

• The Web Appliance receives new pages or files, caches them, and passes the page or file on to the users.
• The users receive only safe and allowed pages and files or a notification page.

> **Note:** If the Sophos ISA/TMG plug-in is installed, clients (users) are identified individually; otherwise, all traffic is identified as coming from one user: the ISA/TMG server.

> **Note:** If the Sophos ISA/TMG plug-in is installed, and an Active Directory server is on the network side of the ISA/TMG server, then clients (users) can be seen as usernames; if the Active Directory server is not appropriately located, clients (users) appear only as IP addresses in reports and user activity logs.

The ISA/TMG plug-in can be downloaded from the Configuration ➤ Network ➤ Hostname page. The ISA/TMG plug-in is compatible with Microsoft ISA Server 2004 and 2006, and Microsoft Forefront TMG 2010.

**Configuration**

> **Important:** The Web Appliance may not catch malware stored in the ISA/TMG server’s cache. To avoid this risk, be sure to clear the ISA/TMG cache prior to enabling this network deployment.

Follow the configuration instructions for the Explicit Deployment scenario, but with the following differences:

• Ensure that your ISA/TMG server is between the clients and your Web Appliance.
• Ensure that your ISA/TMG server is configured to pass traffic through the Web Appliance if it is configured in an Explicit Deployment.
• Ensure that your Active Directory server, if you are using one, is located on the network side, between your clients (users) and your ISA/TMG server. The ISA/TMG server must also be configured to allow communications between your Web Appliance and your Active Directory server.

> **Note:** Web Appliance policy will be applied to users authenticated by the Active Directory server using the pre-Windows 2000 format DOMAIN\username only.

• If the ISA/TMG plug-in is installed, enter the IP address of the downstream ISA/TMG server in the Accept authentication from downstream ISA/TMG servers section on the Configuration ➤ Network ➤ Hostname page.

> **Note:** A simple way to set up load balancing amongst multiple Web Appliances is to set up a DNS round robin scheme. If you do this, you should disable DNS caching because Windows DNS caching can mask the round robin effect. To disable Windows DNS caching, see the Microsoft Support article [http://support.microsoft.com/kb/318803](http://support.microsoft.com/kb/318803). You must ensure that you have a firewall with network address translation (NAT), but not an ISA or TMG server in firewall mode, between the Web Appliances and the internet. This firewall must be configured to present a single IP for the Web Appliances to the sites on the internet. The NAT, or IP masquerading, prevents sites that check and record the IP address of visitors in cookies from encountering multiple IP addresses.

> **Note:** Explaining how to configure an ISA/TMG Server is beyond the scope of this documentation. For details on ISA/TMG Server configuration, see the Microsoft ISA Server Deployment page or the Microsoft Forefront TMG Deployment page.
Upstream ISA/TMG Server Deployment

This option is similar to the Downstream ISA/TMG Server Deployment. It can be used with any of the basic deployment options. It allows the Web Appliance to work with an ISA/TMG server, although in this case, one that is upstream in the network from the Web Appliance (see diagram below).

- Allows the Web Appliance to work with an ISA/TMG server.
- Allows you to use multiple Web Appliances in a simple load-balancing deployment.
- Does not support individual user opt-out.

Operation

The operation varies according to the basic deployment scenario that you choose. As an example, this option is shown in the diagram above and described in the points below as a Bridged Deployment.

- Users' HTTP and HTTPS requests are passed through the Web Appliance 1.
- The Web Appliance 2 assesses URLs.
- The Web Appliance 2 blocks disallowed requests, checks if allowed URL requests are currently cached, and passes URL requests that are not cached through to the ISA/TMG server 3.
- The ISA/TMG server 3 retrieves new pages or files from the internet 4, and passes them back to the Web Appliance 2.
- The Web Appliance 2 receives the allowed pages or files, caches them, and passes them on to the users 1.
- The users 1 receive only safe and allowed pages and files or a notification page.

Configuration

Follow the configuration instructions for the basic network deployment scenario that you want to use—Explicit Deployment, Transparent Deployment, or Bridged Deployment—but locate your Web Appliance between the ISA/TMG server and your users.

Note: Even if you have an upstream proxy (a proxy between the Web Appliance and the internet) configured, you still need to configure the Web Appliance with access to your organization's DNS server, which is set on the Configuration ➤ Network ➤ Network Interface page.

Note: A simple way to set up load balancing amongst multiple Web Appliances is to set up a DNS round robin scheme. If you do this, you should disable DNS caching because Windows DNS caching can mask the round robin effect. Also, you must ensure that you have a firewall with network address translation (NAT), but not an ISA/TMG server in firewall mode, between the Web Appliances and the internet. This firewall must be configured to present a single IP for the Web
Appliances to external sites. The NAT, or IP masquerading, prevents sites that check and record the IP address of visitors in cookies from encountering multiple IP addresses. To disable Windows DNS caching, see the Microsoft support article http://support.microsoft.com/kb/318803.

**Note:** Explaining how to configure an ISA/TMG server is beyond the scope of this documentation. For details on ISA/TMG server configuration, see Microsoft’s ISA Server Deployment page or the Microsoft Forefront TMG Deployment page.

### Switching from Transparent Mode to Explicit Mode

This page describes the steps required to make the transition from a Transparent Deployment to an Explicit Deployment.

To transition from a Transparent to an Explicit deployment:

1. Ensure the Web Appliance’s LAN port is connected to an area of your network that is accessible to your client systems. Also ensure that your router or firewall does not redirect any traffic to your Web Appliance.

2. On the Configuration ➤ Network ➤ Network Interface page, change the Deployment mode from Transparent to Explicit proxy.

3. Configure each user’s web browser to use the Web Appliance via port 8080 as their web proxy for HTTP, HTTPS, and FTP. (Ports 3128 and 8081 are also supported, but their use is only suggested if the Web Appliance is replacing a previous proxy configuration that used one of these ports.)

**Note:** To add support for HTTPS applications that use non-standard ports, see Add Local Classification.

**Note:** Configuring all users' browsers to use the Web Appliance as a web proxy can be done centrally in Windows networks by using one of several methods. See the Sophos Knowledgebase pages for instructions on how to do this by:

- Creating, Testing, and Deploying a proxy.pac File
- Publishing Proxy Info as a wpad.dat File
- Creating a GPO

### Switching from Bridged Mode to Explicit Mode

This page describes the steps required to convert your Web Appliance from a Bridged Deployment to an Explicit Deployment.

To transition from a Bridged to an Explicit deployment:

1. Leave the Web Appliance's LAN port connection to your organization's LAN unchanged.

2. Remove the connection between the Web Appliance's WAN port and your organization’s firewall.

3. On the Configuration ➤ Network ➤ Network Interface page, change the Deployment mode from Bridged to Explicit.

4. Configure each user’s web browser to use the Web Appliance via port 8080 as their web proxy for HTTP, HTTPS, and FTP. (Ports 3128 and 8081 are also supported, but their use is only suggested if the Web Appliance is replacing a previous proxy configuration that used one of these ports.)

**Note:** To add support for HTTPS applications that use non-standard ports, see Add Local Classification.
∫ Note: Configuring all user’s browsers to use the Web Appliance as a web proxy can be done centrally in Windows networks by using one of several methods. See the Sophos Knowledgebase pages for instructions on how to do this by:

- Creating, Testing, and Deploying a proxy.pac File
- Publishing Proxy Info as a wpad.dat File
- Creating a GPO

## Integrating with Sophos Email Products

The appliance can be configured to work with Sophos’s email products, such as the Sophos Email Appliances or PureMessage for UNIX. The instructions for doing so are listed below.

- To configure your Sophos Web or Management Appliance to route email via your Sophos Email Appliance:
  a) On your Sophos Web or Management Appliance, on the Configuration ➤ Network ➤ Hostname page, enter the IP address of your Email Appliance in the Outgoing SMTP mail server text box.
  b) On your Sophos Email Appliance, on the Configuration ➤ Routing ➤ Internal Mail Hosts page, enter the IP address of your Web or Management Appliance in the Internal hosts and networks text box, and click Add.

- To configure your Sophos Web or Management Appliance to route email via your Sophos PureMessage for UNIX server:
  a) On your Sophos Web or Management Appliance, on the Configuration ➤ Network ➤ Hostname page, enter the IP address of your PureMessage server in the Outgoing SMTP mail server text box.
  b) On your Sophos PureMessage server, on the Policy ➤ Internal Hosts page, enter the IP address of your Web or Management Appliance.

- To configure your Sophos Email Appliance to access the internet via your Sophos Web Appliance:
  If you are using Active Directory, you must exclude your Email Appliance from authentication.
  a) On your Sophos Web Appliance, on the Configuration ➤ System ➤ Connection Profiles page, create a connection profile that includes the IP address of your Email Appliance.
  b) On your Sophos Web Appliance, on the Configuration ➤ System ➤ Authentication page, use the Profiles tab to create an authentication profile that applies to the connection profile for the Email Appliance that you created in the previous step.
  For more information on creating authentication profiles, see “Authentication” in the Web Appliance’s main documentation.
  c) On your Sophos Email Appliance, on the Configuration ➤ Network ➤ Hostname and Proxy page, enter the following information in the Proxy server configuration section:
    - Server address: enter the IP address of your Web Appliance
    - Port: 8080
    - Username and Password: leave these blank
  d) Click Apply.

- To configure your Sophos PureMessage for UNIX server to access the internet via your Sophos Web Appliance:
  If you are using Active Directory, you must exclude your PureMessage server from authentication.
  a) On your Sophos Web Appliance, on the Configuration ➤ System ➤ Connection Profiles page, create a connection profile that includes the IP address of your PureMessage for UNIX server.
  b) On your Sophos Web Appliance, on the Configuration ➤ System ➤ Authentication page, use the Profiles tab to create an authentication profile that applies to the connection profile for the PureMessage server that you created in the previous step.
For more information on creating authentication profiles, see “Authentication” in the Web Appliance’s main documentation.

c) On your Sophos PureMessage server, configure the IP address of your Web Appliance using the `HTTP_proxy` environment variable. Specify port 8080. Do not specify a username or password.

**Grouping Web Appliances**

The Sophos Web Appliance is available in a variety of models, each capable of providing web browsing security and control features for different numbers of end users. As indicated in the table below, appliances differ in their processing capacity and memory.

Larger organizations and those with multiple locations can use multiple Sophos Web Appliances grouped together by a common Sophos Management Appliance to provide web security and control for their various locales and a large number of end users. Management appliances centralize control of policy and configuration data and consolidate reports. In order to group two or more appliances together, you must purchase a Sophos Management Appliance.

Web Appliances and Management Appliances can also be purchased as virtual machines that run on VMWare. Their capacity depends on how much CPU, memory, and disk space you allocate. For more information, see “Virtual Appliances” in the product documentation.

For detailed instructions on joining and disconnecting appliances, see “Central Management” in the System section of the product documentation.

<table>
<thead>
<tr>
<th>Model</th>
<th>Processors</th>
<th>Memory (RAM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WS100</td>
<td>dual-core, light-capacity</td>
<td>2 GB</td>
</tr>
<tr>
<td>WS500</td>
<td>dual-core, medium-capacity</td>
<td>2 GB</td>
</tr>
<tr>
<td>WS1000</td>
<td>dual-core, high-capacity</td>
<td>4 GB</td>
</tr>
<tr>
<td>WS1100</td>
<td>quad-core, high-capacity</td>
<td>8 GB</td>
</tr>
<tr>
<td>SM2000</td>
<td>quad-core, high-capacity</td>
<td>8 GB</td>
</tr>
<tr>
<td>SM5000</td>
<td>quad-core, high-capacity</td>
<td>8 GB</td>
</tr>
<tr>
<td>WS5000</td>
<td>quad-core, high-capacity</td>
<td>16 GB</td>
</tr>
</tbody>
</table>

**Note:** The number of end users that an appliance can handle is determined by the frequency at which your organization’s users browse the web throughout the day and the volume and nature of the files that they download and access. The number of users that a grouped deployment supports depends on the number of joined appliances.

**Scaling and Deployment**

Your organization can either grow to require more than one appliance, or—if your organization is a new Sophos appliance user that is a large, multi-site organization—you can begin by using multiple, grouped appliances. In a grouped Web Appliance deployment, configuration and policy data is distributed from the Management Appliance. If you have an existing standalone appliance, there is also the option of the Management Appliance extracting configuration and policy data from the first Web Appliance to join.
Scenario 1: Your growing organization now requires more than one appliance

If your organization begins with a single standalone Web Appliance and then grows to require a multiple Web Appliances, the deployment of the additional appliances would be as follows:

Preparing to Join a Management Appliance

Before you join an existing Web Appliance to a Management Appliance, take the following steps to ensure that building your group is a smooth and successful process.

1. Be sure that you perform a backup that includes system configuration data and system logs. See Backup (page 40) for more information.
2. If you want to use the policy and configuration data from an established Web Appliance that you plan to join to a Management Appliance, on the Configuration ➤ System ➤ Central Management page on the Management Appliance, be sure to select the Copy configuration and policy data from the first web appliance to join before joining the established Web Appliance. Ensure that the established Web Appliance is the first Web Appliance that you join to the Management Appliance.

Joining a Management Appliance and Other Appliances

1. Join your organization's original, already-configured Web Appliance 1 to the Management Appliance 1. The original Web Appliance's configuration and policy data are copied to the Management Appliance (shown with blue dotted line).
2. Join the new Web Appliances to the Management Appliance 1. This can be done in any order, whether the new Web Appliances are in the same location 1 or in remote locations 1 and 2.

The new Web Appliances that are joined—1, 1, and 1—then receive their configuration and policy data from the Management Appliance.
Scenario 2: Your large or multi-site organization’s deployment starts with multiple appliances

If your organization begins with multiple appliances that are deployed at the same time, the setup is as follows:

1. Unconfigured Web Appliances, whether they are in the same location or in remote locations, are joined (in any order) to the Management Appliance (joins must be performed from each new Web Appliance).
2. The configuration is done on the Management Appliance, which then distributes this configuration data to the joined Web Appliances (shown with blue dotted lines).

Note: Follow the steps in Scenario 1 if you prefer to configure one of your new Web Appliances for testing purposes first, join it to the Management Appliance, and then distribute the configuration data to the other Web Appliances.

Joined Appliances (Scenarios 1 and 2)

In both scenarios, once all of the appliances are joined, ongoing configuration changes are done on the Management Appliance and distributed to the Web Appliances—thus providing centralized configuration (blue dashed lines). Also, report data is sent from the Web Appliances to the Management Appliance, providing centralized reporting (red smooth lines).

Appliance Mode and Model Differences

Sophos Web Appliances can operate in standalone or joined mode. You can also join a Sophos Management Appliance to one or more Web Appliances for centralized management.

There are differences in the administrative user interface, depending on which mode the appliance is in or if it is a Management Appliance. For a detailed breakdown of these variations, see “Mode and Model Differences.”

Network Deployment Troubleshooting

The following is a list of known Web Appliance network deployment issues and their solutions.

"Blocked" Notification Page Lacks Graphics and a Stylesheet

Problem: If the "Blocked" notification page is displayed without any graphics and as raw HTML without the formatting of a stylesheet, the problem can result from the following combination of conditions in your network deployment:

- Your browser is configured to bypass use of the Web Appliance for your internal sites (for example, the domain name of your Web Appliance would normally be bypassed).
• Your browser is configured with the Web Appliance's IP address instead of its fully qualified hostname.
• Your DNS server cannot resolve the Web Appliance's IP address.

Solution: The best solution is to add the Web Appliance to your DNS server.

Firewall reports attachments stripped from Web Appliance-generated email

Background: The Web Appliance provides a managed appliance experience that is enabled in part by sending system status snapshots as email attachments to Sophos to ensure that your Web Appliance is operating within acceptable thresholds.

Problem: Firewalls can strip attachments from Web Appliance-generated email.

Solution: To enable the Sophos managed appliance experience, configure your firewall to allow email with attachments from the Web Appliance to wsasupport@sophos.com.

Long delays when loading web pages

Problem: If latency is significantly increased when browsing through the appliance, the problem may be due to an inappropriate Speed and duplex setting forced by enabling the auto-detect option.

Solution: To test if this is the case, set one of the manual options in the Speed and duplex option on the Configuration ➤ Network ➤ Network Interface page. If this change does not remedy the high latency problem, reinstate the automatic option and contact Sophos Technical Support.

RealPlayer Content Appears to be Blocked

Problem: RealPlayer content fails to play. This is typically a firewall configuration issue and not an Web Appliance problem. RealPlayer uses port 554, which is typically blocked in default firewall configurations.

Note: The remote site can force the use of a non-HTTP port, which will result in users not being able to view the content if the firewall is blocking the port being used.

Solution: To enable access to RealPlayer content, open port 554 on your firewall.

Initial Configuration

This section describes the steps required to register your appliance with Sophos and perform the initial activation and configuration of your appliance. You begin by activating your appliance, after which the setup wizard launches.

In the wizard, you perform the required networking configuration. The appliance then registers with Sophos and retrieves the latest software updates and threat definitions. Next, you set more of the initial configuration options for the appliance and, upon completion, the Dashboard page of the appliance's administrative web interface is launched.

Note: You can modify all of the configuration options set in the wizard from within the appliance's administrative web interface.

To prepare for installation and initial configuration:

1. On your organization's firewall, configure access to the following ports for external and internal connections for the appliance.

External Connections

These services are typically used for connections between your Web Appliance(s) and locations outside of your organization's network.

<table>
<thead>
<tr>
<th>Port</th>
<th>Function</th>
<th>Service</th>
<th>Protocol</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>Remote assistance</td>
<td>SSH</td>
<td>TCP</td>
<td>Outbound from appliance to sophos.com</td>
</tr>
</tbody>
</table>
### Internal Connections

These services are typically used for connections within your organization's network and your Web Appliance(s) or between appliances themselves, if you have multiple appliances.

<table>
<thead>
<tr>
<th>Port</th>
<th>Function</th>
<th>Service</th>
<th>Protocol</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Backups using passive FTP</td>
<td>FTP</td>
<td>TCP</td>
<td>Outbound from appliance to FTP server</td>
</tr>
<tr>
<td>22</td>
<td>Central configuration, status and reporting</td>
<td>SSH</td>
<td>TCP</td>
<td>Outbound from Web Appliance to Management Appliance (if collocated)</td>
</tr>
<tr>
<td>53</td>
<td>DNS queries</td>
<td>DNS</td>
<td>UDP</td>
<td>Outbound from Appliance to LAN</td>
</tr>
<tr>
<td>88</td>
<td>Kerberos authentication</td>
<td>KERBEROS</td>
<td>TCP/UDP</td>
<td>Inbound/outbound between appliance and AD server</td>
</tr>
<tr>
<td>139</td>
<td>MS NetBIOS session</td>
<td>NETBIOS-SSN</td>
<td>TCP/UDP</td>
<td>Inbound/outbound between appliance and AD server</td>
</tr>
<tr>
<td>389</td>
<td>Directory services synchronization</td>
<td>LDAP</td>
<td>TCP/UDP</td>
<td>Inbound/outbound between appliance and AD server</td>
</tr>
<tr>
<td>443</td>
<td>administrative web interface</td>
<td>HTTPS</td>
<td>TCP</td>
<td>Inbound from LAN to appliance</td>
</tr>
<tr>
<td>445</td>
<td>MS server message block</td>
<td>SMB</td>
<td>TCP/UDP</td>
<td>Inbound/outbound between appliance and AD server</td>
</tr>
<tr>
<td>636</td>
<td>LDAP synchronization</td>
<td>LDAPS</td>
<td>TCP</td>
<td>Inbound/outbound between appliance and eDirectory server</td>
</tr>
<tr>
<td>3268</td>
<td>MS AD Global Catalog synchronization</td>
<td>MSGC</td>
<td>TCP/UDP</td>
<td>Inbound/outbound between appliance and AD server</td>
</tr>
<tr>
<td>8080</td>
<td>Proxy (end user web browsing)</td>
<td>HTTP/HTTPS</td>
<td>TCP</td>
<td>Inbound/outbound between LAN and appliance</td>
</tr>
</tbody>
</table>

Note: Opening ports 80 and 443 is a standard best practice. However, certain web sites may also require other ports to be opened.

2. Gather the information that you will need to perform the installation and initial configuration of the appliance.

You will need the following information:

- The email message from Sophos that contains the activation code for your appliance.
- IP address, network mask, and fully qualified domain name for the appliance.
- IP address of the default gateway (the router on your LAN).
- IP address of the DNS servers.
- The email addresses of those in your organization who will receive alerts.
- The contact information for the person in your organization that Sophos should notify about support issues for your appliance.
Note: Ensure that you have completed all of the steps in the Setup Guide, opened the indicated ports, and gathered the information listed above before you begin the appliance setup wizard. Running the setup wizard is documented in the following sections of this guide.

Activating the Appliance

To activate your appliance:

1. Prepare the laptop or other system that you will connect directly to the appliance by setting the subnet mask to 255.255.255.0 and the IP address to 172.24.24.1.

2. Connect your laptop via an ethernet cable to the Config port on the rear of the appliance.


   Important: You may need to add this address to Internet Explorer's Trusted Sites. When prompted to "continue to this website", accept the invalid certificate.

The Activation page is displayed:

4. Enter the activation code contained in an email message from Sophos, or if you are installing the appliance as a 30-day trial, click Try Now.

   The login page is displayed:
5. Set and confirm an administrator password of at least 6 characters.

6. Click Login.

The End User License page is displayed. Optionally, print the end user license agreement by clicking Print to display a printable version of the license agreement. Use your browser's built-in options to print the agreement.

**Important:** Do not interrupt the installer once it begins. Doing so can damage the system to the point that it may require return to the factory to be re-imaged.

7. Read the License Agreement fully (scrolling to the bottom of the license agreement activates the "accept" option below), select I accept the terms of the License Agreement, and click Next.

The 3rd Party Notice page is displayed. You may print the notice by clicking Print.

8. Read the 3rd party notice fully, and click Next to proceed to the Install Root Certificate (page 24) page of the wizard.

---

### Install Root Certificate

To install the root certificate:

The root certificate must be installed in the browser from which you will access the appliance's administrative web interface in order to use this administrative interface. This certificate can always be added later, but choosing not to install the root certificate at this stage will result in invalid certificate warning messages being displayed during the final stages of this setup wizard.
1. Click **Install Certificate**.
   For full instructions on installing the root certificate that are specific to your browser, click "**Instructions for installing the Sophos root certificate into your browser.**"

2. Click **Next** to proceed to the **Time Zone** (page 25) page of the wizard.

**Time Zone**

To set the time zone:
1. From the drop-down list, select the appropriate time zone for your region.
2. Click Next to proceed to the Network Interface (page 26) page of the wizard.

## Network Interface

The appliance's network settings and name servers are configured on the Network Interface page of the wizard.

### Network Interface

<table>
<thead>
<tr>
<th>Network settings</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DHCP</td>
<td>Static IP</td>
<td></td>
</tr>
<tr>
<td>IP Address</td>
<td>Default Gateway</td>
<td>Deployment mode</td>
</tr>
<tr>
<td>192.0.2.1</td>
<td>192.0.2.2</td>
<td>Explicit proxy</td>
</tr>
<tr>
<td>Network Mask</td>
<td>Speed and duplex</td>
<td>Auto</td>
</tr>
<tr>
<td>255.255.255.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Name servers

<table>
<thead>
<tr>
<th>Name servers</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain DNS servers automatically</td>
<td>Specify the DNS servers</td>
<td></td>
</tr>
<tr>
<td>Primary DNS IP</td>
<td>Secondary DNS IP (optional)</td>
<td>Tertiary DNS IP (optional)</td>
</tr>
<tr>
<td>192.0.2.3</td>
<td>192.0.2.4</td>
<td></td>
</tr>
</tbody>
</table>

To configure network interface settings:

1. In the **Network settings** section, do one of the following:
   - To configure network settings with DHCP, accept the default DHCP option.
   - To configure a static IP address, select **Static IP** and configure the following:
     1. In the **IP Address** text box, enter the address for the appliance.
     2. In the **Network Mask** text box, enter the mask (for example, 255.255.0.0).
     3. In the **Default Gateway** text box, enter the address of the default gateway (that is, the router on your LAN).
     4. On the **Speed and duplex** drop-down list, accept the **Auto** option. (If you select another setting from the drop-down list, it must match the speed of your ethernet switch to ensure that the appliance operates correctly.)
     5. From the **Deployment mode** drop-down list, select either **Explicit proxy** or **Transparent**, depending on the deployment option that you want.

   **Note:** Before you choose to use either the transparent or bridged network deployment, it is recommended that you read the **SWA: Configuring your network for Explicit Deployment** Knowledgebase article.

2. In the **Name servers** section, do one of the following:
   - Select **Obtain DNS servers automatically**. (If you selected the DHCP option in the previous step, this option will be the only one available.)
   - Select **Specify the DNS servers**. Then, in the **Primary DNS IP** text box, enter a DNS IP address. Optionally, enter secondary and tertiary addresses.
3. Click **Next** to proceed to *Hostname* (page 27) configuration.

### Hostname

You must assign a hostname for the appliance. Additionally, if you plan to connect to the internet through an upstream proxy server, you must assign a server address and port number for that server.

1. Configure your appliance’s hostname by typing it in the **Fully qualified domain name** text box.
   
   Note: The length of the first element of the fully qualified domain name (the hostname) must be no more than 15 characters.

2. Optionally, on a Web Appliance, you may configure a default search domain by typing your organization’s search domain in the **DNS search suffixes (optional)** text box.
   
   This option in not available on the Management Appliance.
   
   This is typically your organization’s domain, which enables browsers to complete the domain name if a user types only a machine name in the address text box.

3. Optionally, set your outgoing mail server by typing the fully qualified domain name of your organization’s outgoing SMTP mail server in the **Outgoing SMTP mail server (optional)** text box.
   
   This is required if your organization’s firewall will not permit the appliance to send email directly to the internet. Email is used to send your remote assistance request and, optionally, alert notifications to Sophos.

4. Optionally, specify an upstream proxy by typing the IP address or the fully qualified domain name of the upstream proxy in the **Specify upstream proxy (optional)** section’s **IP or FQDN** text box and typing the port number by which you access your organization’s web proxy (usually 8080) in the **Specify upstream proxy (optional)** section’s **Port** text box.
   
   Note: The currently supported upstream proxy configurations are:
   
   - **Squid**: without user authentication.
   - **ISA Server 2006 Standard Edition**: in firewall and proxy mode without user authentication.
HTTP (port 80) and HTTPS (port 443) traffic will be proxied through the upstream server. You may need to configure your firewall to allow other external connections. Refer to the Setup Guide or to the "Initial Configuration" page of this guide to review specific ports that the appliance uses for external and internal connections.

5. Click Next to proceed to Network Connectivity (page 28).

Network Connectivity

With network configuration complete, this page of the wizard applies and tests the appliance's network configuration and its connection to Sophos.

As each test is performed, one of three icons is displayed to the left of the line describing the test:

- A green check mark icon indicates that the test was successful.
- A yellow exclamation mark icon indicates that the test produced a warning.
- A red "x" icon indicates that the test failed.

If you see any warning or error icons, click Network Settings to return to the Network Interface page, where you can correct the configuration.

When the test has completed successfully, click Next to proceed to Register and Update (page 28).

Register and Update

The appliance will now use the activation code to register with Sophos. Once registered, the appliance is authorized to receive threat definitions and software updates. The appliance will not begin registering and updating until you click Update.
To register and update the appliance:

1. Click **Update**.
   - The appliance registers with Sophos, updates the software, and updates the security and control data.
   - Once updating is complete, the appliance may reboot.

2. When the appropriate message is displayed, click the **Next** button to proceed with the installation while the download continues in the background.

**Central Management**

You can join a Sophos Management Appliance from the **Central Management** page. To do so, you must have a configured Management Appliance (one on which you have completed the Setup Wizard) in your network.
## Central Management Connection

Use this page to optionally join this Web Appliance to a Security Management Appliance for centralized configuration, policy management, and consolidated reporting. Once joined, policies enforced by this Web Appliance are defined on the Security Management Appliance, and local management of this appliance is restricted. You may also join this Web Appliance to a Security Management Appliance later. Please read the documentation before joining.

<table>
<thead>
<tr>
<th>Join a Security Management Appliance</th>
<th>Join status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hostname</strong></td>
<td>1. Resolving hostname</td>
</tr>
<tr>
<td>Enter the hostname or IP address of the management appliance to connect to.</td>
<td>2. Establishing connection</td>
</tr>
<tr>
<td>e.g., oz.evangel.com, 192.168.10.2</td>
<td>3. Authenticating with Security Management Appliance</td>
</tr>
<tr>
<td><strong>Join password</strong></td>
<td>4. Verifying software version</td>
</tr>
<tr>
<td>Enter the join password for this management appliance. This should be provided by the administrator of the management appliance.</td>
<td>5. Connection successful</td>
</tr>
</tbody>
</table>

After joining, all user activity, user feedback and reporting data will be stored on the Security Management Appliance.

[Join Management Appliance](#)

### Important

In order to join a Web Appliance to a Management Appliance, both appliances must be running the same software versions. Check the **Configuration ➤ System ➤ Updates** page on the Management Appliance first, to ensure that it is up to date.

1. Enter the hostname or IP address of the Management Appliance to which you want this Sophos Web Appliance joined in the **Hostname** text box.
2. In the **Join password** text box, enter the connection password for the Management Appliance to which you want this Sophos Web Appliance joined.
3. Click **Join Management Appliance**.
   - As the join operation progresses, the icons on the **Join status** panel change to indicate the status of each stage of the operation.
4. Once you have completed the join operation, or if you have chosen not to join a Management Appliance, click **Next**.
   - If you chose to join a Management Appliance, you proceed to the **Alerts** (page 31) page.
   - If you chose not to join a Management Appliance, you proceed to the **Productivity Options** (page 30) page.

## Productivity Options

The appliance uses categorizations of URLs to enforce your organization's user browsing policy. Use the **Productivity Options** page of the wizard to select how strict or lenient you want these settings to be.
To set the appliance's productivity filtering option:

1. Select one of the **Productivity filtering options**.

   Generally, the top-most option is the most permissive, with successive options getting increasingly strict. The exception is the last option, which displays warning messages to users who try to access non-business related sites instead of blocking access to them. To see the details of what categories of sites are blocked, select an option and view the list of blocked categories in the **Description** information box.

2. Once you have selected the option, click **Next** to proceed to **Alerts** (page 31).

**Alerts**

Use the **Alerts** page of the wizard to set the email addresses of those in your organization who should receive alert messages from the appliance about significant changes to the appliance's system status. Critical and non-critical error alerts are configured separately on the **Support Contact** page of the wizard.
To configure the handling of system status alert email messages for the appliance:

1. Set the email address(es) for the recipient(s) of system alerts by entering the full email address of the intended recipient in the Alert recipients text box and clicking Add.

   The email address that you entered is added to the list below.

2. Optionally, remove an email address from the list of contacts by selecting the check box to the right of the email address that you want to remove from the list and clicking Delete.

   The selected email address is deleted from the list.

3. Once you have set the handling of the system status alerts, click Next to proceed to Support Contact (page 32), where you configure the names of people in your organization that Sophos Technical Support can contact if the appliance detects any errors.

Support Contact

The Support Contact page prompts you to provide information that Sophos Technical Support can use to contact the appropriate person in your organization if the appliance ever has a critical problem.
To provide contact information to Sophos Technical Support:

1. Select **Activate appliance support alerts**.
2. For **Critical alerts**, provide the **Name** and **Email** of the person who should receive these messages.
3. For **Non-critical alerts**, provide the **Name** and **Email** of the person who Sophos should contact.
   
   **Note:** A *non-critical alert* indicates a transient error that Sophos would like to investigate. These alerts do not indicate a problem with web filtering.

4. Once you have set your support contact information, click **Next** to proceed to the configuration settings **Summary** (page 33).

**Summary**

The configuration **Summary** page displays an overview of all of your configuration settings that you can view or print before committing the changes.

To use the **Summary** page:

1. Scroll through the summary to read all of the configuration settings and confirm that they are all set as you want them.
2. If you choose to change any of the settings, repeatedly click **Previous** to return to the page required.
   
   The changes that you have made will persist as you navigate back and forth through the pages.

3. Optionally, once you have confirmed that all of the settings are as required, print the summary for your records and future reference by clicking **Print**.

4. Once you are satisfied that the configuration settings are all as required and you have printed the summary, click **Finish**.

   Your configuration settings are applied and the **Dashboard** page of the appliance's administrative web interface is displayed.

   This will also trigger the generation of a new hostname-specific site certificate, which may take as long as a minute or two.
Note: URL data downloads begin in the Software Updates stage; however, this is a large list of sites, pages, and files, so the downloading is done in the background to speed up the setup process. If you click Finish on the Summary page before the data download is complete, an alert message will appear, warning you that this data has not yet finished downloading. You can proceed (click OK) without any problems, but it is important to understand that the full protection offered by the Web Appliance will not be available until the URL data download is complete.

If you do proceed, the following indicators will show the state of the URL data download:

- The System status in will be in a warning state (amber) until the data download is complete (although this may escalate to a critical state [red] if there are 6 or more download errors during the initial download).
- The Dashboard's "URL test" will be unavailable (grayed out) until initial data download is complete.
- The System status will change back to normal (green) when the download is complete.

5. Log out and disconnect the cable from the Config ethernet port and restore your laptop's previous LAN settings. Do not connect the "Config" port to your LAN.

If you opt to deploy the Web Appliance as a bridging proxy (optional), you must disconnect your firewall from the LAN and connect it to the "WAN" connector port on the rear of the appliance.

6. Connect to the appliance through your organization's LAN via a web browser.

The URL for your appliance should be:

https://[appliance-hostname].[your-organization].[domain]/index.php

Post-Installation Configuration

When the wizard closes, the Dashboard of the appliance's administrative web interface is displayed. There are still some important configuration tasks that should be completed that were not available in the wizard. These tasks are listed in the Post installation checklist on the Configuration home page.

Setting General Options

Note: On this page, the available features are:

- On a standalone Web Appliance: the Cache settings, Additional Options, SophosLabs, and Logging mode options.
- On a joined Web Appliance: the Cache settings options.
- On a Management Appliance: the Options, SophosLabs, and Logging mode options.

Use the Configuration ➤ Global Policy ➤ General Options page to set a variety of Web Appliance's policy-related filtering options.

- To enable caching, click On on the Cache settings panel.
  
  Note: Caching is off by default. With the exception of large file downloads, setting Caching to Off results in higher performance.

- To disable caching, click Off on the Cache settings panel.
- To change the cache settings, on the Cache settings panel, enter the size in bytes of the Maximum cacheable object size and the Minimum cacheable object size in the appropriate text boxes, and click Apply.
  
  Note: The default cache settings (maximum 100,000,000 bytes, minimum 100,000 bytes) are usually optimal. Lowering the setting for Minimum cacheable object size will decrease the performance of your Web Appliance.
• **To clear the cache**, click **Clear Cache**.

• **To allow users to access external sites by entering IP addresses**, select the **Allow public IP access** check box, and click **Apply**.

  > **Important:** If this option is not enabled, users will be unable to access any URL that uses an IP address from any web page, flash script, or other content. For example, *youtube.com* flash videos commonly contain URLs encoded as IP addresses.

• **To enforce search engine filtering (SafeSearch)**, select the **Enforce Search Engine Filtering (SafeSearch)** check box, and click **Apply**.

  Internet search engines such as Google, MSN, bing.com, and Yahoo! offer their users an option to filter out search results that contain inappropriate content (SafeSearch). The appliance can enforce SafeSearch for these search engines, while still permitting users access to these search engines.

  Once the SafeSearch option has been enabled, search results for web pages and thumbnail images are filtered for Google, MSN, bing.com, and Yahoo!, even if users disable the SafeSearch option on any of these sites (your users’ preferences are overridden). Additionally, video search results for YouTube, MSN, bing.com, and Yahoo! are filtered when SafeSearch is enforced.

  > **Note:** While the appliance can enforce SafeSearch for the above search engines, the SafeSearch filtering is implemented by individual search engines, and the behavior may vary amongst search engines. As such, it is possible that some unwanted content may be displayed in search results. The functionality of SafeSearch as implemented by these search engines and the ability of the appliance to control this feature is beyond Sophos’s control and may change without notice.

• **To share data with Sophos that will help improve the protection provided by your Web Appliance**, select the **SophosLabs** check box, and click **Apply**.

  > **Note:** No data shared with Sophos will contain information in which user identities are shown or can be deduced.

• **To exclude username and IP information** (if, for example, gathering this information is illegal in your jurisdiction), in the appliance logs and reports, clear the **Logging mode** check box, and click **Apply**.

  > **Note:** Please ensure that it is legal to record user-identifiable data in your jurisdiction before enabling this feature, as recording such data is illegal in certain jurisdictions.

  > **Note:** If the **Logging mode** check box is cleared, several reports will always show "No Data": **Reports ➤ Policy & Content ➤ Suspect Machines** and reports in the **Reports ➤ Users** section. All searches will show "No Data" as well.

• In the **Report data retention** text box, set the number of months for which you want to retain data. If the new retention time is shorter than the previously configured time, you will lose any data that is older than the new retention time.

• To limit YouTube content to school-appropriate content, select the **Educational and school-appropriate content only** check box and enter your ID in the **YouTube School ID** text field.

  For more information this feature, see **About YouTube for Schools**.

  > **Note:** Administrators should test this feature after entering the YouTube School ID. If an invalid ID is entered, content will **not** be restricted.

• To limit access to Google accounts and services to only the domains you specify, select the **Enable Google Application control** check box and enter one or more domains that you wish to allow.
Active Directory

Use the Configuration ➤ System ➤ Active Directory page to configure access to your Active Directory server, which allows the appliance to use Active Directory user and group information.

Important: It is essential that the time on your Active Directory server is synchronized with the time on your appliance. We suggest that you use the network time protocol on your Active Directory server, with pool.ntp.org as the NTP server, which is the NTP server pool used by the appliance. If you use a different NTP server for your Active Directory server, you must configure the appliance to use the same NTP server, which is configured on the Configuration ➤ System ➤ Time Zone page.

Active Directory authentication options are configured on the System: Authentication page. You can authenticate users with a single sign on, through a captive portal, or use a combination of the two. By creating authentication profiles and connection profiles, you can specify different authentication methods for different connections. For more information, see “Authentication”.

Configuring Active Directory Access

Note: On this page of a joined Web Appliance, most of the options are unavailable because they are controlled from the Management Appliance. The main exception is Configure Active Directory settings locally, which is described below.

Important: Firewall Configuration: If you have a firewall between the appliance and your Active Directory server, you need to ensure that ports 88 and 389 are open for both TCP and UDP, and that ports 445 (raw SMB) and 139 (NetBIOS over TCP/IP) are open for TCP on that firewall in order to perform Active Directory authentication.

Requirements for an Active Directory Forest: Sophos supports the integration of an Active Directory forest with the appliance only if the following conditions apply:

- Integrate with only a single Active Directory forest containing a single Active Directory tree.
- The Active Directory server to which you configure access must be the root domain controller of the Active Directory forest.
- The root domain of your Active Directory forest must have an explicit trust relationship with all subdomains within the forest. If this condition does not exist, users will not be able to authenticate, but the appliance will not be able to synchronize Active Directory groups membership information, which will result in all affected users having only the default Web Appliance policy applied to them.
- The Active Directory administrator account that you use to access the Active Directory forest must have valid credentials on all subdomains for authenticating users and accessing LDAP information.
- In addition to the firewall configuration described above, you must ensure that port 3268 is open for both TCP and UDP between your appliance and your Active Directory server, that use of the global catalog is properly configured on your Active Directory server, that TCP access from the appliance to your Active Directory server, and that bi-directional UDP traffic between the two is allowed. Also, port 389 must be open between the appliance and all domain controllers within the Active Directory forest.
- Ensure that the domain controllers have the global catalog enabled, including on any backup domain controllers. If you do not, problems may occur when the appliance attempts to synchronize: your users may complain about authentication pop-ups that repeatedly fail, and the subdomain groups may disappear from the Configuration ➤ Group Policy ➤ Default Groups page. Although this situation may resolve itself automatically in certain circumstances, it will likely recur. Enabling the global catalog on all domain controllers, including those configured as backup domain controllers on your Active Directory server, is the only complete solution for this problem.

1. Near the top of the page, next to User authentication via Active Directory, click On.

The three Active Directory Settings text boxes in the leftmost column become available.
2. [Optional] On a joined Web Appliance, you can change some of the Active Directory settings to access a different domain controller by selecting the **Configure Active Directory settings locally** check box.

**Joined Appliance Considerations**

The setting to **Configure Active Directory settings locally** is only available on a joined Web Appliance. It is typically used to access a local Active Directory Domain Controller in a branch location instead of the main Domain Controller in the central office. The settings are similar to those required on an appliance that is not joined and are documented in steps 3 and 4. Read the remainder of this section for information about configuration differences. Once these steps are complete, you must verify and apply the settings on the joined appliance, as described in steps 5 and 6.

When **Configure Active Directory settings locally** is selected, only the **Username** and **Password** text boxes are functional, allowing you to set a different Active Directory account for accessing Active Directory authentication. LDAP user data is not synchronized on a joined Web Appliance; this data is synchronized on the Management Appliance only and downloaded to the joined Web Appliances.

Active Directory access from a joined Web Appliance is for authentication only. LDAP synchronization is only performed by the Management Appliance.

On a joined Web Appliance with the **Configure Active Directory settings locally** check box selected and the **Auto-detect advanced settings** check box cleared, only the **Active Directory Domain Controller** and **Active Directory Kerberos server** text boxes are functional, allowing you to select a different Active Directory server. The server that you select must not be a child domain of the **Active Directory domain**, although it can be a secondary Domain Controller.

3. Enter the **Active Directory Settings** required to access the server:

   - **Active Directory domain**: Enter the domain name of your organization's Active Directory server.
   - **Username**: Enter the username to access the Active Directory server.

     **Important**: To connect the appliance to an Active Directory domain, you must use a pre-existing account on the Active Directory server with permissions to join a computer to the Active Directory domain and to authenticate users. Also, if you intend to access the global catalog of an Active Directory forest with a single Active Directory tree, the user account must have permissions to authenticate users in multiple subdomains. Be sure to use an Active Directory account with only the privileges that are required.

   - **Password**: Enter that user's password.

4. Enter the **Active Directory settings** by doing one of the following:

   - Select the **Auto-detect advanced settings** check box (the associated text boxes are automatically filled).

     Or

   - Ensure that the **Auto-detect advanced settings** check box is not selected and fill in the remaining text boxes. The six additional text boxes are:

     - **Active Directory Domain Controller**: The fully qualified domain name (FQDN) of the desired Active Directory Domain Controller.
     - **Active Directory Kerberos server**: The FQDN of the desired Kerberos server. If uncertain, use the same hostname as the Domain Controller. Should be a fully qualified domain name.
     - **Active Directory LDAP server**: The FQDN of the desired LDAP server, with the port number. If uncertain, use the same hostname as the Domain Controller, with the port number. The port number for a single Active Directory server is usually 389; for an Active Directory server designated as a global catalog server, it is 3268.
If you enter an incorrect FQDN, the appliance will attempt to auto-detect the FQDN. If you cannot successfully connect to your Active Directory forest, disable **Auto-detect advanced settings** and manually change the port number for the Active Directory LDAP server to 389 to force the appliance to access the AD server as a single domain.

- **LDAP authentication DN (optional):** The LDAP "Distinguished Name" that corresponds to the **Username** text box. If left blank, the appliance will attempt to discover the correct DN. If you are uncertain, leave this blank.
- **LDAP base DN (optional):** The LDAP "folder" under which users can be found. Defaults to the whole domain. If you are uncertain, leave this blank.
- **LDAP account attribute (optional):** The LDAP object attribute that contains the "login name" of a user. Defaults to 'sAMAccountName', which is the only correct value for Active Directory LDAP servers. If you are uncertain, leave this blank.

5. Click **Verify Settings**.

If you chose the **Auto-detect advanced settings** option, the remaining fields of the **Active Directory settings** are automatically filled. The appliance will first look for an Active Directory global catalog at port 3268. If it can't find that, it defaults to a single-domain Active Directory configuration using port 389.

The **Detect Settings** dialog box is displayed, showing the results of the connection attempt. Successful operations are indicated with a green check mark icon; failed operations are indicated with a red "x" icon. The **Detecting subdomains** step can also show an orange exclamation mark, which indicates that one or more trusted (child) domains could not be synchronized. To the right of the **Detecting subdomains** verification item is a **Show details** button, which you can click to view the results of attempts to connect to the subdomains of your Active Directory forest. The subdomains are listed in one of two groupings: **Authentication Successful** or **Authentication Failed**.

If there are failed operations in the **Detect Settings** process, a troubleshooting message is displayed below the list of verification checks. This message links to explanatory text that will assist you in correcting the problem. If you encounter failed operations, read the troubleshooting message, then click **Close** the **Detect Settings** dialog box, correct the **Active Directory Settings** in the left column, and click **Verify Settings** again.

When all **Verify Settings** operations are successful, all of the required Active Directory text boxes are filled.

- **Important:** If the verification of a connection to an Active Directory subdomain fails because that server is down at the time that you run the verification, bringing the server back up will not enable Active Directory synchronization with the appliance. You must have a successful **Verify Settings** operation for any connection to a subdomain server to enable communications between it and the appliance.

6. Click **Apply**.
7. [Optional] Click **Synchronize Now** to have the appliance immediately synchronize user and group information with the configured Active Directory server. This can only be done after steps 4, 5 and 6 have been completed successfully.

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**Configuring Certificate Validation**

Often, end users have little knowledge about the reliability of a certificate authority, so they will often accept certificate authorities without knowing if they are from trusted sources. To overcome this problem, the Web Appliance includes most of the reliable certificate authorities, and it can automatically validate certificate authorities from the Sophos certificate authority list. There is also the ability to add custom certificate authorities. This allows you to deny users the ability to accept certificate authorities.

The **Configuration ➤ Global Policy ➤ Certificate Validation** page allows you to control the HTTPS (SSL) certificate validation process. Sophos provides a list of certificates from recognized third-party certificate authorities that are automatically accepted. Also, you can add certificates from other sources that you want to be accepted. If **Certificate Validation** is enabled, your users will only be able to access HTTPS sites that use a certificate listed in the **Sophos certificate list** or the **Custom certificate list**. If your users attempt to access HTTPS sites that use certificates from sources that are not in these lists, the **Invalid certificate page** is displayed and access to the requested site is blocked.
• **To enable or disable automatic certificate validation**, beside **Certificate Validation**, either click **On** to enable it, or click **Off** to disable it, and click **Apply**.

  Automatic certificate validation is based on both the Sophos and Custom lists.

  ☢ **Important:** When HTTPS scanning is enabled, certificate validation is also automatically enabled. If you want certificate validation disabled while HTTPS scanning is enabled, you must disable it on this page, but be aware of the risks of doing so. Having certificate validation enabled is advised as HTTPS scanning replaces the actual certificate from the site, so it may be harder for users to identify phishing sites in their browser. Certificate validation ensures that such sites are not accessed.

  • **To add a certificate from a website to the custom certificate list**, see "Adding a Certificate from a Web Site".
  • **To add a certificate authority to the custom certificate list**, see "Adding a Root Authority Certificate".
  • **To remove a certificate from the custom certificate list** that you want to remove, click **Delete**, and then click **Apply**.
  • **To view Sophos root authorities**, at the bottom of the custom certificates list, click **View Sophos root authorities**, and browse the list of the root certificate authorities supplied by Sophos in the **Root Authorities** pop-up dialog box.

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**Notification Page Options**

The **Configuration ➤ Accounts ➤ Notification Page Options** page allows you to modify the appearance of the notification pages that the Web Appliance shows to users when they try to access:

• virus-infected files
• malware
• blocked sites
• sites or applications that violate policy
• restricted sites
• large, downloadable files that take a long time to scan
• unapproved secure sites

The **Global options** panel allows you to set options that apply to every notification page. The **Notification page text** panel allows you to edit the text of specific notification pages.

**Setting Global Notification Options**

The **Global options** panel allows you to set options that apply to every notification page.

1. On the **Global options** panel, select the check box to the left of any of the options that you want enabled.

2. If you want to display your own graphic on the notification pages, select the **Display logo on notification pages** option. Select the graphic file on your local (browsing) system by clicking **Browse** to find the graphic on your local system, and then copy it to the appliance by clicking **Upload**. If you do not upload your own graphic, the default Sophos logo will be used.

   ☢ **Note:** It is suggested that you use .jpeg files because the appliance assigns the graphic a default name of **image.jpg**. Using .gif or .png files may work because your users' browsers will likely detect the proper file type, but this might not work with all browsers. The logo graphic must be no larger than 512 Kb.

3. Click **Apply**.

**Modifying Notification Page Text**

1. On the **Notification page text** panel, from the **Page** drop-down list, select the notification page that you want to modify.
2. From the Choose language drop-down list, select the language in which you want the notification page to be displayed.

**Note:** For your users to view non-English notification pages properly, their browsers must be configured to use UTF-8 character encoding. Also, for you to view previews of non-English notification pages, you must have your browser configured to use UTF-8 character encoding.

3. Optionally, in the Page title text box, type the page title that is displayed on the notification page and in the browser title bar.

4. Optionally, in the Text explanation text box, type the explanation that is displayed in the body of the notification page.

5. Optionally, click Preview to see how the notification page will look.

   If you decide to change your selected options, you must clear the currently selected options first by clicking Cancel.

6. Repeat steps 1 through 5 for each of the notification pages that you want to modify.

7. Click Apply.

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### Backup

On the Configuration ➤ System ➤ Backup page, you can set the appliance to automatically upload system configuration data and log data to an FTP site at regular intervals as backup. Alternatively, you can manually download the appliance's configuration data at any time.

- To configure automated backups via FTP, see "Automating Backups."
- To manually download configuration data, click Download Now, and save the archived backup file using your web browser's save file features.

**Note:** When you manually download configuration data, an archive file is created with all of the configuration data so that it can be downloaded via your browser to a selected location on your local system. Be patient when using this feature because there is a slight delay while the configuration data is copied and archived into the file for download.

- [Management Appliance Only] To manually perform an immediate reports data backup, click Start backup.

Reports data is backed up to the FTP server and directory location specified in the Automated upload section. The progress of the manual reports data backup is displayed in the Reports backup status panel. After completion, this panel on the Management Appliance shows the date and time of the last reports data backup.

**Note:** Backup and Restore Considerations:

- Appliance backups do not include network settings.
- Report data for the Management Appliance should be backed up regularly to protect against the possibility of an appliance failure. Report data is restored through optional steps in the setup wizard for configuring a new Management Appliance. When selected, you can retrieve the data from an FTP location, and download it to the new appliance.
- When setting up a replacement Management Appliance, all Web Appliances that were previously joined to it must first be reverted to standalone mode, then joined to the new Management Appliance.
- The configuration backups do not include FTP, Active Directory, or eDirectory passwords. To ensure that these connections are properly configured, they are disabled after a restore operation, so you must re-enter your usernames and passwords for these connections and re-enable FTP and directory services synchronization on the System: Backup, System: Active Directory, and System: eDirectory pages.
- You cannot restore system configuration data made from a Management Appliance to a Web Appliance and vice versa.
- You can only restore from a backup that was made under the same major.minor release. For instance, you could restore a version 3.2.2.1 appliance from a backup made under version 3.2.1. But you could not restore that same appliance from a backup made under version 3.1.3. For more information, see About Appliance Versions.
Contacting Sophos

**Sophos Support**
If you encounter a problem with your Sophos product, or if it does not function as described in the documentation, contact Sophos Technical Support: [http://www.sophos.com/support/](http://www.sophos.com/support/)

**Corporate Contact Information**
To contact your local Sophos office, see: [http://sophos.com/companyinfo/contacting/](http://sophos.com/companyinfo/contacting/)