Configuring an IPSec Tunnel Between a Cisco SA500 and the Cisco VPN Client

This application note document provides information on how to configure an SA500 IPSec VPN Tunnel for remote access with the Cisco VPN Client. The Cisco VPN Client allows the security appliance to securely connect to small branch offices, teleworkers, and mobile workers. It provides ease-of-use, scalability, and reduces the need for individual PC-based client applications.

Scope and Assumptions

The procedures and guidelines in this Application Note assume that your SA500 is set up for Internet connectivity and has a basic configuration. It applies to an SA500 running firmware v2.1.12 or later with the Cisco VPN Client v4.0 or later. Administrators working on this system must have a basic working knowledge of IPSec VPNs.

Requirements

Before you begin the configuration, make sure that you have the following:

- An SA500 running firmware version 2.1.12 or later.
- Administrator access to the SA500.
- Preshared key, list of users, and user passwords.
- Cisco VPN Client software (version 4.x or later). To download this client go to: www.cisco.com/go/sa500software.

  Note. A 3-year Cisco Small Business Support Service Contract (CON-SBS-SVC2) is required to download the client software. If you do not have a support contract, contact your partner or reseller for more information.

Cisco VPN Client Compatibility

The Cisco VPN Client is compatible with the following:

- Windows XP, Vista (x86/32-bit only), Windows 7 (x86/32-bit only), and Windows x64 (64-bit).
- Mac OS X 10.4, 10.5, and 10.6.

Configuring the SA500 for the Cisco VPN Client

This section describes how to set up an IPSec VPN tunnel on the SA500 to allow workers to connect to your network from remote locations with the Cisco VPN Client. To configure the SA500, you need to create a VPN policy and then add users so they can authenticate to the device. Follow the tasks described in following sections:

- Configuring the VPN Policy using the VPN Wizard
- Adding IPSec Users

Configuring the VPN Policy using the VPN Wizard

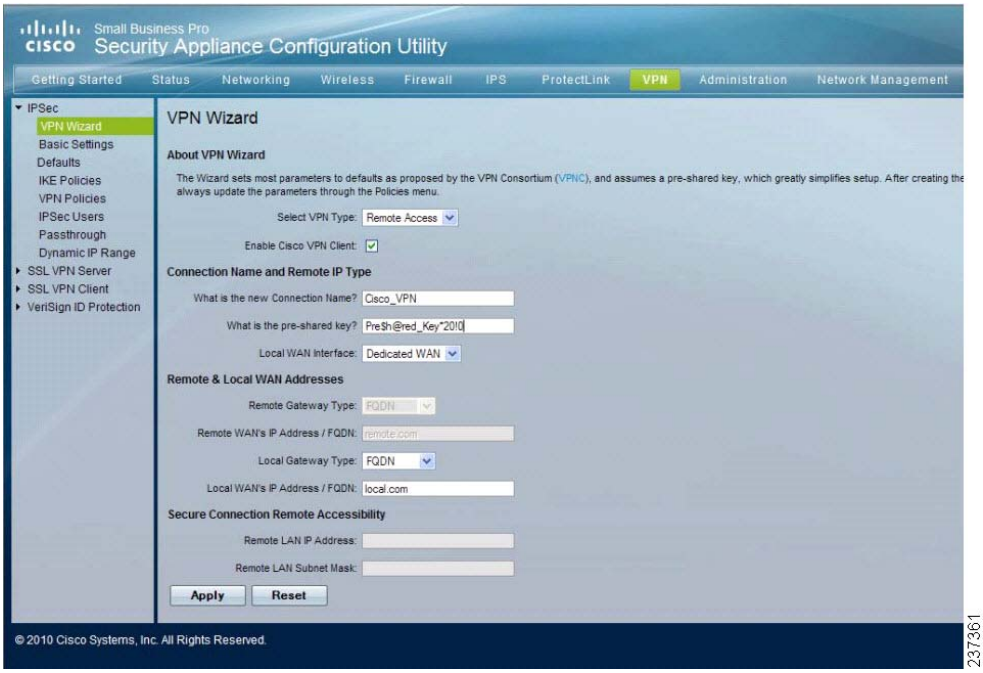
You configure the VPN policy by using the VPN Wizard. After creating the policy, you can update any of the parameters by using the other options in the Configuration Utility. After the Wizard completes, you will need to add VPN users through the IPSec VPN Users page to complete the SA500 configuration.

Note. The Wizard sets most parameters to the defaults proposed by the VPN Consortium (VPNC). For information about the VPNC recommendations, see: http://www.vpnc.org/vpn-standards.html.

Step 1. Login to the SA500 as administrator by entering: **192.168.75.1.** The default username and password is **cisco/cisco**.

Step 2. From the Configuration Utility, click **VPN > IPSec > VPN Wizard**, or from the Getting Started (Advanced) page, click **VPN Wizard (Select Remote Access)**.

The VPN Wizard window appears.



Step 3. In the **About VPN Wizard** area, choose **Remote Access** to allow the security appliance to be accessed by remote PCs that are running the Cisco VPN Client software.

Step 4. Check **Enable Cisco VPN Client**.

Step 5. In the **Connection Name and Remote IP Type** area, enter the following information:

- **What is the new connection name?:** Enter a name for the connection. This name is used for management and identification purposes. For example: Cisco_VPN.
- **What is the pre-shared Key?:** Enter the desired value, which the peer device must provide to establish a connection. For example: Pre$h@red_Key*20!0.

  The length of the pre-shared key is between 8 characters and 49 characters and must be entered exactly the same here and on the VPN remote client. This key is used as the Group Authentication password on the Cisco VPN Client. The preshared key must be the same for both the SA500 and the client.

  Note. Do not use the double-quote character (“) in the pre-shared key.
- **Local WAN Interface:** If you have only one WAN configured, choose **Dedicated WAN**. If you have two WANs configured, choose the interface that you want to use for this VPN tunnel.
- In the **Remote & Local WAN Addresses** area, use the default (FQDN) for the **Local Gateway Type.** Note that the fields for Remote LAN IP Address and Subnet Mask are disabled.

Step 6. Click **Apply** to save your settings.

The VPN policy is added to the “List of VPN Policies” under **VPN > IPSec > VPN Policies** and the IKE policy is added to the “List of IKE Policies” under **VPN > IPSec > IKE Policies**.

Step 7. Continue to the next section, “Adding IPSec Users.”

Adding IPSec Users

You can enable the SA500 to authenticate users from the local user database or to an external RADIUS server. When adding IPSec users, choose one of the following methods:

- Authenticating IPsec Users from the Local User Database
- Authenticating IPSec Users using a RADIUS Server

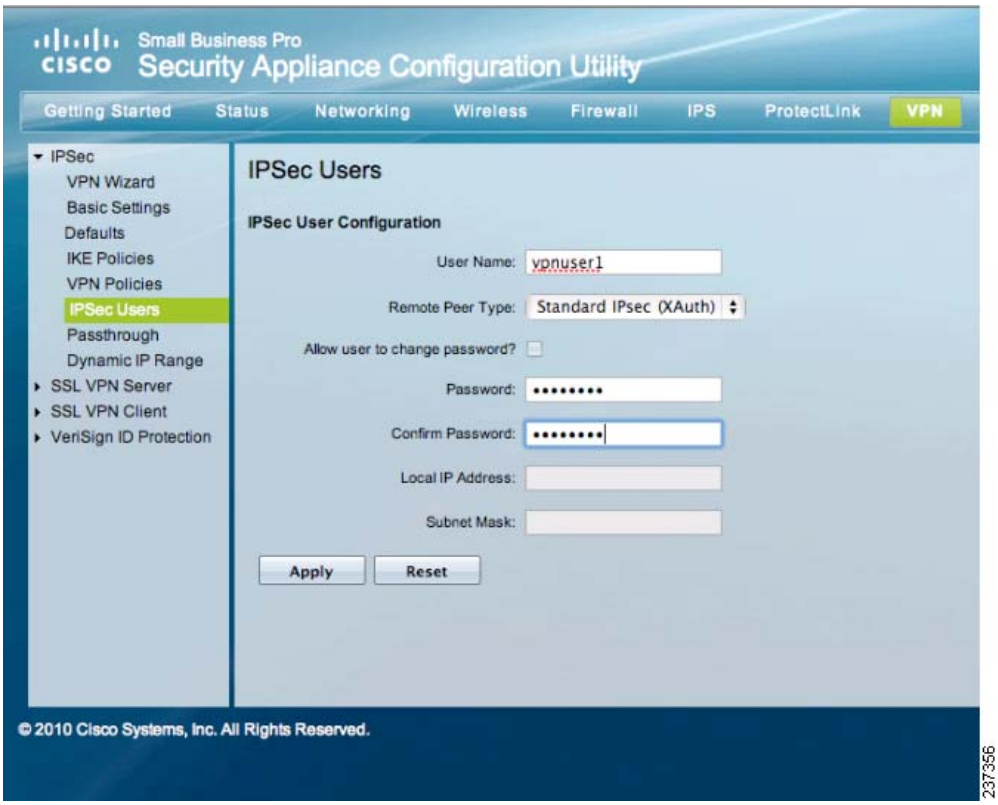
Authenticating IPsec Users from the Local User Database

Step 1. Click **VPN > IPSec > IPSec Users**.

The IPSec Users window opens. Any existing users are listed in the List of IPSec Users table.

Step 2. Click **Add**.

The IPSec User Configuration window opens.



Step 3. Enter the following information:

- **User Name:** Enter a unique identifier for the XAuth user. For example: vpnuser1.
- **Remote Peer Type**: Choose Standard IPsec (XAuth). **Note**. Do not select Cisco QuickVPN.

  The VPN gateway authenticates users in this list when XAuth is used in an IKE policy. XAuth is used when additional client security is required with IPSec clients such the Cisco VPN Client.

  Note. When XAuth is selected, the **Allow user to change password**, **Local IP Address**, and **Subnet Mask** fields are disabled. The user has access to all the VLANs and not a particular VLAN.
- **Password**: Enter an alphanumeric password for the user.
- **Confirm Password**: Enter the exact same characters you entered in the Password field above.

Step 4. Click **Apply** to save your changes.

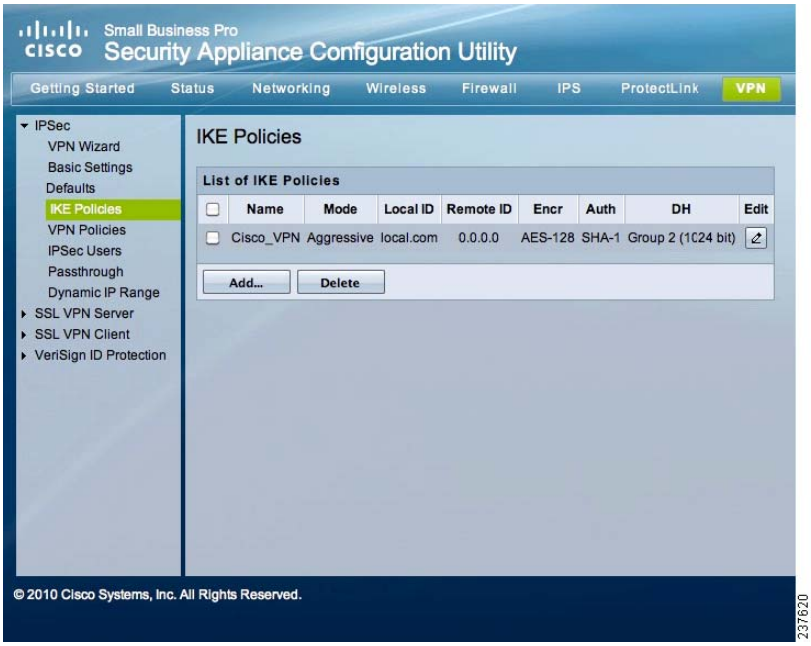
The user is added to the List of IPSec Users table under **VPN > IPSec > IPSec Users**.

Note. The IP address of the remote client is defined by the Dynamic IP Range and is automatically set (default). If you want to manually change this range, you must modify it “before” the VPN policy is created. Otherwise, the changes will not take affect. To change the range, go to **VPN > IPSec > Dynamic IP Range**.

Authenticating IPSec Users using a RADIUS Server

Step 1. Click **VPN > IPSec > IKE Policies**.

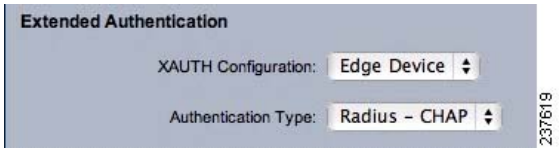
The IKE Policies window opens.



Step 2. Select the user policy you created in the previous step from the List of IKE Policies table and click **Edit**. For example: Cisco_VPN.

Step 3. From the IKE Policy Configuration window, under Extended Authentication, enter the following:

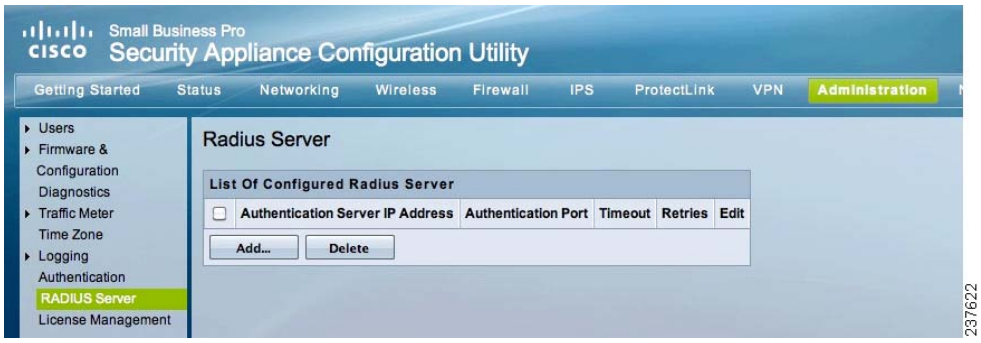
- Choose **Edge Device** from the XAUTH Config drop-down list.
- Choose a RADIUS option from the Authentication Type drop-down list. You can choose from RADIUS CHAP or RADIUS PAP.



Step 4. Click **Apply** to save your changes.

Step 5. To specify the RADIUS Server settings, click **Administration > RADIUS Server**.

The Radius Server window opens.



Step 6. Click **Add**.

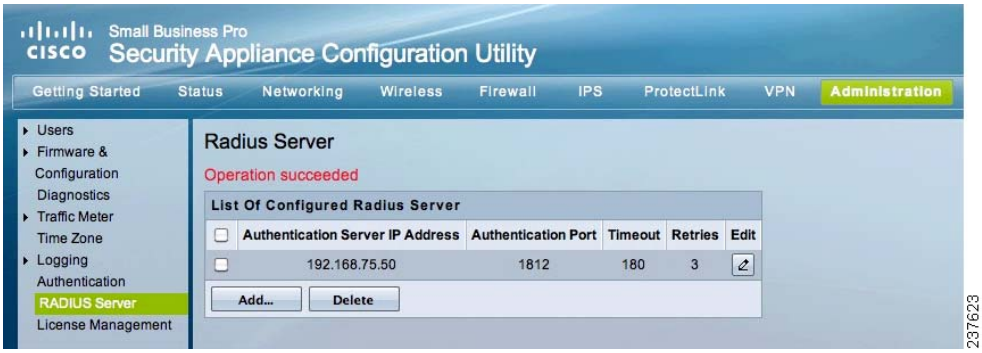
The Radius Server Configuration window opens.

Step 7. Enter the following information:

- **Authentication Server IP Address:** Enter the IP address of the authenticating RADIUS server.
- **Authentication Port:** Enter the port number on the RADIUS server that is used to send the RADIUS traffic.
- **Secret:** Enter the shared key that is configured on the RADIUS server. The secret can contain all characters except for single quote, double quote and space.
- **Timeout:** Enter the number of seconds that the connection can exist before reauthentication is required.
- **Retries:** Enter the number of retries for the device to re-authenticate with the RADIUS server.

Step 8. Click **Apply** to save your settings.

The new server appears in the ”List of Configured Radius Server” table.



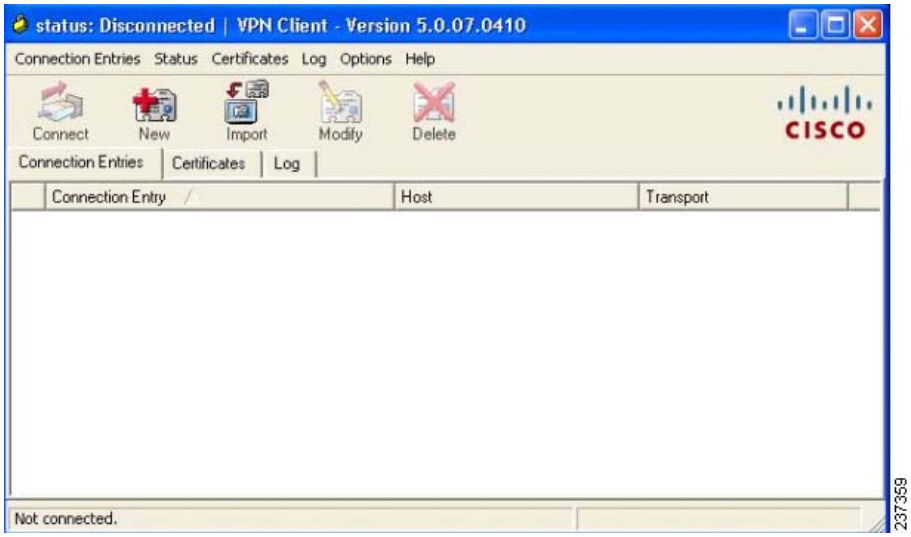
Configuring the Cisco VPN Client

This section describes how to configure the Cisco VPN Client to work with the SA500. For information about downloading this client, see Requirements, page 2.

Step 1. Install the VPN Client client and launch it.

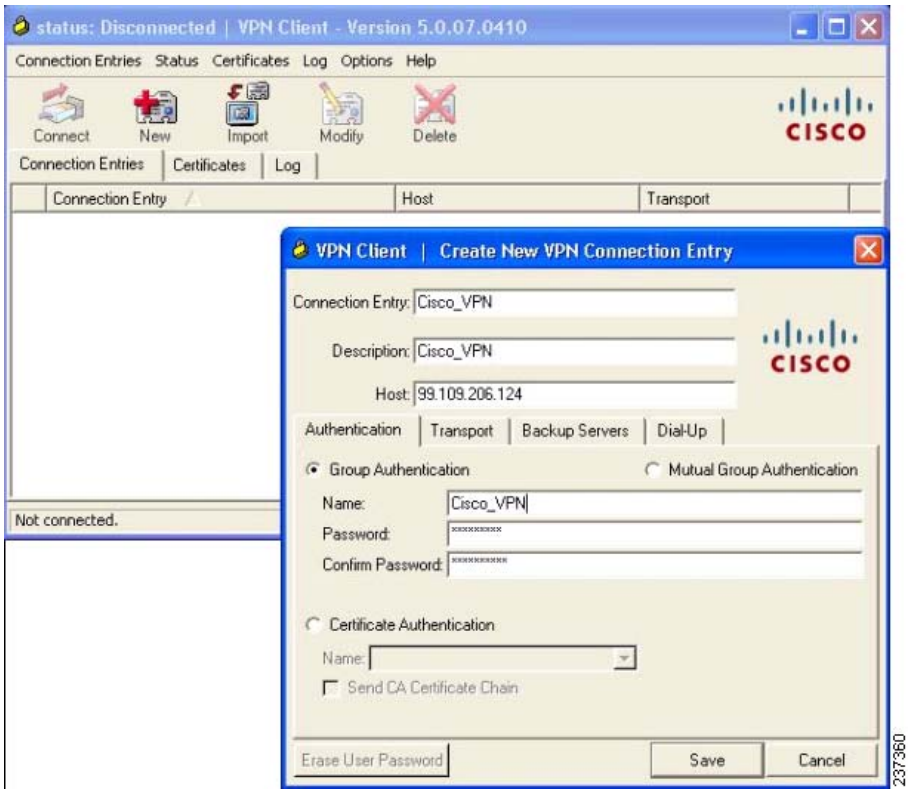
On a PC, you can launch the client by clicking **Start > Programs> Cisco Systems VPN Client > VPN Client**, or by clicking the VPN Client icon on your desktop.

The VPN Client window appears.



Step 2. Click **New** to add a new VPN connection.

The Create New VPN Connection Entry window opens.



Step 3. Enter a name and description for the new connection. For example: Cisco_VPN.

Step 4. In the Host field enter the WAN IP address of the VPN Server (SA500). For example: 99.109.206.124.

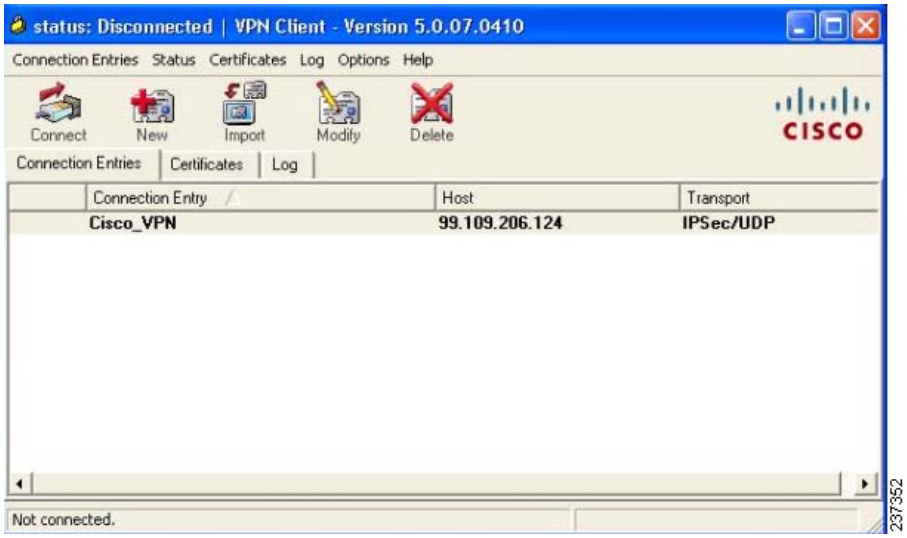
Step 5. Specify the **Group Authentication** information.

a. Enter the name for the Group Authentication policy. For example: Cisco_VPN.

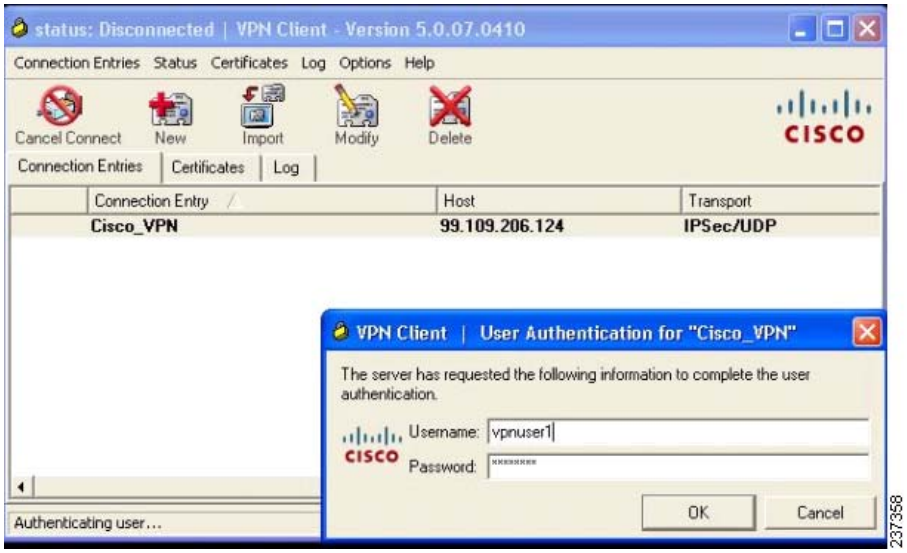
b. Enter the password and confirm it. The password must be the same as the preshared key configured for the SA500. See Configuring the SA500 for the Cisco VPN Client, page 2.

c. Click **Save**.

The new connection entry appears in the VPN Client page.

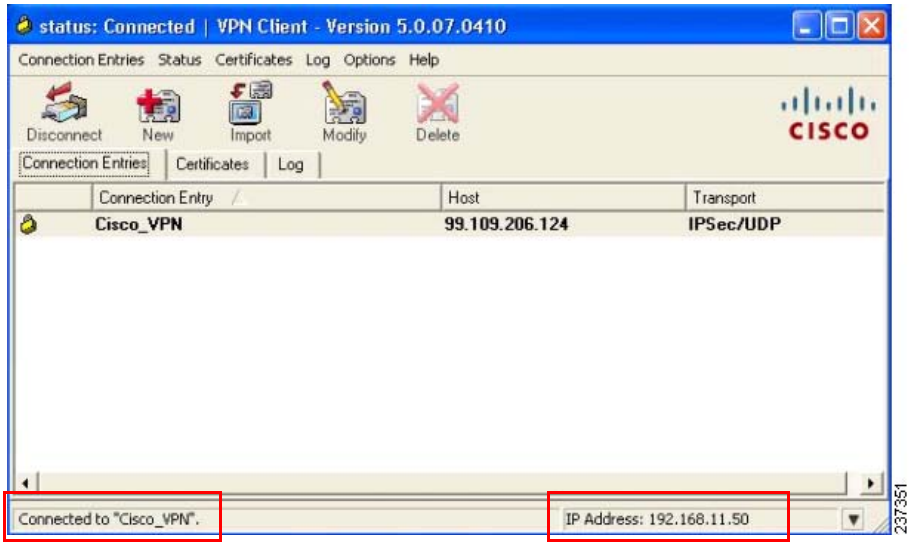


Step 6. Select the new entry and click **Connect**.



Step 7. In the User Authentication window, enter the Username and Password and click **OK**. These must match the username and password configured in the SA500 List of IPSec Users or on the RADIUS server. See Adding IPSec Users, page 4.

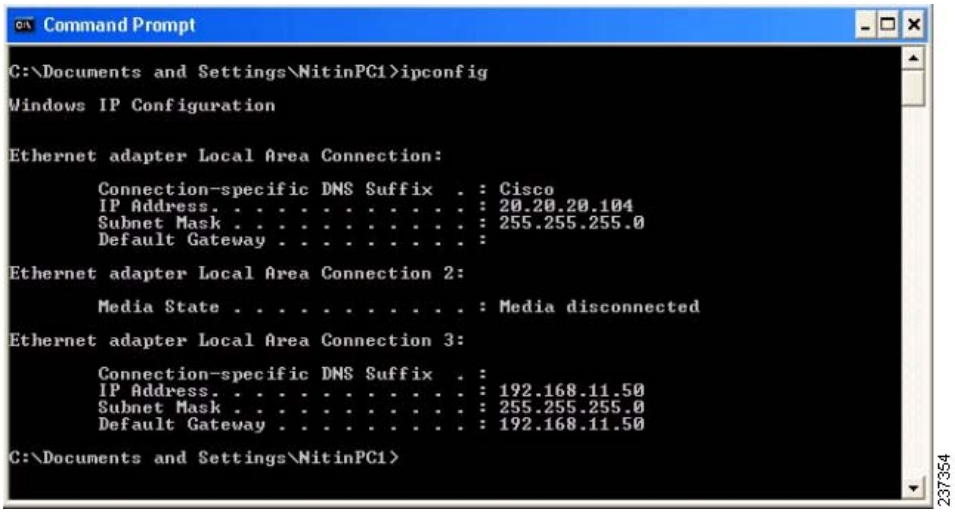
Step 8. After the VPN tunnel is established, the status shows as **Connected** on the VPN Client page and displays the **IP Address** assigned to the remote user from the VPN server (SA500).



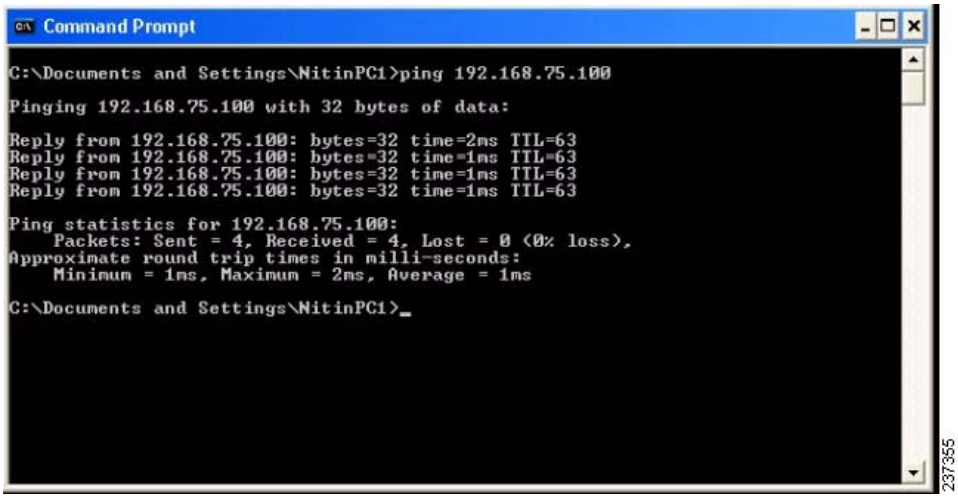
Verifying the Client Connection

Step 1. To verify the client connection, make sure the that the connected (lock) icon is displayed on the taskbar on the remote VPN Client as shown below.

Step 2. Enter **ipconfig** from the Windows Command Prompt to view the IP Address for the VPN remote client. In this example, the remote IP address is 192.168.11.50.



Step 3. Verify that the remote user can ping the hosts on the LAN of the SA500.



Viewing the IPSec VPN Connection

Use this page to view the connection status of the remote client connected to the SA500. To access this page, click **Status > VPN Status > IPSec Status** from the Configuration Utility.

This page shows the statistics for the connection including the policy name, endpoint, data and number of IP packets transmitted, and the current status of the IKE policies. You can also use the buttons on the page to start or stop the connection. This page also refreshes automatically to display the most current status for the security association (SA).

For More Information

Product and Support Resources	Location
SA500 Technical Documentation	www.cisco.com/go/sa500resources
Cisco Partner tools	www.cisco.com/go/partners
Cisco Small Business Support Community	www.cisco.com/go/smallbizsupport
Cisco.com Technical Support page	http://www.cisco.com/en/US/support/index.html