Configuring Security on the Voice Network

This chapter describes the procedure for configuring security on your Cisco BCS Verified Designs network using Cisco Security Device Manager (SDM). Cisco SDM is a web-based device management tool supported on Cisco ISR routers. Cisco SDM provides smart wizards to help you add security to your voice network.

When configuring security on Cisco Business Communications Solution Verified Designs, accept all default values presented by the Cisco SDM windows. This enables a generic security level that provides basic security for the voice network.

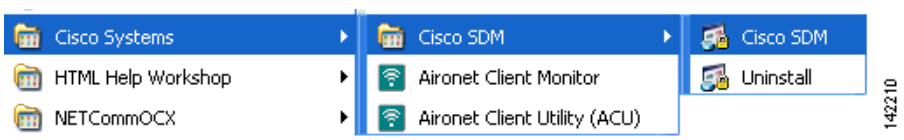
Contents

This chapter contains the following sections:

Launching Cisco SDM

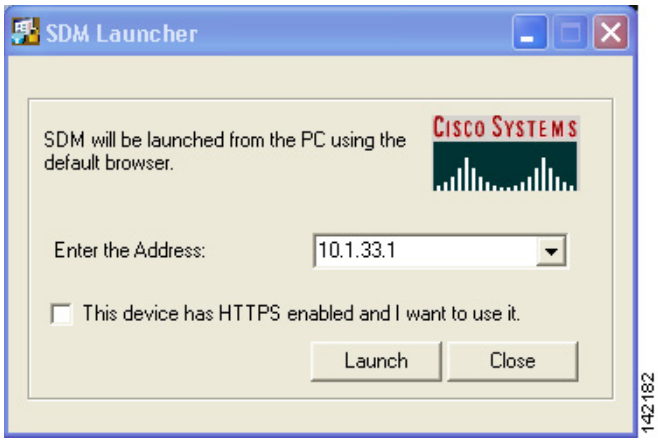
Step 1 Launch Cisco SDM from the Start menu on your PC (see Figure 114):

Figure 114 Launching Cisco SDM



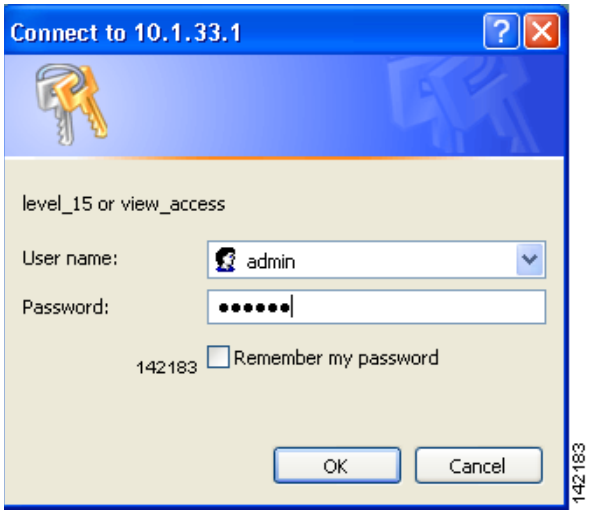
Step 2 When prompted, enter the IP address of your Cisco CME router (see Figure 115):

Figure 115 SDM Launcher



Step 3 Enter your SDM level-15 username and password (see Figure 116):

Figure 116 Level_15 Access Prompt

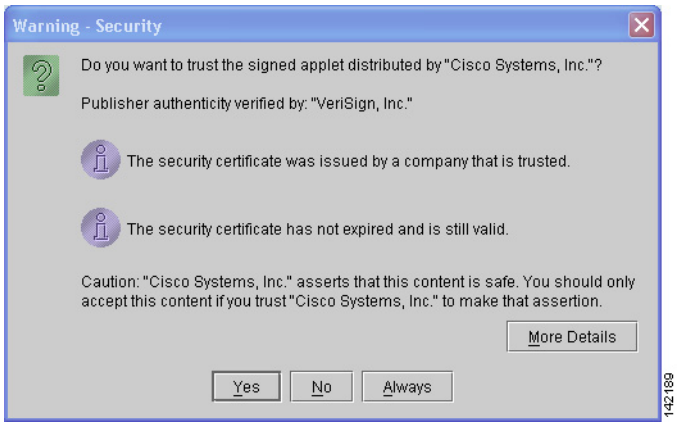


Note If you need to create a user account defined with privilege level 15 (enable privileges), enter the following command in global configuration mode, replacing *username* and *password* with the strings that you want to use:

Router(config)# **username** *username* **privilege 15 secret 0** *password*

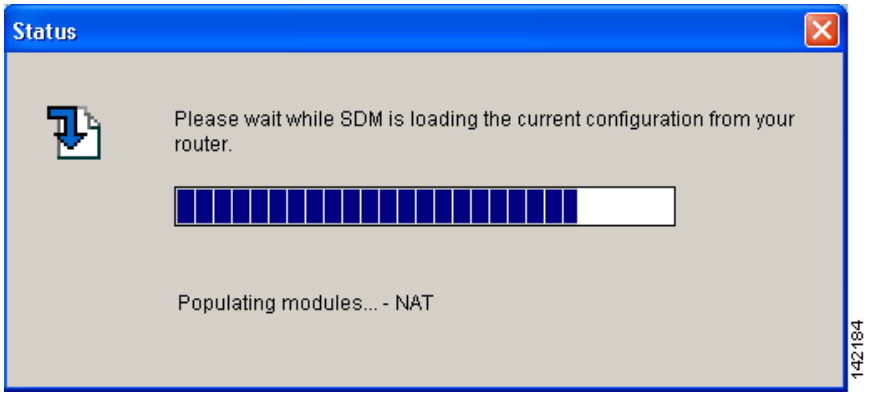
Step 4 Click **Yes** on any security warning that you receive (see Figure 117):

Figure 117 Security Warning



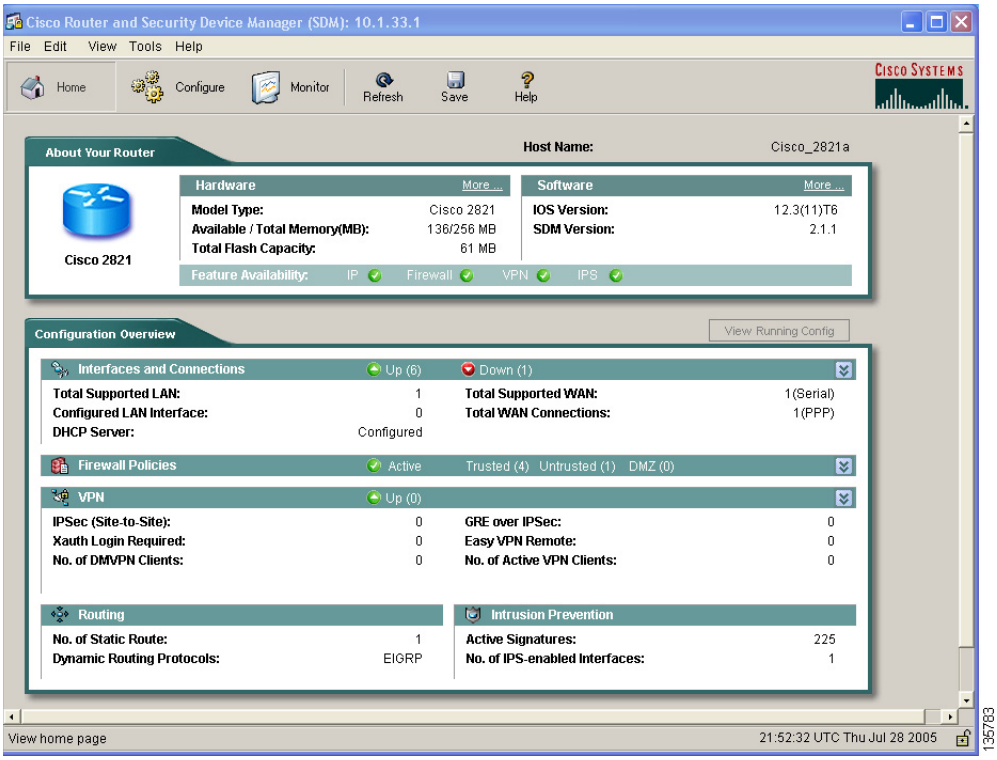
Cisco SDM downloads the current configuration (see Figure 118):

Figure 118 SDM Status Dialog



Once Cisco SDM installs, the Cisco SDM home page appears (see Figure 119):

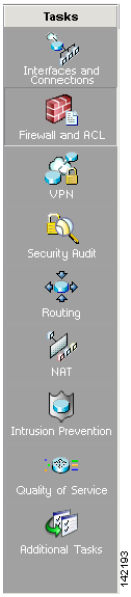
Figure 119 SDM Home Page



Step 5 Click **Configure** on the Cisco SDM Home page menu.

The Cisco SDM task bar appears on the left (see Figure 120):

Figure 120 Cisco SDM Task Bar



Configuring Intrusion Prevention

The Intrusion Prevention System (IPS) is a Cisco SDM feature that allows you to configure signatures on the router to detect and prevent intrusive traffic on your network. The file ips.tar must be present in router flash or disk memory for IPS to run, and the Cisco IOS image on the router must support IPS.

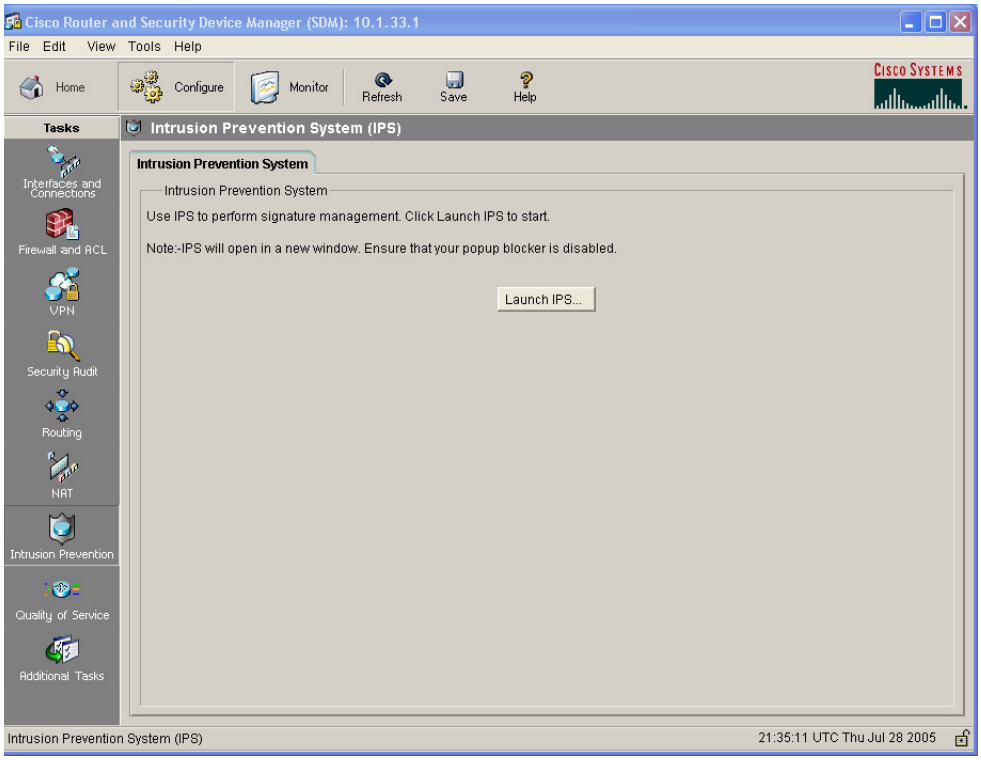
IPS allows you to selectively enable, disable, edit, and delete signatures the router uses. You can select the interfaces and traffic directions on which to apply IPS, create rules that determine which traffic is examined, import Signature Definition Files (SDFs), and specify SDF locations for the router.

Perform the following steps to configure intrusion protection for your voice network.

Step 1 Click **Intrusion Prevention** from Tasks.

The Cisco IPS window appears (see Figure 121).

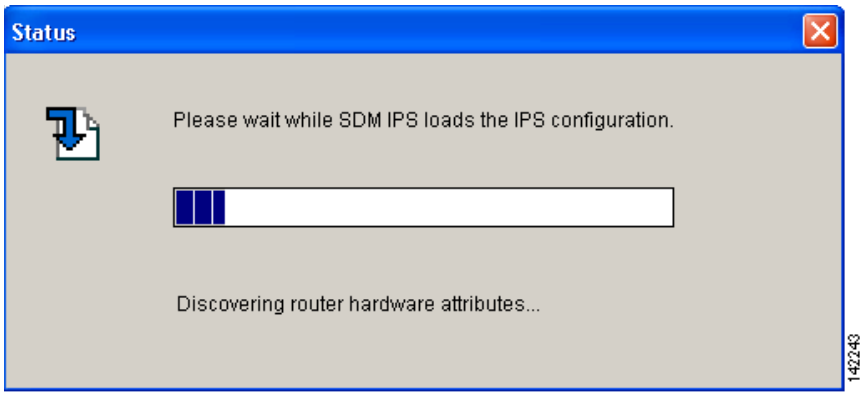
Figure 121 Cisco SDM Intrusion Prevention System



Step 2 Click **Launch IPS.**

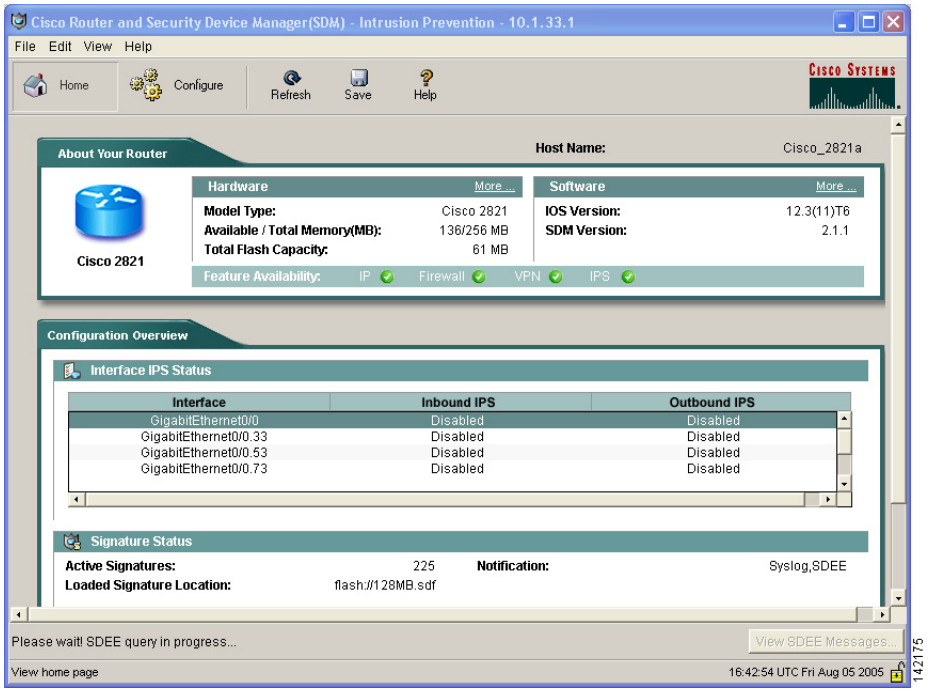
Once Cisco SDM loads the IPS configuration (see Figure 122),

Figure 122 IPS Configuration Status Message



the Cisco SDM Intrusion Prevention window appears (see Figure 123):

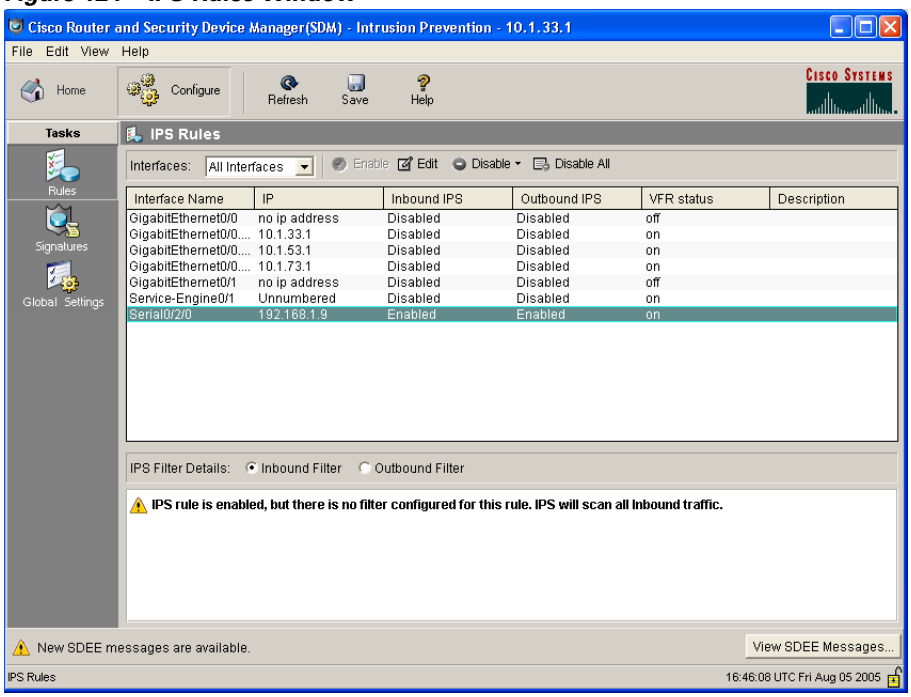
Figure 123 Cisco SDM Intrusion Prevention System



Step 3 Click **Configure**.

The IPS Rules window appears (seeFigure 124):

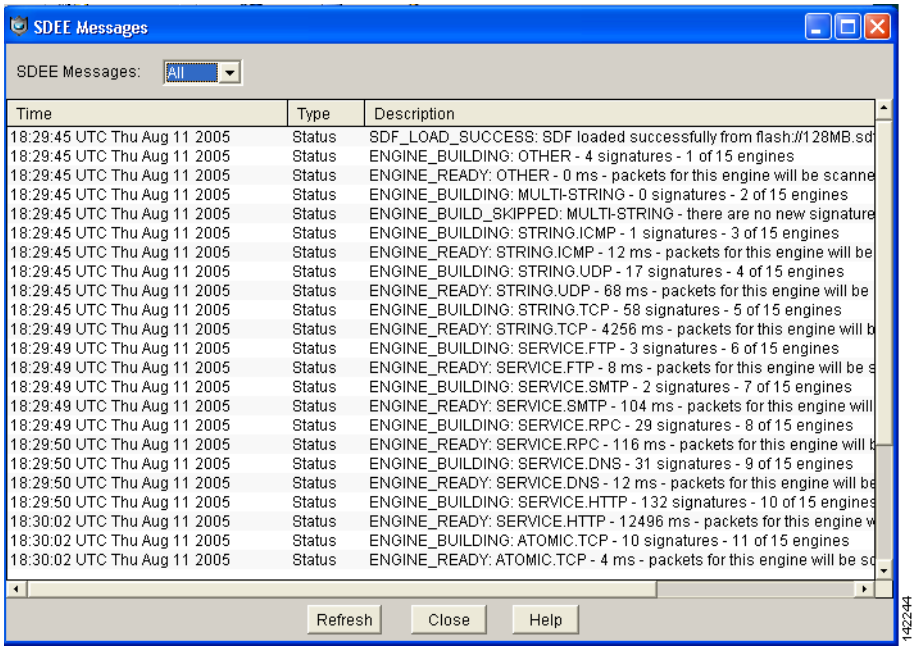
Figure 124 IPS Rules Window



The IPS Rules window automatically configures its rules set for Cisco Business Communications Solution Verified Designs.

If desired, click **View SDEE Messages** to view message (see Figure 125):

Figure 125 SDEE Messages

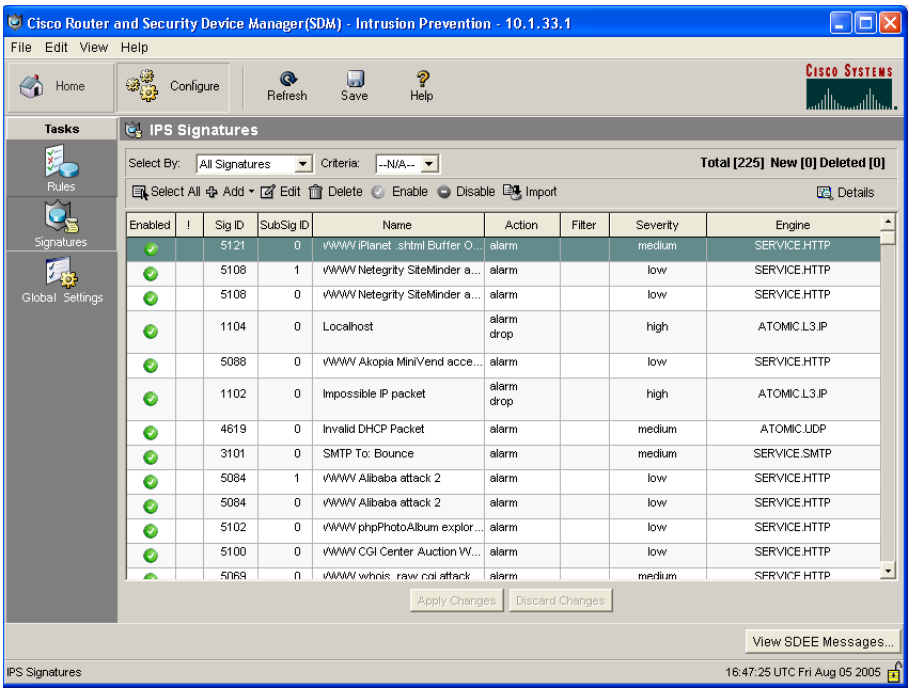


Step 4 When you finish viewing SDEE messages, click **Close**.

Step 5 Click **Signatures**.

The IPS Signatures window appears (see Figure 126):

Figure 126 IPS Signatures

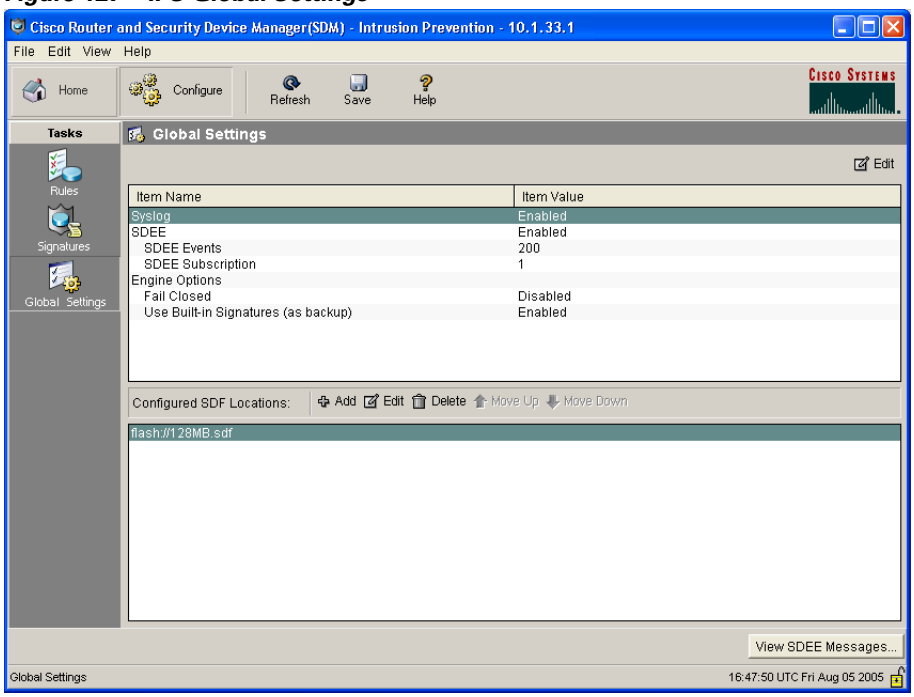


IPS Ssignatures are automatically assigned to Cisco Business Communications Solution Verified Designs.

Step 6 Click **Global Settings**.

The IPS Global Settings window appears (see Figure 127):

Figure 127 IPS Global Settings

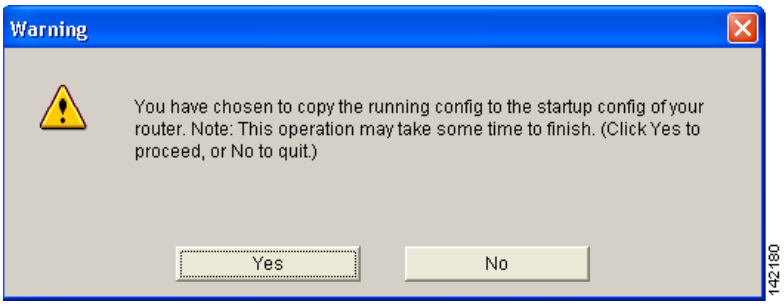


IPS global settings appear for the network.

Step 7 Click **Save**.

Step 8 Click **Yes** to copy the configuration to the router (see Figure 128):

Figure 128 Acknowledging Configuration Copying



Step 9 When you are finished with IPS, select exit from the File menu and click **Yes** to confirm your exit (see Figure 129):

Figure 129 Exiting IPS

Configuring a Basic Firewall

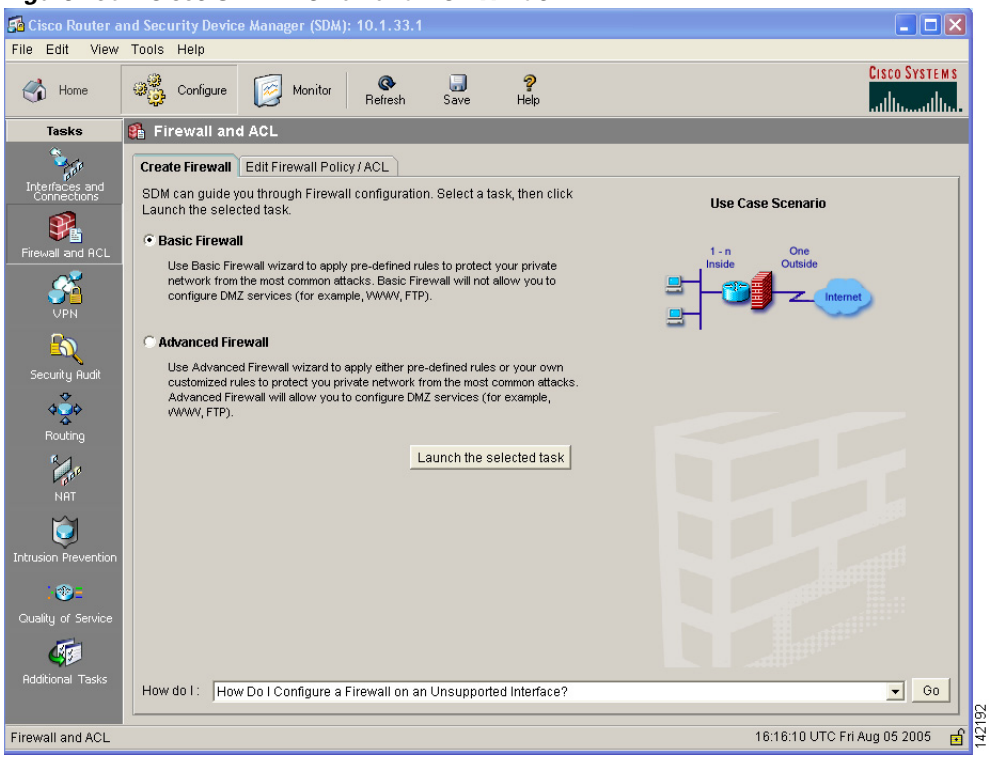
A firewall is a set of rules used to protect the resources of your LAN. These rules filter the packets arriving at the router. If a packet does not meet the criteria specified in the rule, it is dropped. If it does meet the criteria, it is allowed to pass through the interface that the rule is applied to. Cisco SDM Firewall Wizard secures your firewall by using predefined rules to protect your voice network from the most common outside attacks.

Perform the following steps to configure a basic firewall for the voice network.

Step 1 Click **Firewall and ACL** from Tasks.

The Cisco SDM Firewall and ACL window appears (see Figure 130):

Figure 130 Cisco SDM Firewall and ACL Window

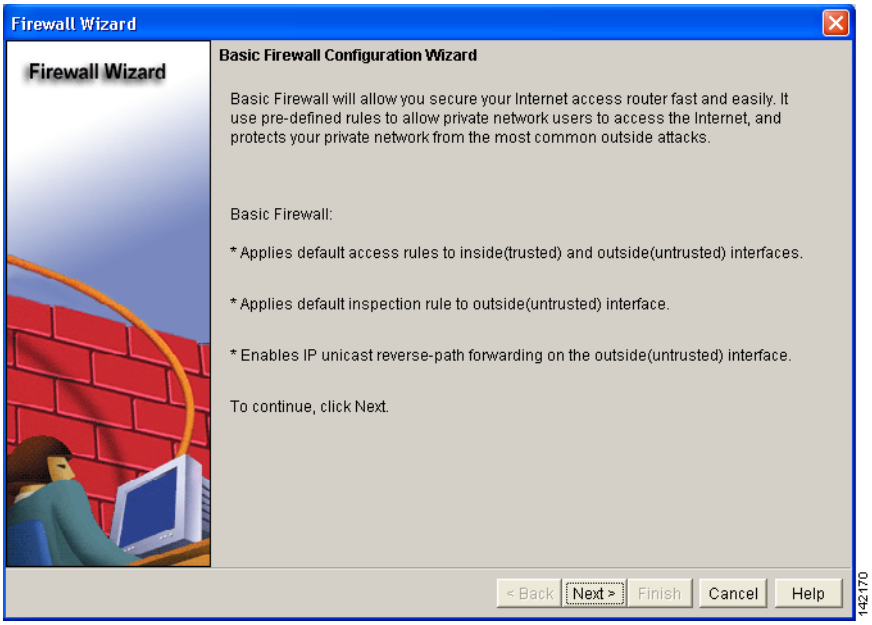


Step 2 Select **Basic Firewall**.

Step 3 Click **Launch the selected task**.

The Cisco SDM Basic Firewall Configuration Wizard window appears (see Figure 131):

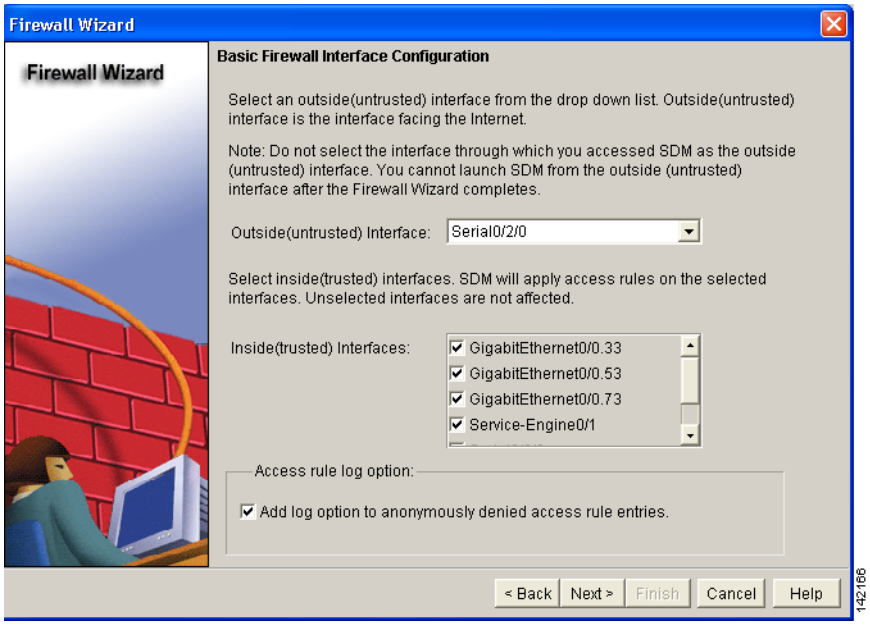
Figure 131 Cisco SDM Firewall Wizard



Step 4 Click **Next**.

The Basic Firewall Interface Configuration window appears (see Figure 132):

Figure 132 Basic Firewall Interface Configuration Window

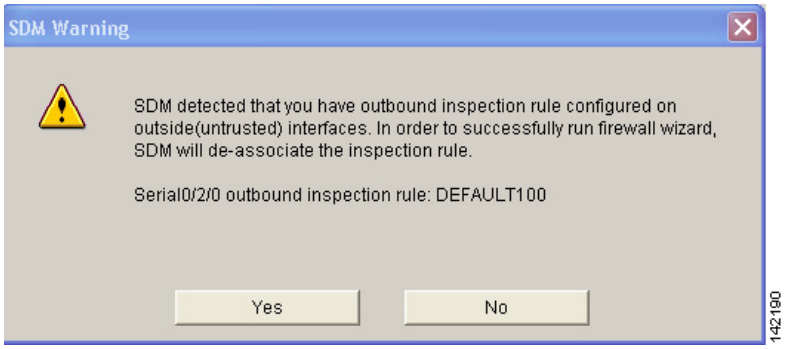


Step 5 By default, the outside untrusted interface appears in the drop-down menu.

Step 6 Click **Next**.

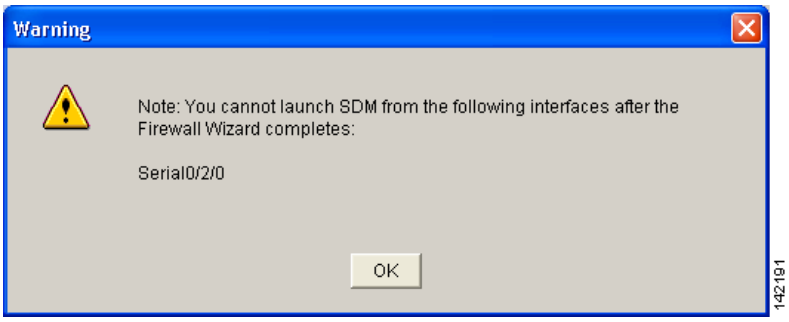
Step 7 Click **Yes** to acknowledge any warning that appears (see Figure 133):

Figure 133 Cisco SDM Detection Warning



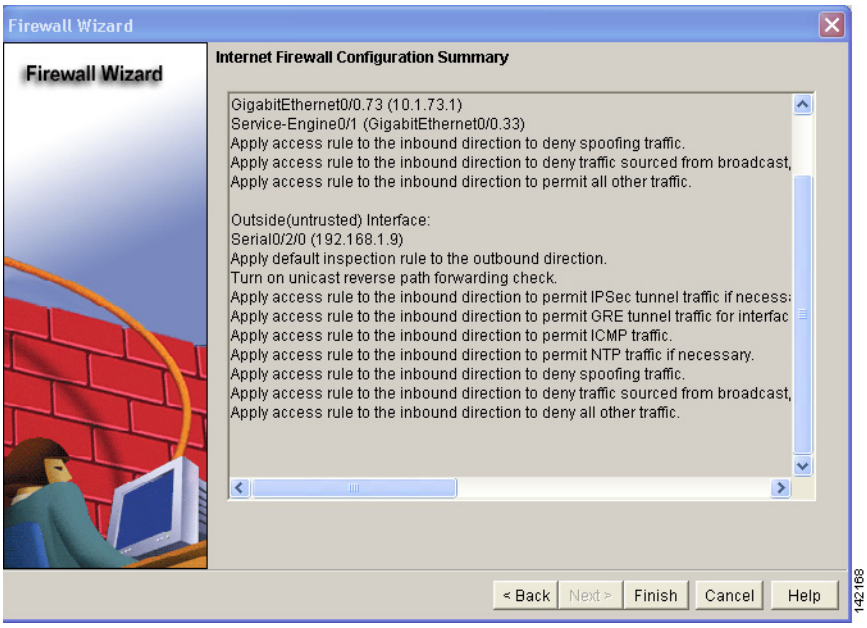
Step 8 Click **OK** to acknowledge any warning that appears (see Figure 134):

Figure 134 Cisco SDM Launch Warning



The Firewall Summary window appears (see Figure 135):

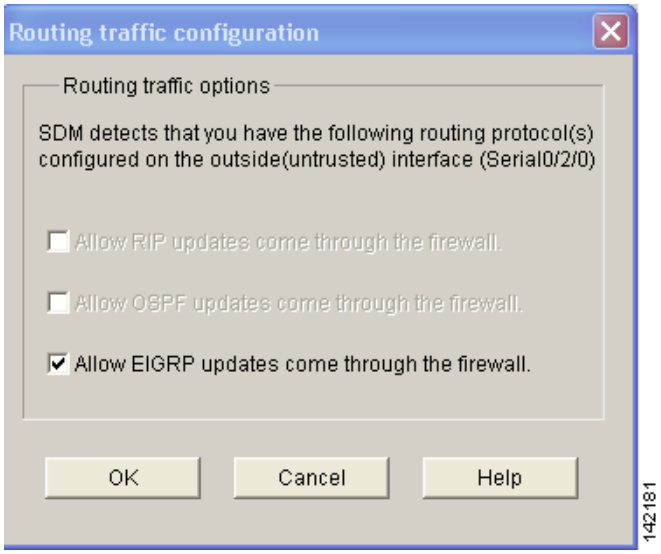
Figure 135 Cisco SDM Firewall Summary Window



Step 9 Click **Finish**.

The Routing Traffic Configuration dialog appears (see Figure 136):

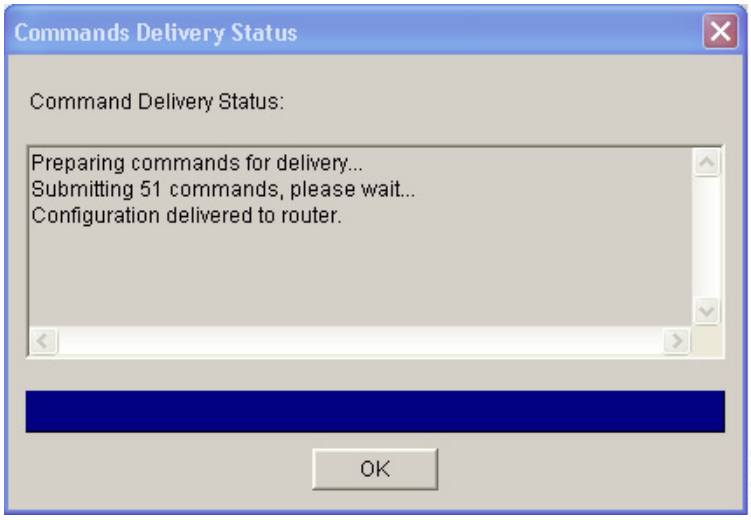
Figure 136 Routing Traffic Configuration Dialog



Step 10 Click **OK**.

The Command Delivery Status dialog appears (see Figure 137):

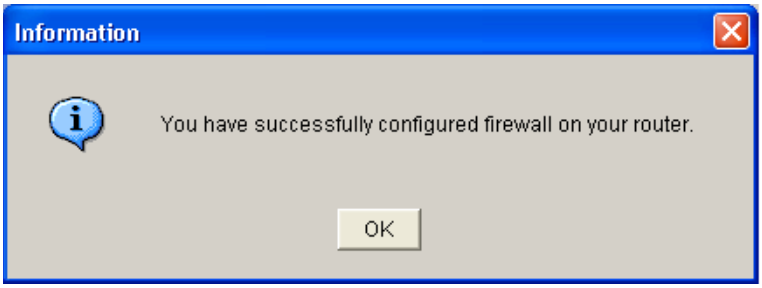
Figure 137 Command Delivery Status Dialog



Step 11 Click **OK**.

The successfully configured firewall dialog appears (see Figure 138):

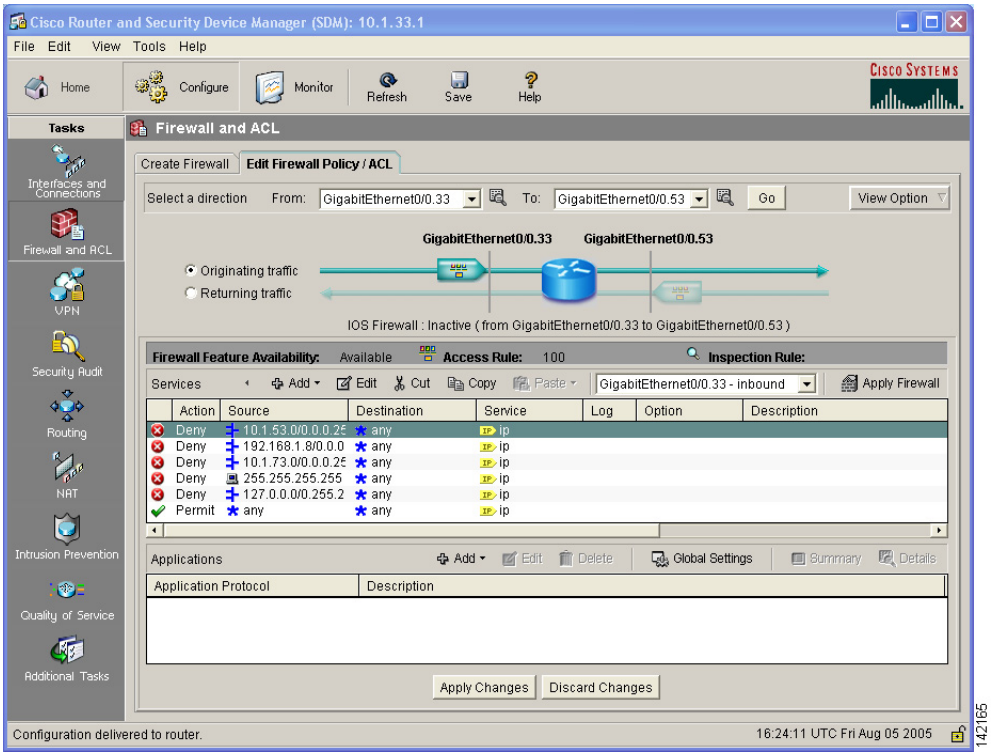
Figure 138 Successfully Configured Firewall Dialog



Step 12 Click **OK**.

The Edit Firewall Policy window appears (see Figure 139):

Figure 139 Edit Firewall Policy/ACL Window



Step 13 Click **Save** to save the firewall configuration.

Click **Yes** to acknowledge the write to startup warning (see Figure 140):

Figure 140 Cisco SDM Write to Startup Config Warning

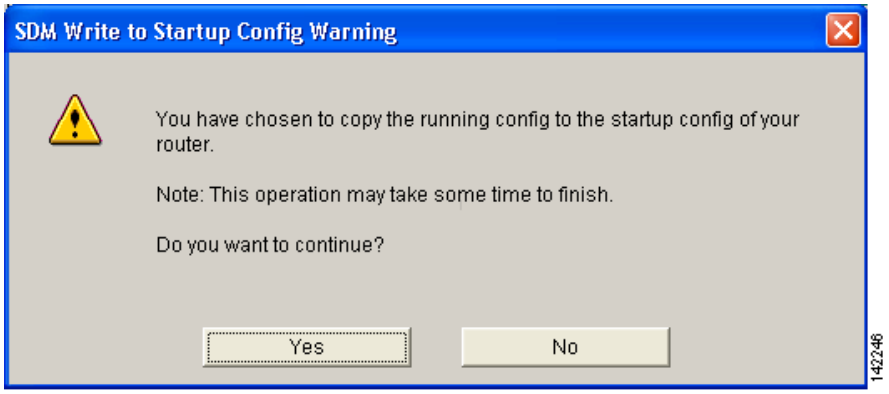
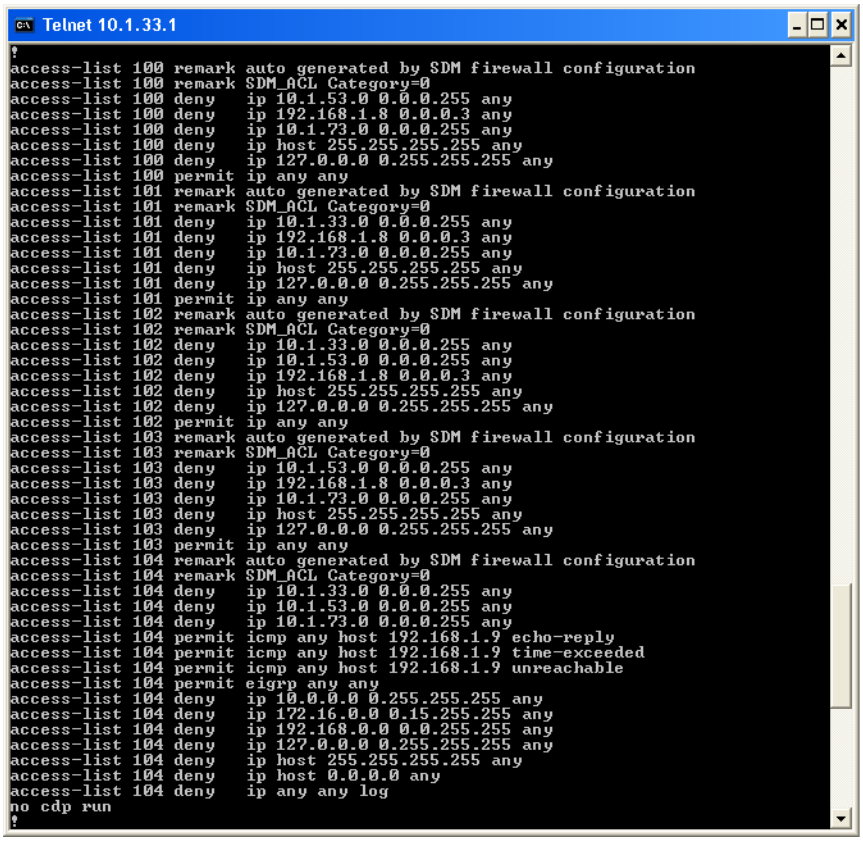


Figure 141 shows an example of the firewall configuration.

Figure 141 Firewall Configuration



Performing a Security Audit

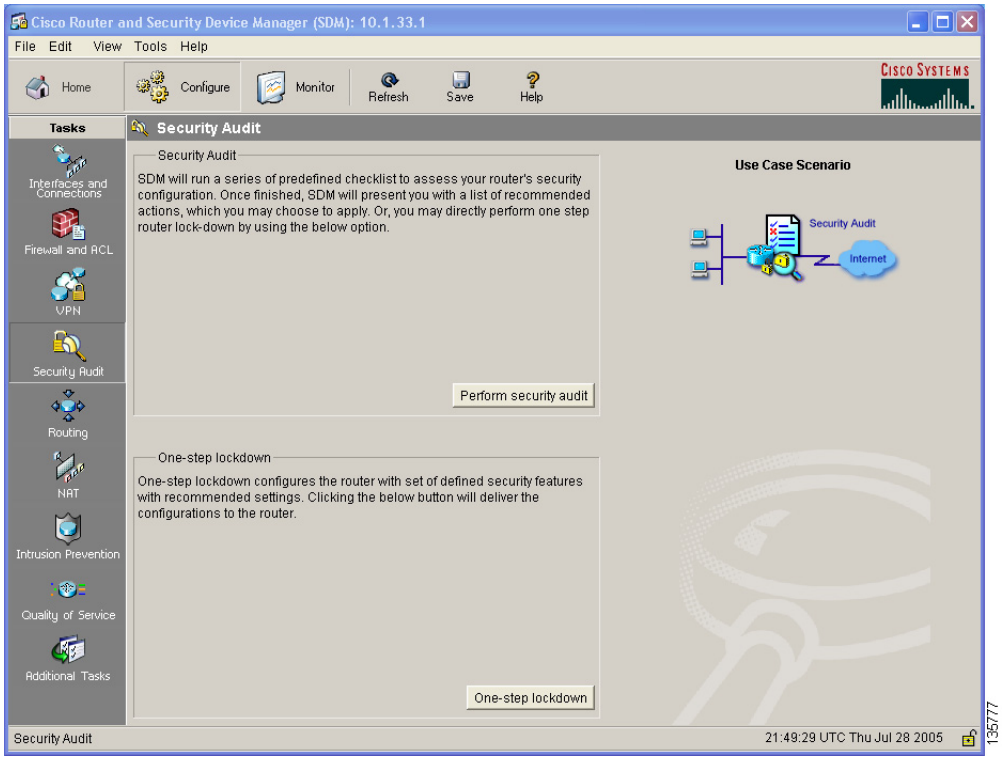
The Security Audit wizard tests your router configuration to determine if any potential security problems exist in the configuration, and then presents you with a window that lets you identify which of those security problems you want to fix. Once the problems are identified, the Security Audit wizard makes the necessary changes to the router configuration to fix those problems.

Perform the following steps to have Cisco SDM perform a security audit and then fix the problems that it finds.

Step 1 Click **Security Audit** from Tasks.

The Cisco SDM Security Audit window appears (see Figure 142):

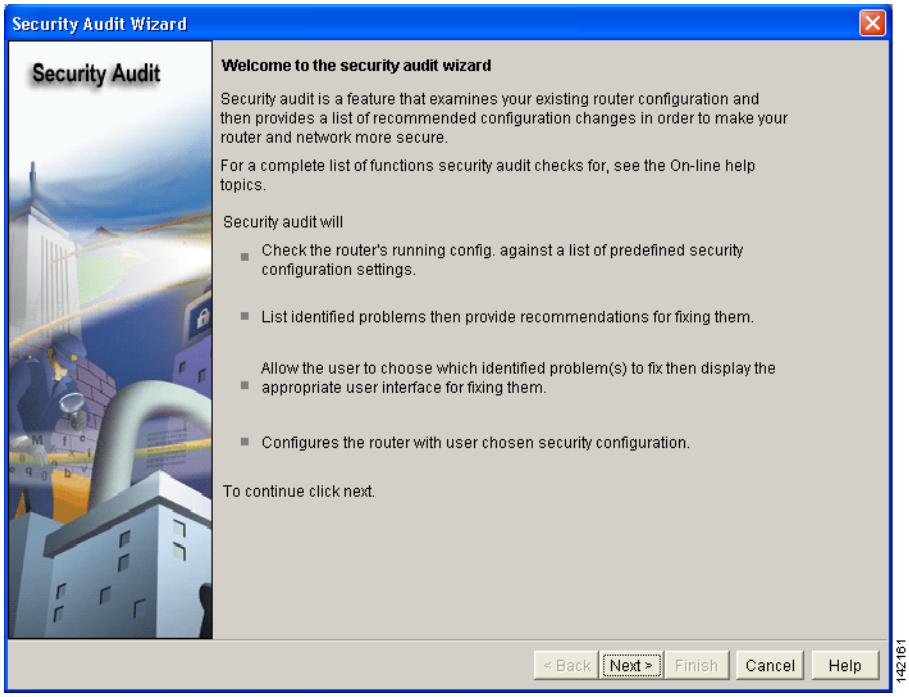
Figure 142 Cisco SDM Security Audit Window



Step 2 Click **Perform security audit**.

The Security Audit Wizard Welcome window appears (see Figure 143):

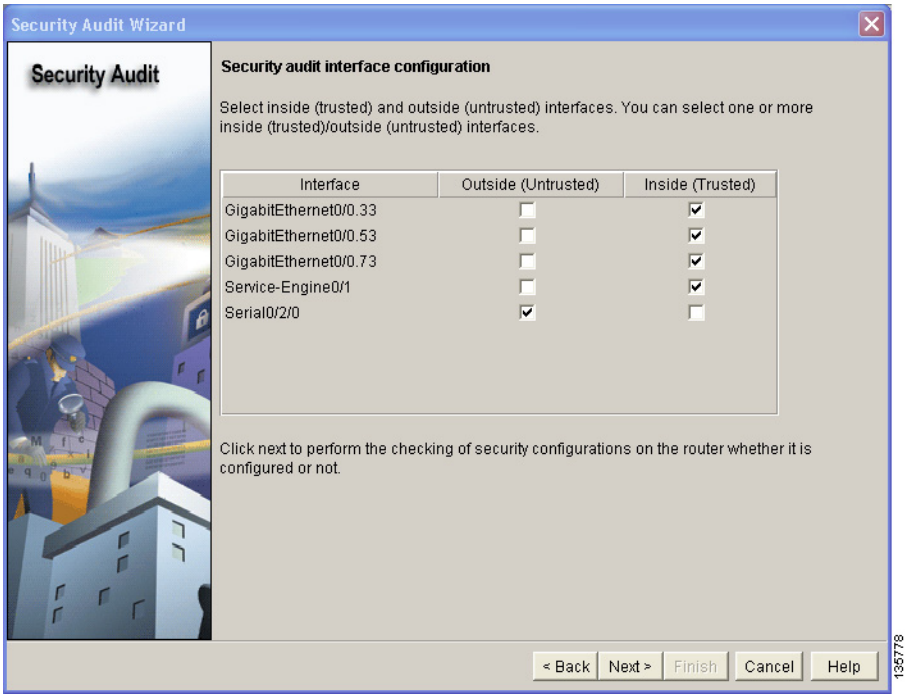
Figure 143 Cisco SDM Security Audit Wizard Welcome Window



Step 3 Click **Next**.

The Security Audit Interface Configuration window appears (see Figure 144):

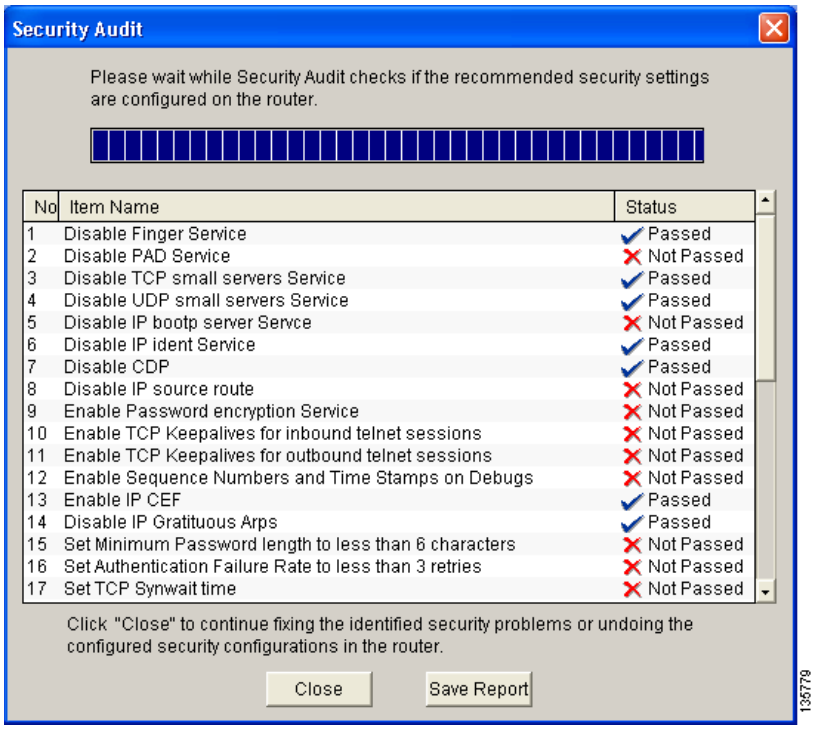
Figure 144 Cisco Security Audit Interface Configuration Window



Step 4 Click **Next**.

The Security Audit wizard tests your router configuration to determine which possible security problems may exist. A window showing the progress of this action appears (see Figure 145), listing all of the configuration options being tested, and whether the current router configuration passes those tests.

Figure 145 Security Audit Actions

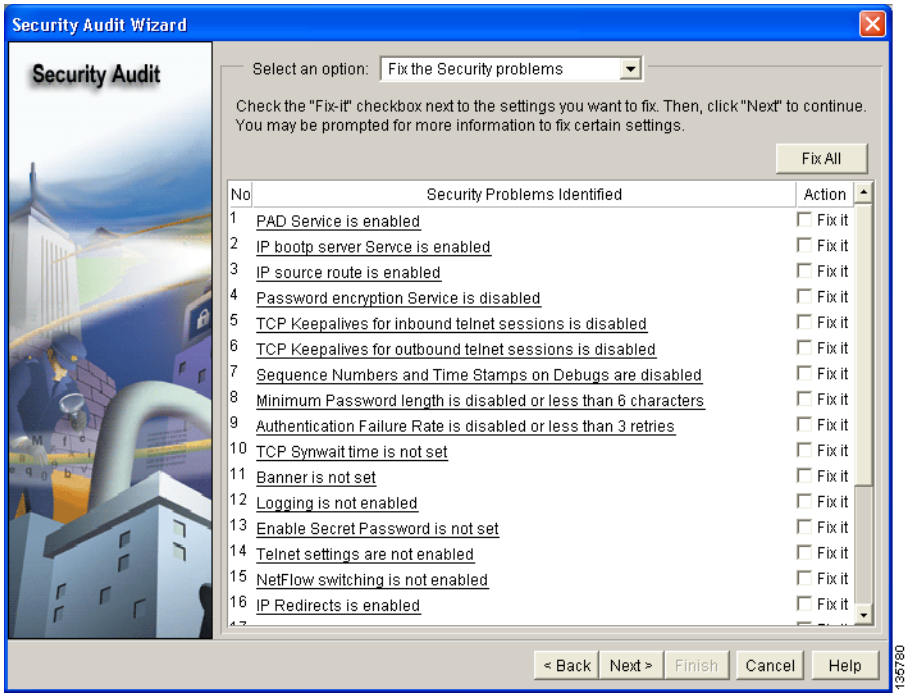


If you want to save this report to a file, click **Save Report**.

Step 5 Click **Close**.

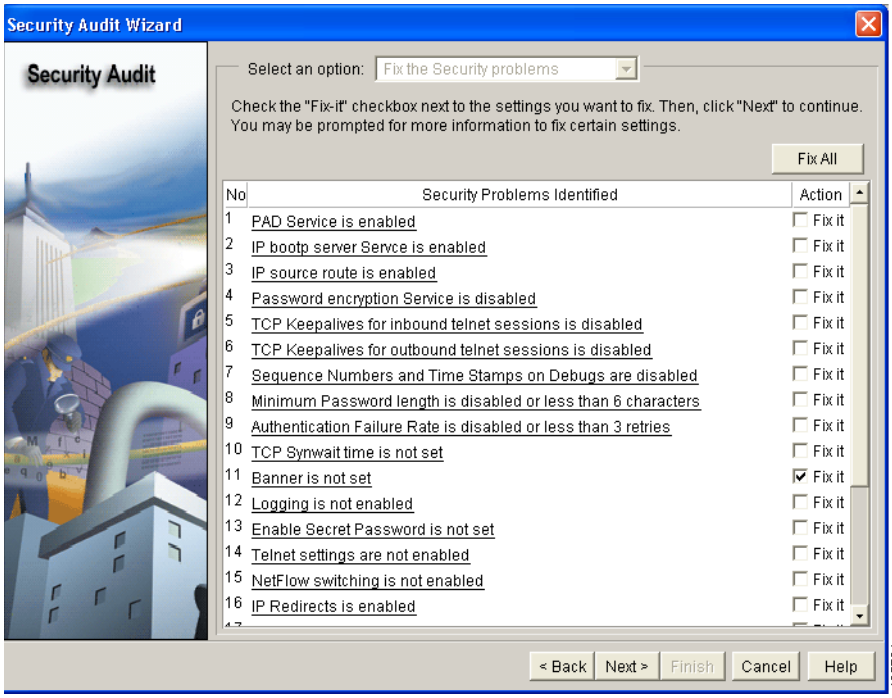
The Security Audit Report Card window appears, showing a list of possible security problems (see Figure 146):

Figure 146 Cisco Security Audit Report Card



Step 6 Check the Fix it check boxes next to any problems that you want Cisco SDM to fix (see Figure 147). For a description of the problem and a list of the Cisco IOS commands that will be added to your configuration, click the problem description to display a help page about that problem.

Figure 147 Cisco SDM Fix It Boxes



Step 7 Click **Next**.

Step 8 The Security Audit wizard may display one or more windows requiring you to enter information to fix certain problems. Enter the information as required and click **Next** for each of those windows. For more information on security audit fix it procedures, see the *"Security Audit"* chapter of the Cisco SDM User's Guide.

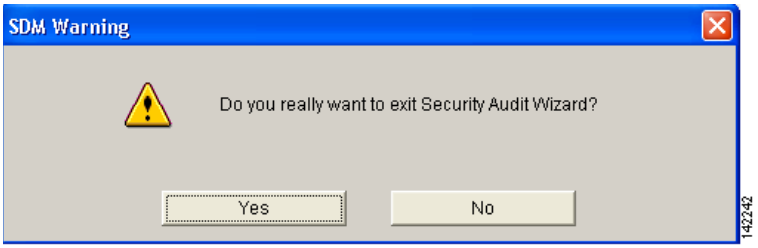
The Summary page shows a list of all the configuration changes that Security Audit will make.

Step 9 Click **Finish** to deliver those changes to your router.

Security is now configured on the voice network.

Step 10 Click **Yes** to exit Security Audit Wizard (see Figure 148):

Figure 148 Exiting Security Audit Wizard



The installation of Cisco BCS Verified Designs is now finished.