



Using EAP Authentication

This chapter explains the sequence of events that occurs and the actions you must take when a profile that is set for EAP authentication is selected for use.

The following topics are covered in this chapter:

- [Overview, page 6-2](#)
- [Using LEAP or EAP-FAST, page 6-2](#)
- [Using LEAP or EAP-FAST with the Windows Username and Password, page 6-4](#)
- [Using LEAP or EAP-FAST with an Automatically Prompted Login, page 6-8](#)
- [Using LEAP or EAP-FAST with a Manually Prompted Login, page 6-13](#)
- [Using LEAP or EAP-FAST with a Saved Username and Password, page 6-20](#)
- [Using EAP-TLS, page 6-23](#)
- [Using PEAP, page 6-24](#)
- [Using EAP-SIM, page 6-29](#)
- [Restarting the Authentication Process, page 6-30](#)

Overview

This chapter explains the sequence of events that occurs as soon as you or ACU's auto profile selection feature selects a profile that uses EAP authentication as well as after you eject and reinsert the client adapter, reboot the computer, log on while this profile is selected, or are informed that your username and password have expired. The chapter contains seven sections based on the profile's authentication type and its username and password settings:

- LEAP or EAP-FAST with the Windows username and password, [page 6-4](#)
- LEAP or EAP-FAST with an automatically prompted login, [page 6-8](#)
- LEAP or EAP-FAST with a manually prompted login, [page 6-13](#)
- LEAP or EAP-FAST with a saved username and password, [page 6-20](#)
- EAP-TLS, [page 6-23](#)
- PEAP, [page 6-24](#)
- EAP-SIM, [page 6-29](#)

Also provided are an overview of LEAP and EAP-FAST (below) and instructions for restarting the authentication process when necessary ([page 6-30](#)).

Follow the instructions for your profile's authentication type and credential settings to successfully authenticate.



Note

If any error messages appear during authentication, refer to [Chapter 10](#) for explanations and recommended actions. If any messages appear regarding PAC provisioning for EAP-FAST, refer to the [“EAP-FAST Authentication Error Messages”](#) section on [page 10-24](#) for instructions.

Using LEAP or EAP-FAST

Step 1 When LEAP or EAP-FAST authentication begins, the LEAP or EAP-FAST Authentication Status screen appears (see [Figure 6-1](#)).



Note

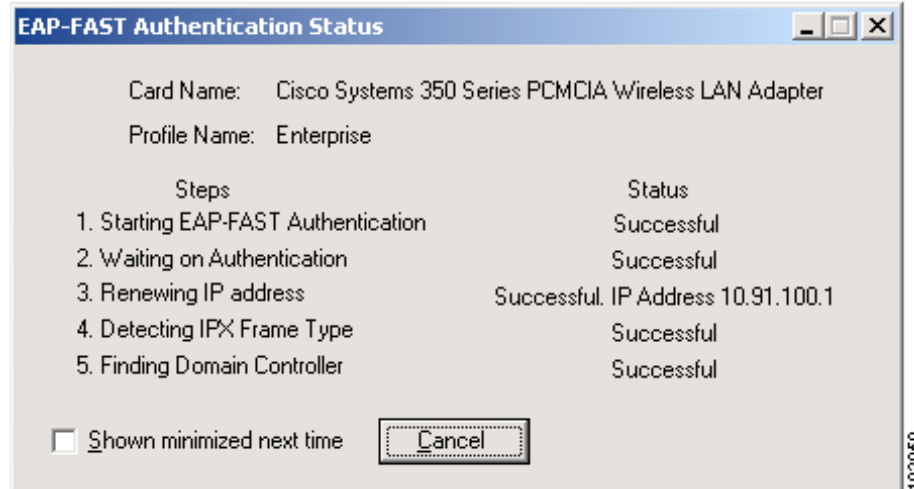
The LEAP or EAP-FAST Authentication Status screen might appear behind any open applications.



Note

You can click **Cancel** at any time to abort the LEAP or EAP-FAST authentication attempt.

Figure 6-1 LEAP or EAP-FAST Authentication Status Screen



This screen provides information about the status of LEAP or EAP-FAST authentication. [Table 6-1](#) lists and explains the stages of LEAP or EAP-FAST authentication. As each stage is completed, a status message (such as *Successful*) appears in the Status field.

**Note**

If any error messages appear, refer to the “[LEAP Authentication Error Messages](#)” section on page 10-20 or the “[EAP-FAST Authentication Error Messages](#)” section on page 10-24 for an explanation and the recommended action to take.

Table 6-1 Stages of LEAP or EAP-FAST Authentication

Stage	Explanation
Starting LEAP or EAP-FAST Authentication	The client adapter associates to an access point, and the LEAP or EAP-FAST authentication process begins.
Waiting on Authentication	The client adapter EAP authenticates, and the network connection is verified.
Renewing IP Address	If DHCP is enabled, the IP address is released and renewed.
Detecting IPX Frame Type	On Windows 2000 and XP, the IPX frame type is reset if AutoDetect is enabled.
Finding Domain Controller	If you are logging into a domain and the active profile specifies that the domain name be included, an attempt is made to find the domain controller to make sure subsequent access to the domain is successful.

- Step 2** If you do not want the LEAP or EAP-FAST Authentication Status screen to appear each time the client adapter attempts to authenticate using LEAP or EAP-FAST, check the **Shown minimized next time** check box in the bottom left corner of the screen. On future LEAP or EAP-FAST authentication attempts, the LEAP or EAP-FAST Authentication Status screen appears minimized in the Windows system tray.



Note To make the LEAP or EAP-FAST Authentication Status screen reappear once it has been minimized, click the **LEAP Authentication Status** or **EAP-FAST Authentication Status** tab in the Windows system tray and uncheck the **Shown minimized next time** check box. The LEAP or EAP-FAST Authentication Status screen should now appear for all future LEAP or EAP-FAST authentication attempts.

Using LEAP or EAP-FAST with the Windows Username and Password

After Profile Selection or Card Insertion

After you (or auto profile selection) select a profile that uses your Windows username and password for LEAP or EAP-FAST authentication or you eject and reinsert the client adapter while this profile is selected, the following events occur:

1. The LEAP or EAP-FAST Authentication Status screen appears.
2. If your client adapter authenticates, the screen shows that each stage was successful and then disappears. ACM now shows *Authenticated*, and the Server Based Authentication field on the ACU Status screen shows *LEAP Authenticated* or *EAP-FAST Authenticated*.

If the authentication attempt fails, an error message appears after the authentication timeout period has expired. Refer to the “[LEAP Authentication Error Messages](#)” section on page 10-20 or the “[EAP-FAST Authentication Error Messages](#)” section on page 10-24 for the necessary action to take.

After a Reboot or Logon

After your computer reboots or you log on, follow these steps to authenticate using LEAP or EAP-FAST.

- Step 1** When the Windows login screen appears (see [Figure 6-2](#) and [Figure 6-3](#)), enter your Windows username and password and click **OK**. The domain name is optional.



Note If your computer is running Windows NT (LEAP only), 2000, or XP, your Windows username and password may be retrieved automatically from the registry, making it unnecessary for you to enter your Windows credentials. See this URL for instructions on modifying the registry to enable or disable this feature:
http://msdn.microsoft.com/library/default.asp?url=/library/en-us/security/security/msgina_dll_features.asp

**Note**

If your computer is running Windows NT (LEAP only), 2000, or XP and has Novell Client 32 software installed, a separate LEAP or EAP-FAST login screen (Enter Wireless Network Password) appears before the Novell login screen. If this occurs, enter your Windows and Novell username and password in the login screens and click **OK**.

Figure 6-2 Windows Login Screen (Windows 98, 98 SE, and Me)

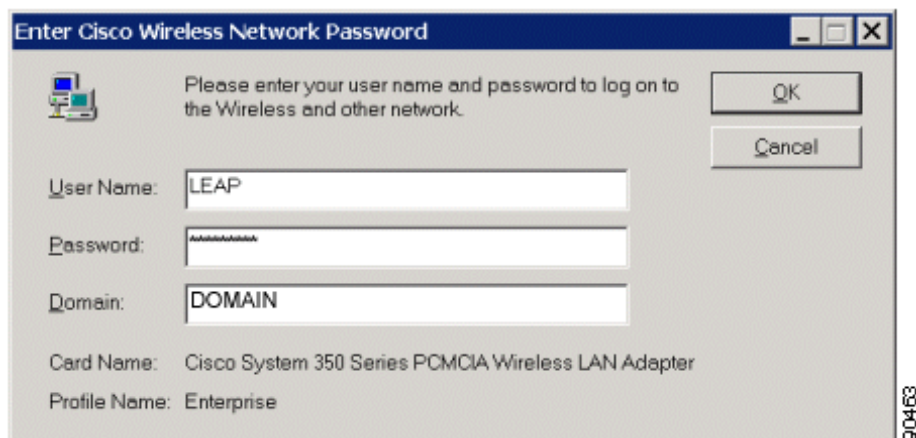
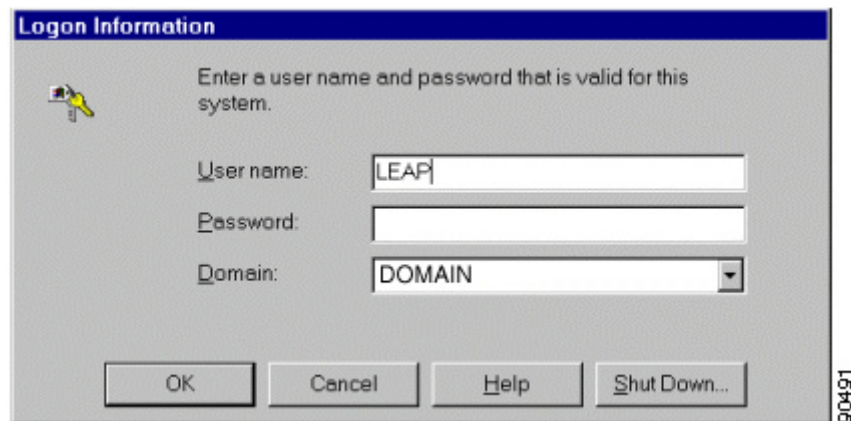


Figure 6-3 Windows Login Screen (Windows NT)

**Note**

The Windows login screens shown above appear on computers running Windows 98, 98 SE, and Me (Figure 6-2) and Windows NT (Figure 6-3), respectively. The login screen looks slightly different on computers running Windows 2000 and XP.

The LEAP or EAP-FAST Authentication Status screen appears.

Step 2 If your client adapter authenticates, the screen shows that each stage was successful and then disappears. ACM now shows *Authenticated*, and the Server Based Authentication field on the ACU Status screen shows *LEAP Authenticated* or *EAP-FAST Authenticated*.

If the authentication attempt fails, an error message appears after the authentication timeout period has expired. Refer to the “[LEAP Authentication Error Messages](#)” section on page 10-20 or the “[EAP-FAST Authentication Error Messages](#)” section on page 10-24 for the necessary action to take.

Step 3 Windows continues to log you onto the system.

After Your LEAP Credentials Expire

If the LEAP credentials (username and password) for your current profile expire or become invalid, follow these steps to reauthenticate.



Note

If your computer is running Windows NT, 2000, or XP and you change your Windows password using the standard Windows Change Password function, the client updates the LEAP password automatically and maintains its connection to the access point if the current profile uses the Windows username and password. If your computer is running Windows 98, 98 SE, or Me and you change your Windows password, the client loses association from the access point, and you are prompted to enter your new credentials.

Step 1 Click **OK** when the following message appears: “The user name and password entered are no longer valid and have failed the LEAP authentication process. Please enter a new user name and password.”

Step 2 When the Windows login screen appears, enter your new username and password and click **OK**. The client adapter should authenticate using your new credentials.



Note

If you click Cancel rather than OK on the Windows login screen, the following message appears: “The profile will be disabled until you select the Reauthenticate option, Windows restarts, or the card is ejected and reinserted. Are you sure?” If you click No, the Windows login screen reappears and allows you to enter your new credentials. If you click Yes, the current profile is disabled until you select Reauthenticate from ACM or the Commands drop-down menu in ACU, reboot your computer, or eject and reinsert the card. The Current Profile field on the ACU Status screen lists the profile as being *Disabled*.

After Your EAP-FAST Credentials Expire

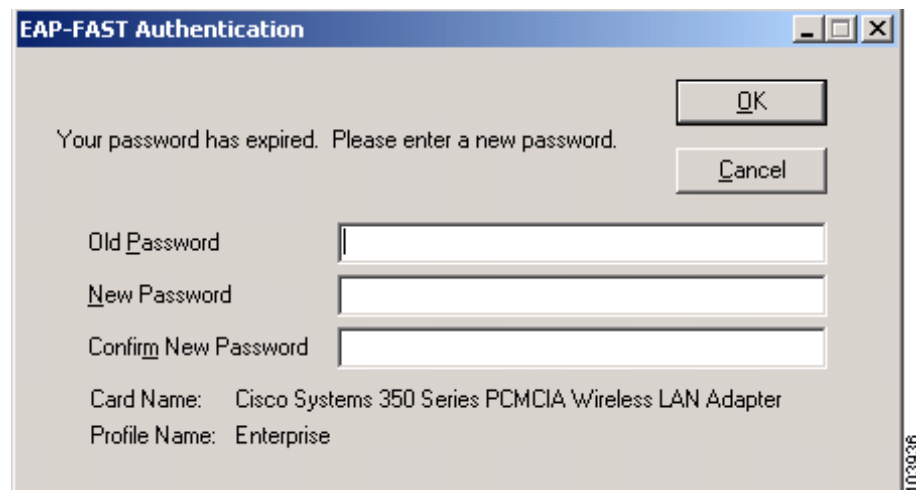
If the EAP-FAST credentials (username and password) for your current profile expire or become invalid, follow these steps to change your password.

**Note**

If you change your Windows password using the standard Windows Change Password function, the client updates the EAP-FAST password automatically and maintains its connection to the access point if the current profile uses the Windows username and password.

- Step 1** When the Change Password screen appears (see [Figure 6-4](#)) to indicate that your password has expired, enter your old password in the Old Password field.

Figure 6-4 Change Password Screen



- Step 2** Enter your new password in both the New Password and Confirm New Password fields and click **OK**.
- Step 3** If prompted, log off and on again in order to update your local cached account with your new password.

Using LEAP or EAP-FAST with an Automatically Prompted Login

After Profile Selection or Card Insertion

After you (or auto profile selection) select a profile that uses a separate username and password for LEAP or EAP-FAST authentication or you eject and reinsert the client adapter while this profile is selected, follow these steps to authenticate.

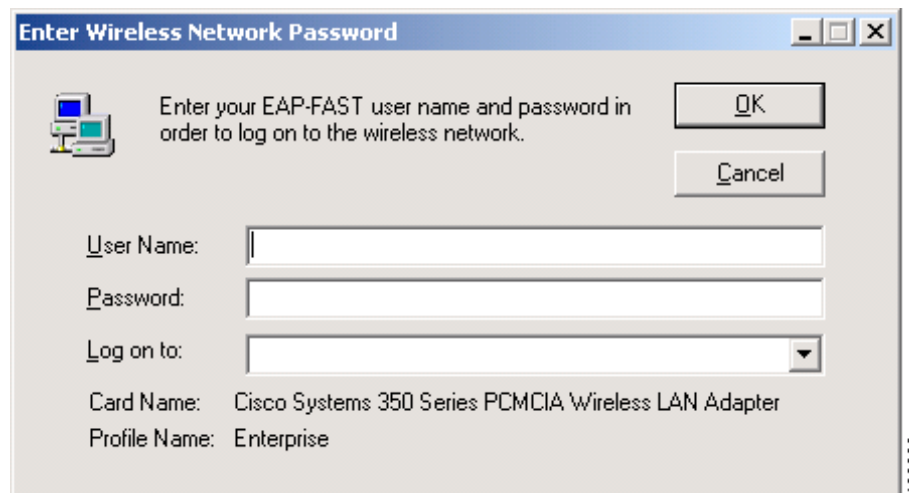


Note

This procedure is applicable the first time an automatically prompted LEAP or EAP-FAST profile is selected. After you follow these steps to enter your LEAP or EAP-FAST credentials, you can switch profiles without having to re-enter your credentials until you reboot your computer, eject and reinsert your client adapter, or change the profile in any way (including its priority in auto profile selection).

- Step 1** When the Enter Wireless Network Password screen appears (see [Figure 6-5](#)), enter your LEAP or EAP-FAST username and password and click **OK**. The domain name, which can be entered in the Log On To field, is optional.

Figure 6-5 Enter Wireless Network Password Screen

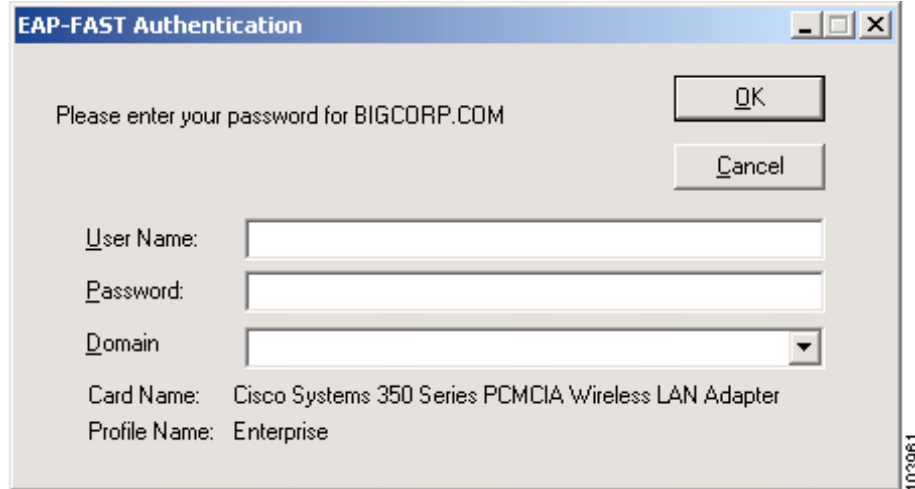


Note

The screen shown above appears on computers running Windows NT, 2000, or XP. The screen looks slightly different on computers running other Windows operating systems.

- Step 2** If you are using EAP-FAST and a user prompt screen appears (see [Figure 6-6](#)), enter the requested information and click **OK**.

Figure 6-6 User Prompt Screen

**Note**

This screen appears if the server needs additional information. The text displayed at the top of the screen is sent from the server and varies by organization. It should tell you what information to enter.

- Step 3** The LEAP or EAP-FAST Authentication Status screen appears. If your client adapter authenticates, the screen shows that each stage was successful and then disappears. ACM now shows *Authenticated*, and the Server Based Authentication field on the ACU Status screen shows *LEAP Authenticated* or *EAP-FAST Authenticated*.

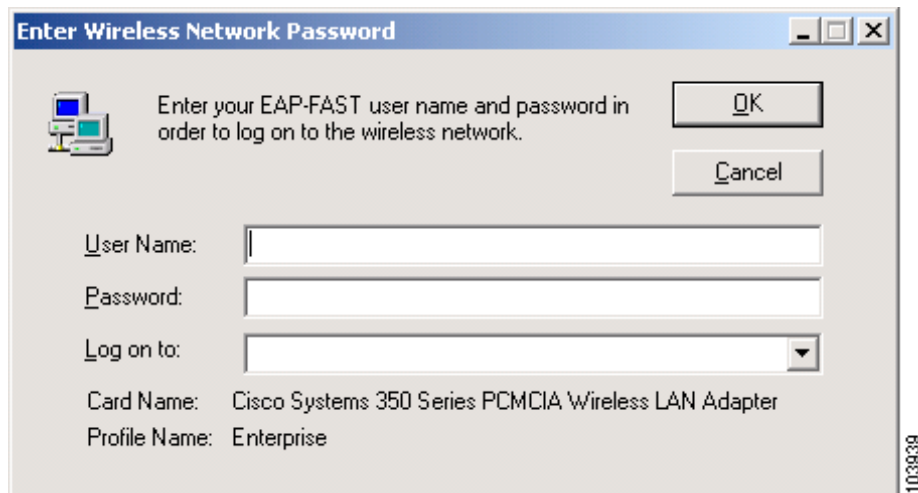
If the authentication attempt fails, an error message appears after the authentication timeout period has expired. Refer to the “[LEAP Authentication Error Messages](#)” section on page 10-20 or the “[EAP-FAST Authentication Error Messages](#)” section on page 10-24 for the necessary action to take.

After a Reboot or Logon

After your computer reboots or you log on, follow these steps to authenticate using LEAP or EAP-FAST.

- Step 1** When the Enter Wireless Network Password screen appears (see [Figure 6-7](#)), enter your LEAP or EAP-FAST username and password and click **OK**. The domain name, which can be entered in the Log On To field, is optional.

Figure 6-7 Enter Wireless Network Password Screen

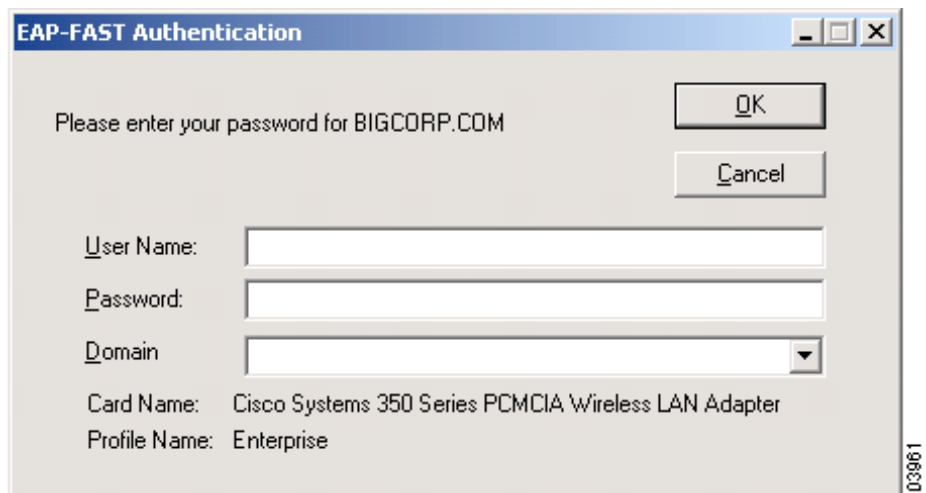


Note The screen shown above appears on computers running Windows NT, 2000, or XP. The screen looks slightly different on computers running other Windows operating systems.

Note The Enter Wireless Network Password screen should appear before the Windows login screen on computers running Windows 98, 98 SE, or Me. If the Windows screen appears first, follow the instructions in the [“LEAP Login Screen Does Not Appear Before Windows Login Screen \(Windows 98, 98 SE, and Me Only\)”](#) section on page 10-13. On computers running Windows NT, 2000, or XP, the Enter Wireless Network Password screen appears after the Windows login screen.

- Step 2** If you are using EAP-FAST and a user prompt screen appears (see [Figure 6-8](#)), enter the requested information and click **OK**.

Figure 6-8 User Prompt Screen





Note This screen appears if the server needs additional information. The text displayed at the top of the screen is sent from the server and varies by organization. It should tell you what information to enter.

Step 3 The LEAP or EAP-FAST Authentication Status screen appears. If your client adapter authenticates, the screen shows that each stage was successful and then disappears. ACM now shows *Authenticated*, and the Server Based Authentication field on the ACU Status screen shows *LEAP Authenticated* or *EAP-FAST Authenticated*.

If the authentication attempt fails, an error message appears after the authentication timeout period has expired. Refer to the “[LEAP Authentication Error Messages](#)” section on page 10-20 or the “[EAP-FAST Authentication Error Messages](#)” section on page 10-24 for the necessary action to take.

Step 4 When the network login screen appears (see [Figure 6-9](#) and [Figure 6-10](#)), enter your network username and password and click **OK**.



Note [Figure 6-9](#) shows an example network login screen that may appear on computers running Windows 98, 98 SE, and Me. Your screen may look different. [Figure 6-10](#) shows the network login screen that appears on Windows 2000 systems. The login screen looks slightly different on computers running Windows NT and XP.

Figure 6-9 Network Login Screen (Windows 98, 98 SE, and Me)

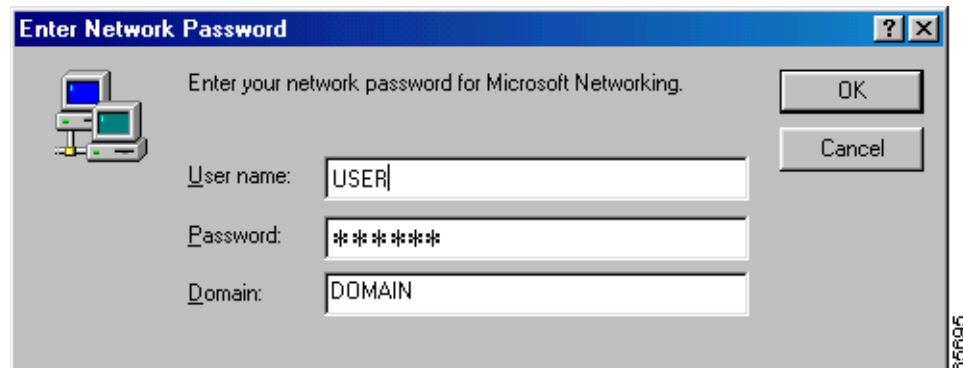


Figure 6-10 Network Login Screen (Windows 2000)



After Your LEAP Credentials Expire

If the LEAP credentials (username and password) for your current profile expire or become invalid, follow these steps to reauthenticate.

-
- Step 1** Click **OK** when the following message appears: “The user name and password entered are no longer valid and have failed the LEAP authentication process. Please enter a new user name and password.”
- Step 2** When the Enter Wireless Network Password screen appears, enter your new username and password and click **OK**. The client adapter should authenticate using your new credentials.



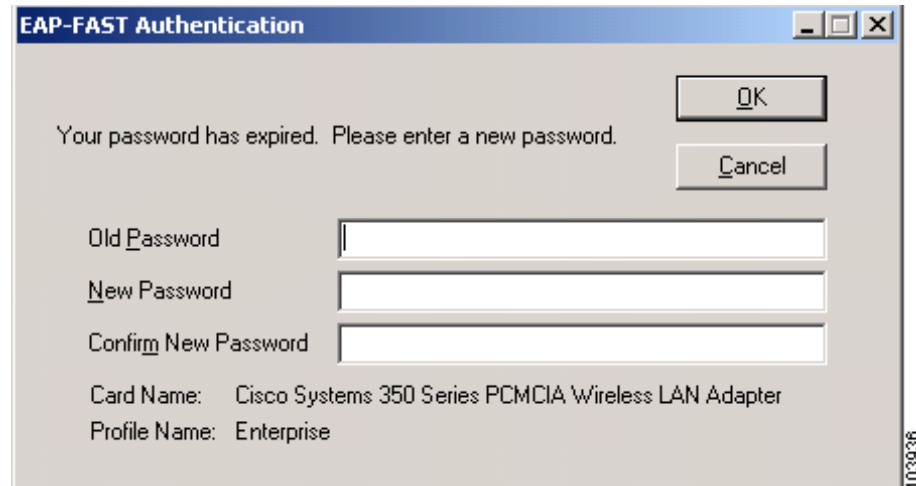
Note If you click **Cancel** rather than **OK** on the Enter Wireless Network Password screen, the following message appears: “The profile will be disabled until you select the Reauthenticate option, Windows restarts, or the card is ejected and reinserted. Are you sure?” If you click **No**, the Enter Wireless Network Password screen reappears and allows you to enter your new credentials. If you click **Yes**, the current profile is disabled until you select **Reauthenticate** from **ACM** or the **Commands** drop-down menu in **ACU**, reboot your computer, or eject and reinsert the card. The **Current Profile** field on the **ACU Status** screen lists the profile as being *Disabled*.

After Your EAP-FAST Credentials Expire

If the EAP-FAST credentials (username and password) for your current profile expire or become invalid, follow these steps to change your password.

- Step 1** When the Change Password screen appears (see [Figure 6-11](#)) to indicate that your password has expired, enter your old password in the Old Password field.

Figure 6-11 Change Password Screen



- Step 2** Enter your new password in both the New Password and Confirm New Password fields.
- Step 3** Click **OK**. The client adapter should authenticate using your new password.

Using LEAP or EAP-FAST with a Manually Prompted Login

After Profile Selection

After you (or auto profile selection) select a profile that uses LEAP or EAP-FAST authentication with a manually prompted login, follow these steps to authenticate.

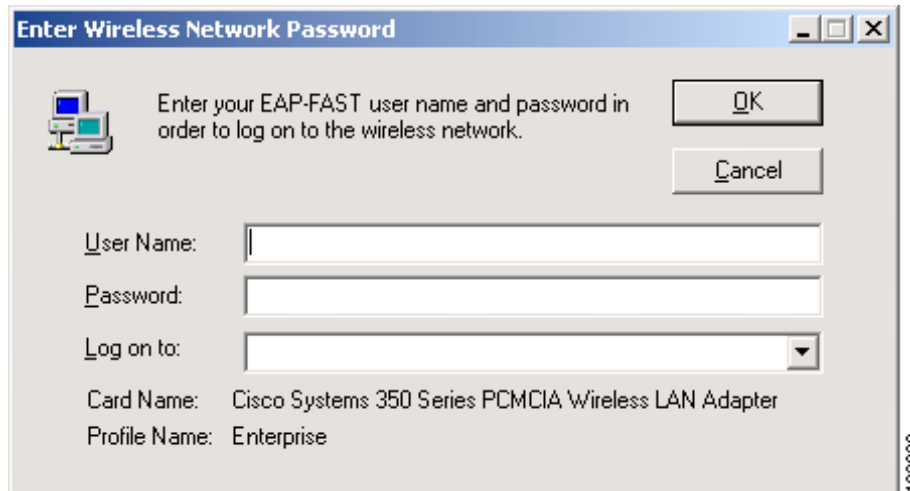


Note

This procedure is applicable the first time a manual LEAP or manual EAP-FAST profile is selected. After you follow these steps to enter your LEAP or EAP-FAST credentials, you can switch profiles without having to re-enter your credentials until you reboot your computer, eject and reinsert your client adapter, or change the profile in any way (including its priority in auto profile selection).

- Step 1** Perform one of the following:
- If you select a manual LEAP or manual EAP-FAST profile from the Use Selected Profile drop-down box, the Enter Wireless Network Password screen appears (see [Figure 6-12](#)).

Figure 6-12 Enter Wireless Network Password Screen



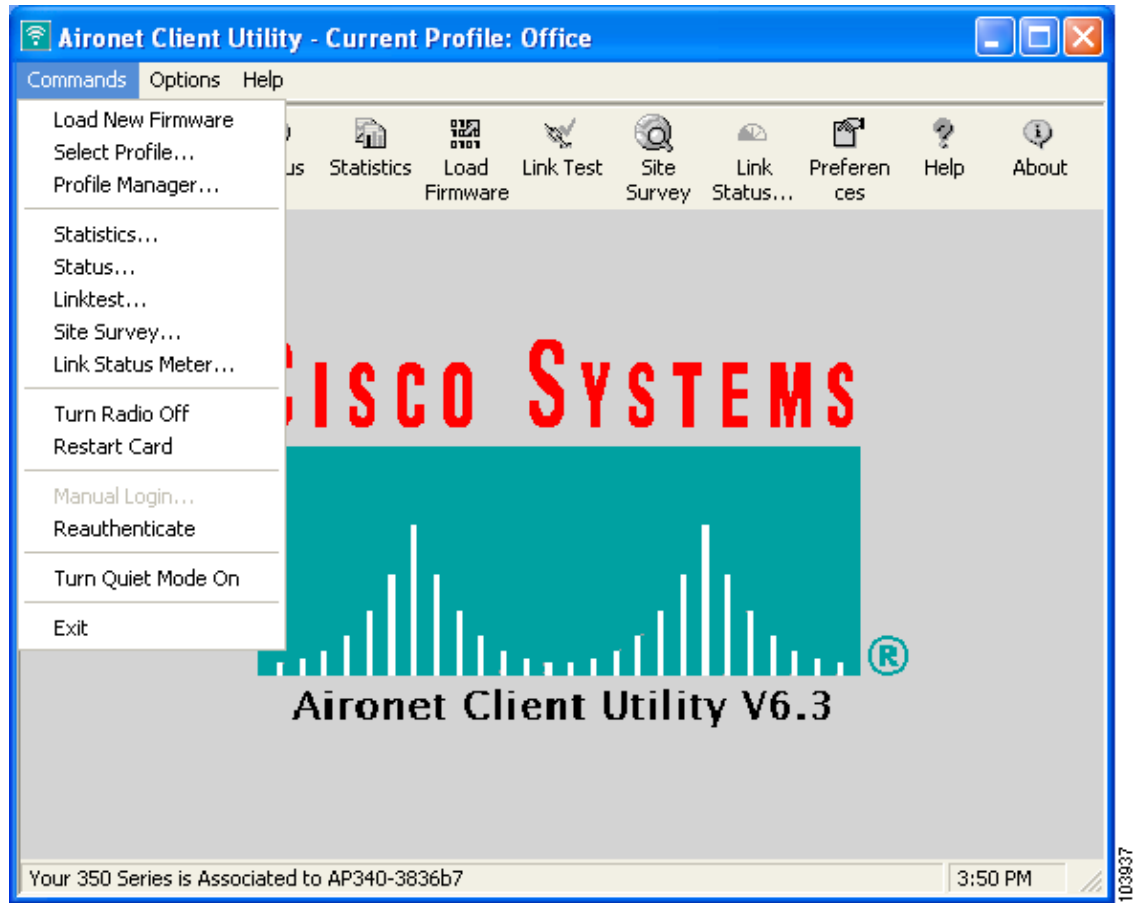
Enter your LEAP or EAP-FAST username and password and click **OK**. The domain name, which can be entered in the Log On To field, is optional.



Note The screen shown above appears on computers running Windows NT, 2000, or XP. The screen looks slightly different on computers running other Windows operating systems.

- If auto profile selection selects a manual LEAP or manual EAP-FAST profile, you must select the **Manual Login** option from the Commands drop-down menu (see [Figure 6-13](#)).

Figure 6-13 Commands Drop-Down Menu



When the Enter Wireless Network Password screen appears (see [Figure 6-12](#)), enter your LEAP or EAP-FAST username and password and click **OK**. The domain name, which can be entered in the Log On To field, is optional.

- Step 2** If you are using EAP-FAST and a user prompt screen appears (see [Figure 6-14](#)), enter the requested information and click **OK**.

Figure 6-14 User Prompt Screen

EAP-FAST Authentication

Please enter your password for BIGCORP.COM

OK

Cancel

User Name:

Password:

Domain:

Card Name: Cisco Systems 350 Series PCMCIA Wireless LAN Adapter

Profile Name: Enterprise

103961



Note This screen appears if the server needs additional information. The text displayed at the top of the screen is sent from the server and varies by organization. It should tell you what information to enter.

Step 3 The LEAP or EAP-FAST Authentication Status screen appears. If your client adapter authenticates, the screen shows that each stage was successful and then disappears. ACM now shows *Authenticated*, and the Server Based Authentication field on the ACU Status screen shows *LEAP Authenticated* or *EAP-FAST Authenticated*.

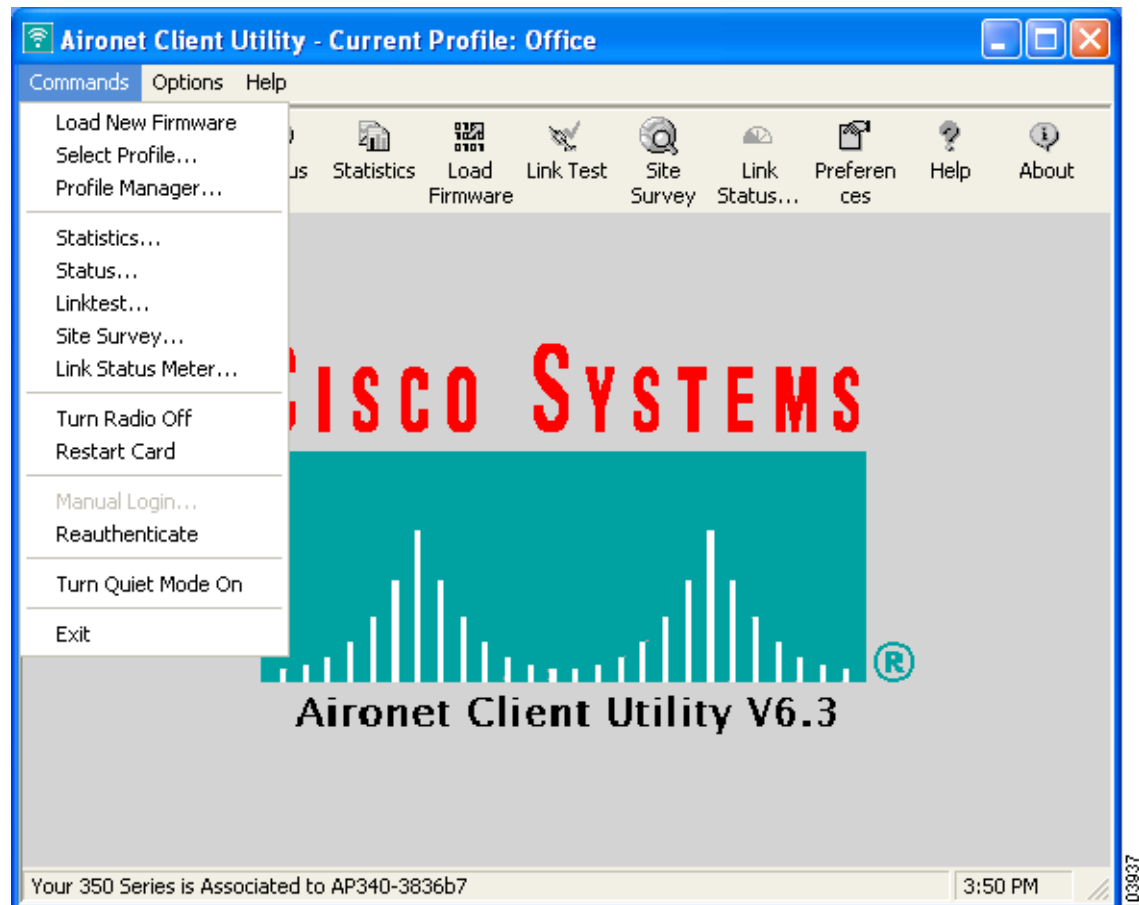
If the authentication attempt fails, an error message appears after the authentication timeout period has expired. Refer to the [“LEAP Authentication Error Messages”](#) section on page 10-20 or the [“EAP-FAST Authentication Error Messages”](#) section on page 10-24 for the necessary action to take.

After a Reboot, Logon, or Card Insertion

After your computer reboots, you log on, or you eject and reinsert the client adapter, the adapter does not automatically attempt to authenticate. You must manually invoke the authentication process. To do so, follow these steps.

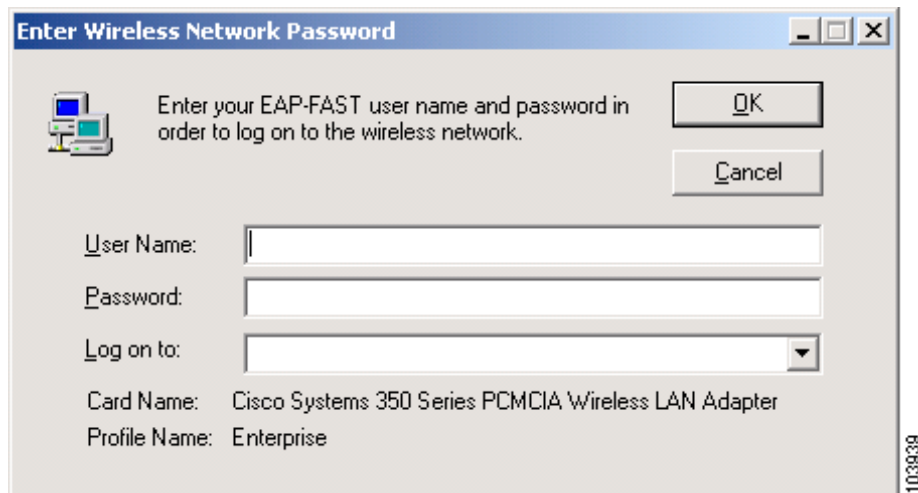
- Step 1** If you rebooted your computer or logged on, complete your standard Windows login.
- Step 2** Open ACU.
- Step 3** Choose the **Manual Login** option from the Commands drop-down menu (see [Figure 6-15](#)).

Figure 6-15 Commands Drop-Down Menu



- Step 4** When the Enter Wireless Network Password screen appears (see [Figure 6-16](#)), enter your LEAP or EAP-FAST username and password and click **OK**. The domain name, which can be entered in the Log On To field, is optional.

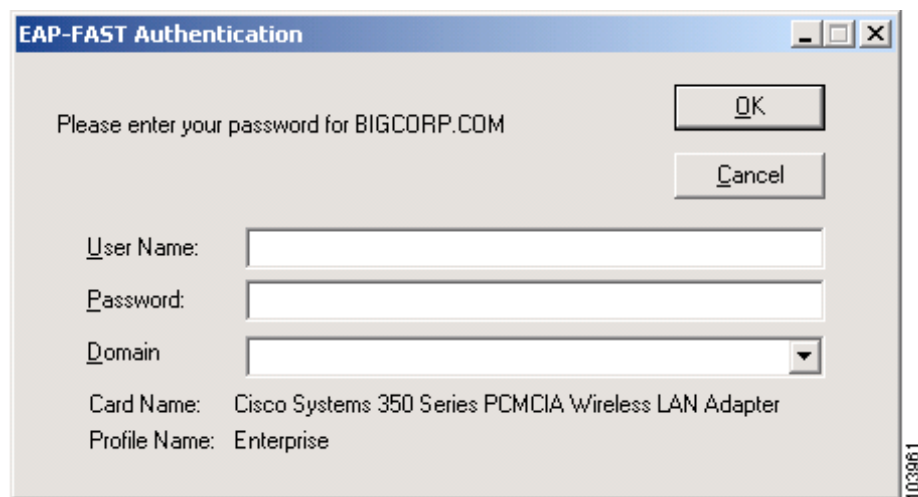
Figure 6-16 Enter Wireless Network Password Screen



Note The screen shown above appears on computers running Windows NT, 2000, or XP. The screen looks slightly different on computers running other Windows operating systems.

- Step 5** If you are using EAP-FAST and a user prompt screen appears (see [Figure 6-17](#)), enter the requested information and click **OK**.

Figure 6-17 User Prompt Screen



Note This screen appears if the server needs additional information. The text displayed at the top of the screen is sent from the server and varies by organization. It should tell you what information to enter.

Step 6 The LEAP or EAP-FAST Authentication Status screen appears. If your client adapter authenticates, the screen shows that each stage was successful and then disappears. ACM now shows *Authenticated*, and the Server Based Authentication field on the ACU Status screen shows *LEAP Authenticated* or *EAP-FAST Authenticated*.

If the authentication attempt fails, an error message appears after the authentication timeout period has expired. Refer to the [“LEAP Authentication Error Messages” section on page 10-20](#) or the [“EAP-FAST Authentication Error Messages” section on page 10-24](#) for the necessary action to take.

After Your LEAP Credentials Expire

If the LEAP credentials (username and password) for your current profile expire or become invalid, follow these steps to reauthenticate.

Step 1 Click **OK** when the following message appears: “The user name and password entered are no longer valid and have failed the LEAP authentication process. Please enter a new user name and password.”

Step 2 When the Enter Wireless Network Password screen appears, enter your new username and password and click **OK**. The client adapter should authenticate using your new credentials.



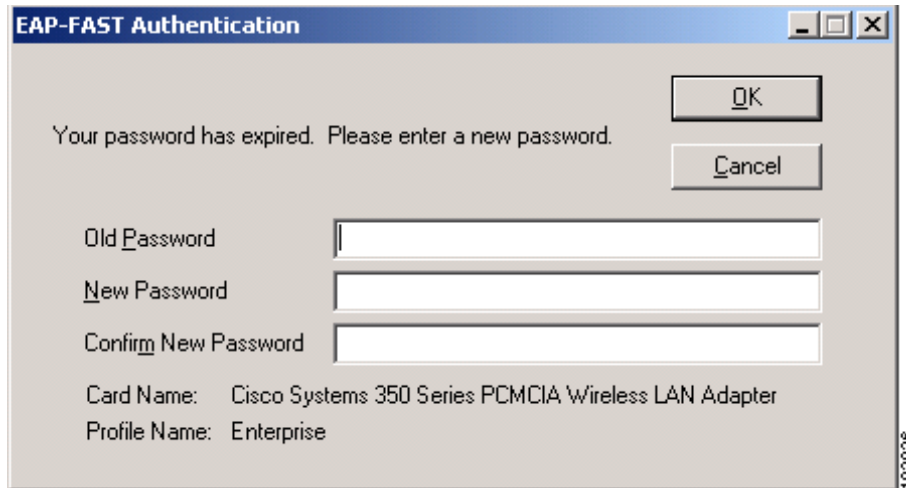
Note If you click **Cancel** rather than **OK** on the Enter Wireless Network Password screen, the following message appears: “The profile will be disabled until you select the Reauthenticate option, Windows restarts, or the card is ejected and reinserted. Are you sure?” If you click **No**, the Enter Wireless Network Password screen reappears and allows you to enter your new credentials. If you click **Yes**, the current profile is disabled until you select **Reauthenticate** from ACM or the **Commands** drop-down menu in ACU, reboot your computer, or eject and reinsert the card. The **Current Profile** field on the ACU Status screen lists the profile as being *Disabled*.

After Your EAP-FAST Credentials Expire

If the EAP-FAST credentials (username and password) for your current profile expire or become invalid, follow these steps to change your password.

- Step 1** When the Change Password screen appears (see [Figure 6-18](#)) to indicate that your password has expired, enter your old password in the Old Password field.

Figure 6-18 Change Password Screen



- Step 2** Enter your new password in both the New Password and Confirm New Password fields.
- Step 3** Click **OK**. The client adapter should authenticate using your new password.

Using LEAP or EAP-FAST with a Saved Username and Password

After Profile Selection or Card Insertion

After you (or auto profile selection) select a profile that uses LEAP or EAP-FAST authentication with a saved LEAP or EAP-FAST username and password or you eject and reinsert the client adapter while this profile is selected, the following events occur:

1. The LEAP or EAP-FAST Authentication Status screen appears.
2. If your client adapter authenticates, the screen shows that each stage was successful and then disappears. ACM now shows *Authenticated*, and the Server Based Authentication field on the ACU Status screen shows *LEAP Authenticated* or *EAP-FAST Authenticated*.

If the authentication attempt fails, an error message appears after the authentication timeout period has expired. Refer to the [“LEAP Authentication Error Messages”](#) section on page 10-20 or the [“EAP-FAST Authentication Error Messages”](#) section on page 10-24 for the necessary action to take.

After a Reboot or Logon

After your computer reboots or you log on, the following events occur:

1. After you enter your Windows username and password, the authentication process begins automatically using your saved LEAP or EAP-FAST username and password.



Note If you unchecked the **No Network Connection Unless User Is Logged In** check box on the LEAP Settings screen or EAP-FAST Settings screen, the EAP authentication process begins before the Windows login screen appears.

2. If your client adapter authenticates, the LEAP or EAP-FAST Authentication Status screen shows that each stage was successful and then disappears. ACM now shows *Authenticated*, and the Server Based Authentication field on the ACU Status screen shows *LEAP Authenticated* or *EAP-FAST Authenticated*.

If the authentication attempt fails, an error message appears after the authentication timeout period has expired. Refer to the [“LEAP Authentication Error Messages” section on page 10-20](#) or the [“EAP-FAST Authentication Error Messages” section on page 10-24](#) for the necessary action to take.

3. Windows continues to log you onto the system.

After Your LEAP Credentials Expire

If the LEAP credentials (username and password) for your current profile expire or become invalid, follow these steps to reauthenticate.

Step 1 Click **OK** when the following message appears: “The saved user name and password entered for this profile are no longer valid and have failed the LEAP authentication process. Please enter a new user name and password. Remember to change them permanently in the profile using the ACU Profile Manager.”

Step 2 When the Enter Wireless Network Password screen appears, enter your new username and password and click **OK**. The client adapter should authenticate using your new credentials.



Note If you click Cancel rather than OK on the Enter Wireless Network Password screen, the following message appears: “The profile will be disabled until you select the Reauthenticate option, Windows restarts, or the card is ejected and reinserted. Are you sure?” If you click No, the Enter Wireless Network Password screen reappears and allows you to enter your new credentials. If you click Yes, the current profile is disabled until you select Reauthenticate from ACM or the Commands drop-down menu in ACU, reboot your computer, or eject and reinsert the card. The Current Profile field on the ACU Status screen lists the profile as being *Disabled*.

Step 3 Edit the profile in ACU by changing the saved username and password on the LEAP Settings screen.

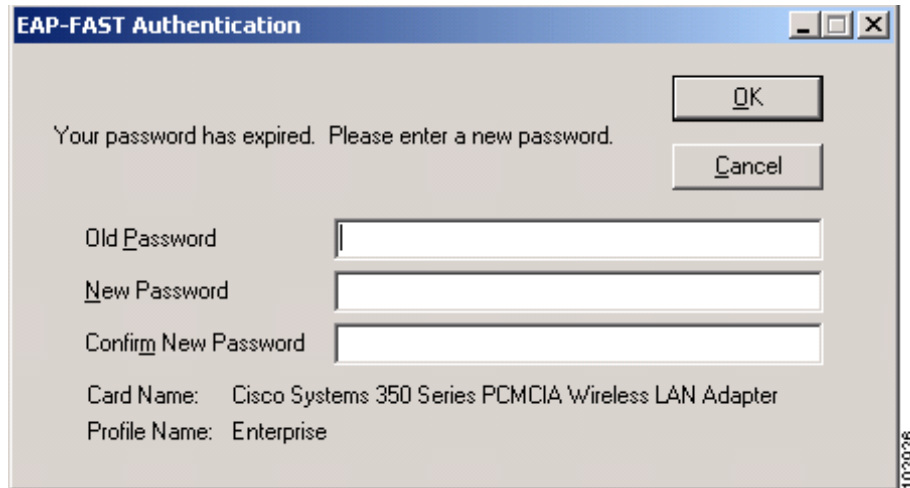
Step 4 Click **OK** three times to save the changes to your profile.

After Your EAP-FAST Credentials Expire

If the EAP-FAST credentials (username and password) for your current profile expire or become invalid, follow these steps to change your password.

- Step 1** When the Change Password screen appears (see [Figure 6-19](#)) to indicate that your password has expired, enter your old password in the Old Password field.

Figure 6-19 Change Password Screen



- Step 2** Enter your new password in both the New Password and Confirm New Password fields.
- Step 3** Click **OK**. The client adapter should authenticate using your new password.
- Step 4** Edit the profile in ADU by changing the saved username and password on the EAP-FAST Settings screen.

Using EAP-TLS

After Profile Selection or Card Insertion

After you (or auto profile selection) select a profile that uses host-based EAP authentication and you configure the card in Windows (provided Windows is using the Microsoft 802.1X supplicant) for EAP-TLS authentication or you eject and reinsert the client adapter while this profile is selected, follow these steps to EAP authenticate.

-
- Step 1** If your computer is running Windows XP and a pop-up message appears above the Windows system tray informing you that you need to accept a certificate to begin the EAP authentication process, click the message and follow the instructions provided to accept the certificate.



Note You should not have to accept a certificate for future authentication attempts. After you accept one, the same certificate is used subsequently.

- Step 2** If a message appears indicating the root certification authority for the server's certificate, and it is the correct certification authority, click **OK** to accept the connection. Otherwise, click **Cancel**.
- Step 3** If a message appears indicating the server to which your client adapter is connected, and it is the correct server to connect to, click **OK** to accept the connection. Otherwise, click **Cancel**.
- Step 4** The client adapter should now EAP authenticate. To verify authentication, double-click **My Computer**, **Control Panel**, and **Network Connections**. The status appears to the right of your Wireless Network Connection. Click **View** and **Refresh** to obtain the current status. If the client adapter is authenticated, the status reads *Authentication succeeded*.
-

After a Reboot or Logon

After your computer reboots or you log on using your Windows username and password, the EAP authentication process begins automatically and the client adapter should EAP authenticate.

To verify authentication, double-click **My Computer**, **Control Panel**, and **Network Connections**. The status appears to the right of your Wireless Network Connection. Click **View** and **Refresh** to obtain the current status. If the client adapter is authenticated, the status reads *Authentication succeeded*.

Using PEAP

After Profile Selection, Card Insertion, Reboot, or Logon

After you (or auto profile selection) select a profile that uses host-based EAP authentication and you configure the card in Windows (provided Windows is using the Microsoft 802.1X supplicant) for PEAP authentication, follow the steps in one of the sections below, depending on your user database, to EAP authenticate.

**Note**

These instructions are applicable after profile selection, card ejection and re-insertion, reboot, or logon.

**Note**

If you checked the Always Try to Resume Secure Session check box on the PEAP Properties screen during configuration, the PEAP protocol attempts to resume the previous session before prompting you to re-enter your username and password. The PEAP Session Timeout setting on the Cisco Secure ACS controls how long the resume feature is active (that is, the amount of time during which the PEAP session can be resumed without re-entering user credentials).

Windows NT or 2000 Domain Databases or LDAP Databases Only

-
- Step 1** If your computer is running Windows XP, a pop-up message appears above the Windows system tray informing you that you need to select a certificate or other credentials to access the network. Click this message.
- Step 2** If a message appears indicating the root certification authority for the server's certificate and it is the correct certification authority, click **OK** to accept the connection. Otherwise, click **Cancel**.
- Step 3** If a message appears indicating the server to which your client adapter is connected and it is the correct server to connect to, click **OK** to accept the connection. Otherwise, click **Cancel**.
- Step 4** Perform one of the following:
- If your computer is running Windows 2000, the Static Password screen appears (see [Figure 6-20](#)).
 - If your computer is running Windows XP, a pop-up message appears above the Windows system tray prompting you to process your logon information for your wireless network. Click this message. The Static Password screen appears (see [Figure 6-20](#)).

Figure 6-20 Static Password Screen



- Step 5** Enter your PEAP authentication username and password (which are registered with the RADIUS server).
- Step 6** If applicable, choose your domain name from the drop-down list or type it in.
- Step 7** Click **OK**. The client adapter should now EAP authenticate. To verify authentication, double-click **My Computer, Control Panel, and Network Connections**. The status appears to the right of your Wireless Network Connection. Click **View** and **Refresh** to obtain the current status. If the client adapter is authenticated, the status reads *Authentication succeeded*.
- Step 8** If you also have a locally cached Windows password, you must change it manually in Windows to synchronize your passwords. To do so, press **Ctrl-Alt-Delete**, choose **Change Password**, and enter your old password once and your new password twice.

OTP Databases Only

- Step 1** If your computer is running Windows XP, a pop-up message appears above the Windows system tray informing you that you need to select a certificate or other credentials to access the network. Click this message.
- Step 2** If a message appears indicating the root certification authority for the server's certificate and it is the correct certification authority, click **OK** to accept the connection. Otherwise, click **Cancel**.
- Step 3** If a message appears indicating the server to which your client adapter is connected and it is the correct server to connect to, click **OK** to accept the connection. Otherwise, click **Cancel**.
- Step 4** Perform one of the following:
- If your computer is running Windows 2000, the One Time Password screen appears (see [Figure 6-21](#)).
 - If your computer is running Windows XP, a pop-up message appears above the Windows system tray prompting you to process your logon information for your wireless network. Click this message. The One Time Password screen appears (see [Figure 6-21](#)).

Figure 6-21 One Time Password Screen



Step 5 Enter your PEAP authentication username in the User Name field.

Step 6 Choose either the **Hardware Token** or **Software Token** option. If you choose the Software Token option, the Password field on the One Time Password screen changes to the PIN field.



Note The Hardware Token and Software Token options are available only if you selected both of them on the Generic Token Card Properties screen during configuration. Otherwise, only the option you selected will be available.

Step 7 Enter either your hardware token password or your software token PIN.

Step 8 Click **OK**. The client adapter should now EAP authenticate. To verify authentication, double-click **My Computer**, **Control Panel**, and **Network Connections**. The status appears to the right of your Wireless Network Connection. Click **View** and **Refresh** to obtain the current status. If the client adapter is authenticated, the status reads *Authentication succeeded*.

After Your Password Expires (Windows NT or 2000 Domain Databases Only)

If you are using a Windows NT or 2000 domain database with PEAP and the password for your current user ID expires, follow these steps to change your password.

- Step 1** When the Change Password screen appears (see [Figure 6-22](#)) to indicate that your password has expired, enter your old password in the Old Password field.

Figure 6-22 Change Password Screen



- Step 2** Enter your new password in both the New Password and Confirm New Password fields.



Note The password is also changed in the Windows NT or 2000 domain user database.

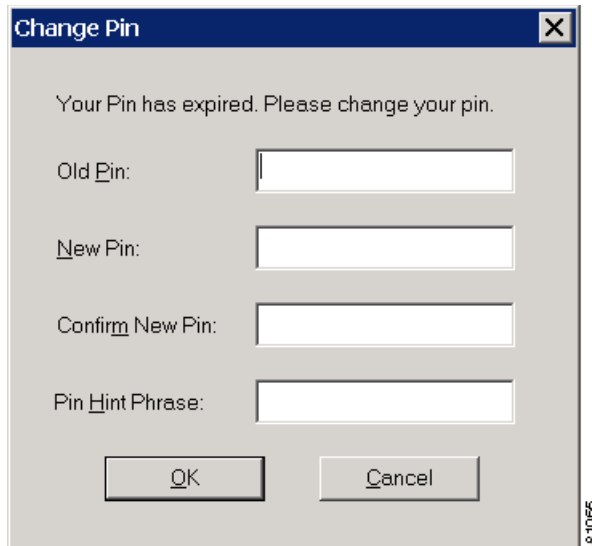
- Step 3** Click **OK**. The client adapter should authenticate using your new password. To verify authentication, double-click **My Computer**, **Control Panel**, and **Network Connections**. The status appears to the right of your Wireless Network Connection. Click **View** and **Refresh** to obtain the current status. If the client adapter is authenticated, the status reads *Authentication succeeded*.

After Your PIN Expires (OTP Databases Only)

If you are using an OTP database with PEAP and the PIN for your current user ID expires, follow these steps to change your PIN.

- Step 1** When the Change PIN screen appears (see [Figure 6-23](#)) to indicate that your PIN has expired, enter your old PIN in the Old PIN field.

Figure 6-23 Change PIN Screen



- Step 2** Enter your new PIN in both the New PIN and Confirm New PIN fields.
- Step 3** Enter a word that will help you to remember your PIN in the PIN Hint Phrase field.
- Step 4** Click **OK**. The client adapter should authenticate using your new PIN. To verify authentication, double-click **My Computer**, **Control Panel**, and **Network Connections**. The status appears to the right of your Wireless Network Connection. Click **View** and **Refresh** to obtain the current status. If the client adapter is authenticated, the status reads *Authentication succeeded*.



Note You should use the new PIN for future authentication attempts.

Using EAP-SIM

After you (or auto profile selection) select a profile that uses host-based EAP authentication and you configure the card in Windows (provided Windows is using the Microsoft 802.1X supplicant) for EAP-SIM authentication, the authentication process varies depending on the configuration option you selected for the SIM card's PIN.

If You Are Prompted for the PIN

If you chose to be prompted for the PIN after a power-up or reboot or at every authentication request, follow these steps to EAP authenticate.



Note

These instructions are applicable after profile selection, card ejection and re-insertion, reboot, or logon.

Step 1

Perform one of the following:

- If your computer is running Windows 2000, the Enter PIN screen appears (see [Figure 6-24](#)).
- If your computer is running Windows XP, a pop-up message appears above the Windows system tray informing you that you need to enter your credentials to access the network. Click this message. The Enter PIN screen appears (see [Figure 6-24](#)).

Figure 6-24 Enter PIN Screen



Step 2

Enter your PIN and click **OK**. The computer now retrieves information from the SIM card. If you enter the PIN incorrectly, an error message appears.



Note

If you exceed the maximum number of retries for entering the PIN, the card locks up.

- Step 3** The client adapter should now EAP authenticate. To verify authentication, double-click **My Computer**, **Control Panel**, and **Network Connections**. The status appears to the right of your Wireless Network Connection. Click **View** and **Refresh** to obtain the current status. If the client adapter is authenticated, the status reads *Authentication succeeded*.



Note ACU and the Windows Wireless Network Connection icon in the Windows XP system tray may indicate a connection status when authentication is still in the pending state or the authentication server fails to respond.

If the PIN Is Stored on the Computer

If you chose to store the PIN in the computer's registry, the EAP authentication process begins automatically, and the client adapter should EAP authenticate and use the saved PIN to access the SIM card.



Note These instructions are applicable after profile selection, card ejection and re-insertion, reboot, or logon.



Note If the stored PIN is wrong and therefore rejected by the SIM, the EAP-SIM supplicant temporarily changes the prompt mode to the default setting (Ask for my PIN once after I turn my computer on) in order to prevent the SIM from locking up. Unless changed manually, this setting stays in effect until your computer is powered off. Change your stored PIN on the SIM Authentication Properties screen.

To verify authentication, double-click **My Computer**, **Control Panel**, and **Network Connections**. The status appears to the right of your Wireless Network Connection. Click **View** and **Refresh** to obtain the current status. If the client adapter is authenticated, the status reads *Authentication succeeded*.



Note ACU and the Windows Wireless Network Connection icon in the Windows XP system tray may indicate a connection status when authentication is still in the pending state or the authentication server fails to respond.

Restarting the Authentication Process

If your client adapter was unable to authenticate using the specified username and password and you have exhausted the retry limit (for example, LEAP tries only once to prevent you from being locked out of the system), the current profile is disabled until you change the username or password, reboot your computer, or eject and re-insert the client adapter. To force your client adapter to try to reauthenticate using the username and password of the current profile, choose **Reauthenticate** from ACM or the Commands drop-down menu in ACU.