IBM® Client Security Solutions

Client Security Software Version 2.0 Administrator's Guide

July 2001

Before using this information and the product it supports, be sure to read "Appendix A - U.S. export regulations for Client Security Software," on page 73 and "Appendix D - Notices and Trademarks," on page 76.

First Edition (July 2001)

1Table of Contents

About this guide

This guide contains information on setting up and using the security features provided with Client Security Software.

The guide is organized as follows:

"Chapter 1 - Introducing IBM Client Security Software" contains an overview of the software that are included in the software, and specific examples that can help you decide how to use Client Security Software.

"Chapter 2 - Adding users to UVM," contains instructions about setting up UVM protection for the operating-system logon, and for adding new users to User Verification Manager (UVM).

"Chapter 3 - Working with UVM policy," contains information about editing and saving UVM policy for IBM clients.

"Chapter 4 - Setting up UVM protection for Lotus Notes" contains instructions about setting up UVM protection for a Lotus Notes® User ID.

"Chapter 5 - Using other features of the Administrator Utility," contains instructions about using Administrator Utility features.

"Chapter 6 - Instructions for the client user," contains instructions about different tasks that the client user performs when using Client Security Software. Instructions about using UVM logon protection, the Client Security screen saver, secure e-mail and the Client Utility are included.

"Chapter 7 - Troubleshooting," contains helpful information for overcoming known limitations and problems you might experience while using the instructions provided in this guide.

"Appendix A - U.S. export regulations for Client Security Software," contains U.S. export regulation information regarding the software.

"Appendix B - Rules for the Security Chip password and the UVM passphrase," contains the rules for UVM passphrases and Security Chip passwords.

"Appendix C - Rules for using UVM protection," contains information about using UVM protection for operating-system logon.

"Appendix D - Notices and Trademarks," contains legal notices and trademark information.

Who should read this guide

This guide is intended for security administrators who will:

- ✍ set up user authentication for the IBM client
- ✍ set up and edit the UVM security policy for IBM clients
- ✍ use the Administrator Utility to manage the security subsystem (IBM embedded Security Chip) and associated settings for IBM clients

This guide is also intended for Policy Director administrators who will use IBM SecureWay Policy Director to manage authentication objects provided in UVM policy. Policy Director administrators must be able to manage the following:

- the Policy Director object space
- authentication, authorization, and credential acquisition processes
- the IBM Distributed Computing Environment (DCE)
- the IBM SecureWay Directory's lightweight directory access protocol (LDAP)

How to use this guide

Use this guide to set up user authentication and UVM security policy for IBM clients. This guide is a companion to the *Client Security Software Installation Guide, Using Client Security with Policy Director,* and *Client Security User's Guide*.

This guide and all other documentation for Client Security can be downloaded from the http://www.pc.ibm.com/ww/security/secdownload.html IBM web site.

References to the *Client Security Software Installation Guide*

References to the *Client Security Software Installation Guide* are provided in this document. You must install Client Security Software on an IBM client before you can use this guide. Instructions for installing the software are provided in the *Client Security Software Installation Guide*.

References to *Using Client Security with Policy Director*

References to *Using Client Security with Policy Director* are provided in this document. Security administrators who will use Policy Director to manage authentication objects for UVM policy should read *Using Client Security with Policy Director*.

References to the *Client Security User's Guide*

References to the *Client Security User's Guide* are provided in this document. Administrators can use this guide to set up and maintain UVM policy on IBM clients that use Client Security Software. After an administrator has set up user authentication and UVM security policy, a client user can read the *Client Security User's Guide* to learn how to use Client Security Software.

The *User's Guide* contains information about performing tasks with Client Security Software, such as using UVM protection for the operating system logon and the screen saver, creating a digital certificate, and using the Client Utility.

Additional information

You can obtain additional information and security product updates, when available, from the http://www.pc.ibm.com/ww/security/index.html IBM Web site.

Chapter 1 - Introducing IBM Client Security Software

Client Security Software is designed for IBM computers that use the IBM embedded Security Chip to encrypt and store encryption keys. This software consists of applications and components that enable IBM clients to use client security throughout a local network, an enterprise, or the Internet.

Client Security Software applications and components

When you install Client Security Software, the following software applications and components are installed:

? **IBM Security Subsystem Administrator Utility:** The Administrator Utility is the interface an administrator uses to activate or deactivate the embedded Security Chip, and to create, archive, and regenerate encryption keys and passphrases. In addition, an administrator can use this utility to add users to the security policy provided by Client Security Software.

? **User Verification Manager (UVM):** Client Security Software uses UVM to manage passphrases and other elements to authenticate system users. For example, a fingerprint reader can be used by UVM for logon authentication. UVM software enables the following features:

  ? **UVM client policy protection:** UVM software enables an administrator to set the client security policy, which dictates how a client user is authenticated on the system.

  ? **UVM system logon protection:** UVM software enables an administrator to control computer access through a logon interface. UVM protection ensures that only users who are recognized by the security policy are able to access the operating system.

  ? **UVM Client Security screen saver protection:** UVM software enables users to control access to the computer through a Client Security screen saver interface.

? **Client Utility:** The Client Utility enables a client user to change the UVM passphrase. On Windows NT, the Client Utility enables users to change Windows NT logon passwords to be recognized by UVM and to update key archives. A user can also create backup copies of digital certificates created with the IBM embedded Security Chip.

? **Right Click Encryption:** Right Click Encryption enables a client user to encrypt his files simply by clicking the right mouse button.

Public Key Infrastructure (PKI) features

Client Security Software provides all of the components required to create a public key infrastructure (PKI) in your business, such as:

? **Administrator control over client security policy**. Authenticating end users at the client level is an important security policy concern. Client Security Software provides the interface that is required to manage the security policy of an IBM client. This interface is part of the authenticating software User

Verification Manager (UVM), which is the main component of Client Security Software.

? **Encryption key management for public key cryptography**[1]. Administrators create encryption keys for the computer hardware and the client users with Client Security Software. When encryption keys are created, they are bound to the IBM embedded Security Chip through a key hierarchy, where a base level hardware key is used to encrypt the keys above it, including the user keys that are associated with each client user. Encrypting and storing keys on the IBM embedded Security Chip adds an essential extra layer of client security, because the keys are securely bound to the computer hardware.

? **Digital certificate creation and storage that is protected by the IBM embedded Security Chip**. When you apply for a digital certificate that can be used for digitally signing or encrypting an e-mail message, Client Security Software enables you to choose the IBM embedded Security Chip as the cryptographic service provider for applications that use the Microsoft? CryptoAPI. These applications include Internet Explorer and Microsoft Outlook Express. This ensures that the private key of the digital certificate is stored on the IBM embedded Security Chip. Also, Netscape users can choose IBM embedded Security Chips as the private key generators for digital certificates used for security. Applications that use the Public-Key Cryptography Standard (PKCS) #11, such as Netscape Messenger, can take advantage of the protection provided by the IBM embedded Security Chip.

? **A key archive and recovery solution**. An important PKI function is creating a key archive from which keys can be restored if the original keys are lost or damaged. Client Security Software provides an interface that enables you to establish an archive for keys and digital certificates created with the IBM embedded Security Chip and to restore these keys and certificates if necessary.

How to use Client Security Software

The information in this section provides different examples for using Client Security Software. As an administrator, you can use the multiple components provided by Client Security Software to set up the security features that IBM client users require. For example, Windows NT users can set up UVM protection for their system logon which prohibits unauthorized users from logging on to the IBM client.

Example 1 - Two IBM clients that uses Windows NT 4.0 and Outlook Express for e-mail

For example 1, note the following:

✍ Two IBM clients (client 1 and client 2) have both Windows NT 4.0 and Outlook Express installed.

✍ Three users will require authentication setup with UVM on client 1; one client user will require authentication setup with UVM on client 2.

[1] Public key cryptography uses encryption keys that are issued in pairs. One is the public key; the other is the private key. Both keys are required to encrypt and decrypt information and are also used to identify and authenticate client users.

- ✍ All client users will register their fingerprints so that they can be used for authentication. A UVM-aware fingerprint sensor will be installed during this example.
- ✍ Both client 1 and client 2 will require UVM protection for the Windows NT logon.
- ✍ A local UVM policy will be edited and used at each client.

To set up client security, do the following:

1. Install the software on client 1 and client 2. Read the *Client Security Software Installation Guide* for details.
2. Install the UVM-aware fingerprint sensors and any associated software on client 1 and client 2. For information about UVM-aware products, go to the following IBM Web site:

   http://www.pc.ibm.com/ww/security/secdownload.html
3. Set up user authentication with UVM for client 1 and client 2. Read "Chapter 2 - Adding users to UVM," on page 13 for details. Do the following:
   - ✍ Add users to UVM by assigning them a UVM passphrase. Because client 1 has three users, you must repeat the process for adding users to UVM until all users have been added.
   - ✍ Set up UVM protection for the Windows NT logon on each client.
   - ✍ Register user fingerprints. Because a policy will be set three users will use client 1, all three users must register their fingerprints.

     Note: If you set fingerprint as an authentication requirement as part of UVM policy for a client, each user must register his or her fingerprints.
4. Edit and save a local UVM policy at each client that requires authentication for the following:
   - ✍ logging on the operating system
   - ✍ acquiring a digital certificate
   - ✍ using a digital signature for e-mail messages

   For details, see "Editing a local UVM policy," on page 26.
5. Restart each client to enable the UVM protection for the Windows NT logon.
6. Inform the users of the following:
   - ✍ The UVM passphrases that you have set for them.
   - ✍ The authentication requirements that you set in UVM policy for the IBM client.

   Next, the users can do the following:
   - ✍ Use UVM protection to lock and unlock the operating system.
   - ✍ Apply for a digital certificate and choose the embedded Security Chip as the cryptographic service provider associated with the certificate.
   - ✍ Use the digital certificate to encrypt e-mail messages created with Outlook Express. For more information, see "Using Client Security Software with Microsoft applications," on page 55.

- ✍ Read the *Client Security User's Guide* to learn how to use the Client Utility.

Example 2 - Two IBM clients that use Windows 98, Lotus Notes, and will use the Client Security screen saver

For example 2, note the following:

- ✍ Two IBM clients (client 1 and client 2) have Windows® 98 and Lotus Notes installed.
- ✍ Two users will require authentication setup with UVM on client 1; one user will require authentication setup with UVM on client 2.
- ✍ Both client 1 and client 2 will require UVM protection for the system logon.
- ✍ Both client 1 and client 2 will use the Client Security screen saver.
- ✍ Both client 1 and client 2 will use UVM protection for Lotus Notes.
- ✍ A UVM policy for remote clients will be edited on client 1, and then the policy will be copied to client 2.

To set up client security, do the following:

1. Install the software on client 1 and client 2. Because a UVM policy for remote clients will be used, you must use the same admin public key when you install the software on both client 1 and client 2. Read *the Client Security Software Installation Guide* for details about the software installation.
2. Set up user authentication with UVM for client 1 and client 2. Read "Chapter 2 - Adding users to UVM," on page 13 for details. Do the following:
   - ✍ Add users to UVM by assigning them a UVM passphrase. Because client 1 has two users, you must repeat the process for adding users to UVM until both users have been added.
   - ✍ Set up UVM protection for Windows 98 logon on each client.
3. Enable UVM protection for Lotus Notes on both clients. For more information, see "Chapter 4 - Setting up UVM protection for Lotus Notes," on page 33.
4. Edit and save a UVM policy for remote clients on client 1, and then copy that policy to client 2. UVM policy would require user authentication for clearing the screen saver, logging on to Lotus Notes, and logging on the operating system. For details, see "Editing and using UVM policy for remote clients," on page 29.
5. Restart each client to enable the UVM protection for the system logon.
6. Inform the client users of the UVM passphrases and the policy that has been set for each client. Next, the users can read the *Client Security User's Guide* to learn how to do the following:
   - ✍ enable the Client Security screen saver
   - ✍ use UVM protection for Windows 98

Example 3 - Multiple IBM clients that use Windows NT 4.0, Netscape for e-mail, and that will be managed by Policy Director

The intended audience for the following example is an enterprise administrator who plans to use Policy Director to manage the authentication objects that are set by UVM policy. For example 3, note the following:

- Multiple IBM clients have both Windows NT 4.0 and Netscape installed.
- All clients have NetSEAT client, a Policy Director component, installed. Although NetSEAT client can be installed on Windows 98 clients, you can use Policy Director in conjunction with Client Security software only on IBM clients running Windows NT 4.0. For details, see *Using Client Security with Policy Director*.
- If required, all clients have LDAP client installed. Install LDAP client only if Policy Director is used with an LDAP server.
- One user will require authentication setup with UVM on each client.
- All users will register their fingerprints so that they can be used for authentication. A UVM-aware fingerprint sensor will be installed during this example.
- All clients will require UVM protection for the Windows NT logon.
- UVM policy for remote clients will be installed on all clients. UVM policy will enable Policy Director to control selected authentication objects for the clients.

To set up client security, do the following:

1. Install the Client Security component on the Policy Director server. For details, see *Using Client Security with Policy Director*.
2. Install Client Security Software on all clients. Because a UVM policy for remote clients will be used, you must use the same admin public key when you install the software on all clients. Read *the Client Security Software Installation Guide* for details about the software installation.
3. Install the UVM-aware fingerprint sensors and any associated software on each client. For information about available UVM-aware products, go to the following IBM Web site:

   http://www.pc.ibm.com/ww/security/secdownload.html
4. Set up user authentication with UVM on each client. Read "Chapter 2 - Adding users to UVM," on page 13 for details. Do the following:
   - Add users to UVM by assigning them a UVM passphrase.
   - Set up UVM protection for the Windows NT logon on each client.
   - Register the fingerprints for each client user.

     Note: If fingerprint authentication is required on an IBM client, all users of that client must register their fingerprints.
5. Configure the Policy Director setup information at each client. For details, see *Using Client Security with Policy Director*.

6. Edit and save a UVM policy for remote clients on one of the clients, and then copy that UVM policy to the other clients. Set UVM policy so that Policy Director will control the following authentication objects:
   - ✍ logging on the operating system
   - ✍ acquiring a digital certificate
   - ✍ using a digital signature for e-mail message

   For details, see "Editing and using UVM policy for remote clients," on page 29.
7. Restart each client to enable the UVM protection for the Windows NT logon.
8. Install the IBM embedded Security Chip PKCS#11 module onto each client. This module provides cryptographic support on clients that use Netscape for sending and receiving e-mail messages, and the IBM embedded Security Chip for acquiring digital certificates. For more information, see "Installing the IBM embedded Security Chip PKCS#11 module," on page 57.
9. Use Policy Director to control the IBM Client Security Solutions objects that appear in the Policy Director Management Console.
10. Inform client users of the following:
    - ✍ the UVM passphrases that have been set
    - ✍ the policy that has been set for each client
11. Advise client users to read the *Client Security User's Guide* to learn how to do the following:
    - ✍ use UVM protection to lock and unlock the operating system
    - ✍ use the Client Utility
    - ✍ apply for a digital certificate that uses the embedded Security Chip as the cryptographic service provider associated with the certificate
    - ✍ use the digital certificate to encrypt e-mail messages created with Netscape

Chapter 2 - Adding users to UVM

Authenticating end users at the client level is an important computer security concern. Client Security Software provides the interface that is required to manage the security policy of an IBM client. This interface is part of the authenticating software, User Verification Manager (UVM), which is the main component of Client Security Software.

The UVM security policy for an IBM client can be managed in two ways:

- Locally, using a policy file that resides on the IBM client
- Throughout an enterprise, using Policy Director

This chapter discusses elements of authentication and how to add users to UVM, set up UVM system logon protection and register user fingerprints with UVM.

Elements of authentication

Elements of authentication (such as UVM passphrases or user fingerprints) are used to verify users to the IBM client. When you add a user to UVM, you will assign a UVM passphrase for the client user. The UVM passphrase, which can be up to 256 characters, is the main authentication element used by UVM. When you assign a UVM passphrase, user encryption keys are created for that client user and stored in a single file that is managed by the IBM embedded Security Chip. If the IBM client uses a UVM-aware fingerprint sensor for authentication, you will register the user fingerprints with UVM.

> **Note:** Future versions of Client Security Software will include support for other elements of authentication, such as a proximity badge or other biometrics devices. These authentication devices will interact with the UVM passphrase to provide another level of security when user authentication is required.

During the user authentication setup, you can select the following security features that are provided by Client Security Software:

- **UVM protection for the operating-system logon.** UVM protection ensures that only those users who are recognized by UVM are able to access the computer.

  Before you enable UVM protection for the system logon, read " Appendix C - Rules for using UVM protection," on page 75 for important information.

  For information about using UVM protection, see "Using UVM protection for the system logon," on page 51.

- **Client Security screen saver.** After you add a client user, the user can set up and use the Client Security screen saver. The Client Security screen saver is set up through the Display option within the operating-system software. For more information, see "Setting up the Client Security screen saver," on page 52.

  Note: You do not need to enable UVM protection for the system logon to use the Client Security screen saver.

Before you add users to UVM

When you add a client user to UVM, the Administrator Utility provides you with a list of user names from which you can select. The names in that list are the user accounts that have been added by using the operating system.

Before you add client users to UVM, use the operating-system software to create user accounts and profiles for those users. The following list describes the programs or procedures you can use to add new users for the respective operating system.

- **Windows 2000**. Use the **Create New User** button in the Administrator Utility to launch the Windows Users and Passwords program that will create and manage user accounts. See the operating system documentation for more information.
- **Windows NT Workstation 4.0**. Use the **Create New User** button in the Administrator Utility to launch the Windows Users and Passwords program that will create and manage user accounts. See the operating system documentation for more information.
- **Windows 98, and Windows Millennium Edition**. New users can be added by typing a new user name and password in the logon application. See the operating system documentation for more information.

  Notes:

  - In Windows 98, there is no **Create New User** button in the Administrator Utility. New users must be added by typing a new user name and password in the logon application.
  - In Windows 98, if you delete a user from the computer, the user name is not deleted from the list of users in the Administrator Utility.
  - When you use the operating system software to add new users, the domain password for each new user must be the same.

Attention: If you use the Microsoft Family Logon client for Windows 98, do the following:

1. Configure Microsoft Family Logon.
2. Use the operating-system software to create new users.
3. Assign UVM passphrases for users and set and use UVM protection for the system logon.

If Microsoft Family Logon is configured after UVM protection is enabled, you must immediately assign a UVM passphrase to at least one user ID in the list of users associated with the Microsoft Family Logon client. If you do not assign a UVM passphrase and the system is locked by UVM protection, you will not be able to access the operating system through a user logon.

If you add a user through the Users program in Control Panel, Microsoft Family Logon might be added automatically, depending on the network settings. See Microsoft for more information on installing and using the Microsoft Family Logon client.

Setting up authentication for client users

Hardware encryption keys are generated when you add the first user.

Windows 2000 and Windows NT users must log on with administrator user rights to use the Administrator Utility.

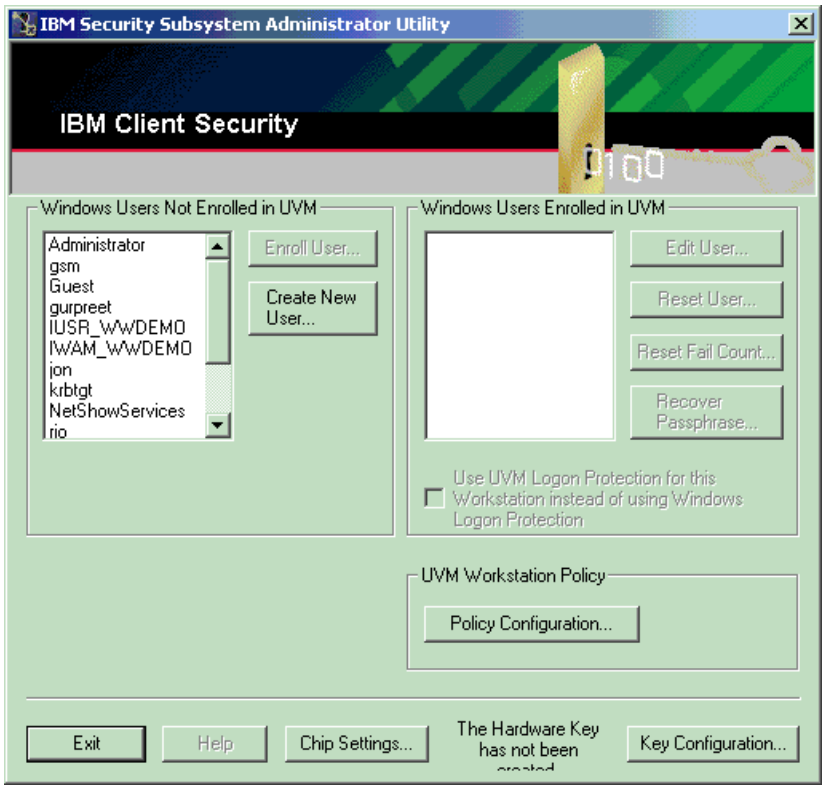
Adding a user to UVM

1. From the Windows desktop of the IBM client, click **Start > Programs > IBM Client Security Software > Administrator Utility**.

   The Enter the IBM Security Chip password message is displayed.

2. Type the IBM Security Chip password and click **OK**.

   The Administrator Utility window opens.

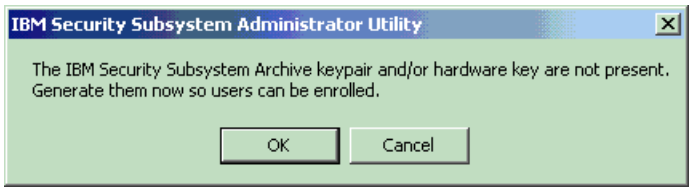


3. In the **Windows Users Not Enrolled in UVM** area, select a user name from the list.

   The user names in the list are defined by the user accounts created in the operating system or network. Multiple names can be selected using the Ctrl or Shift keys.

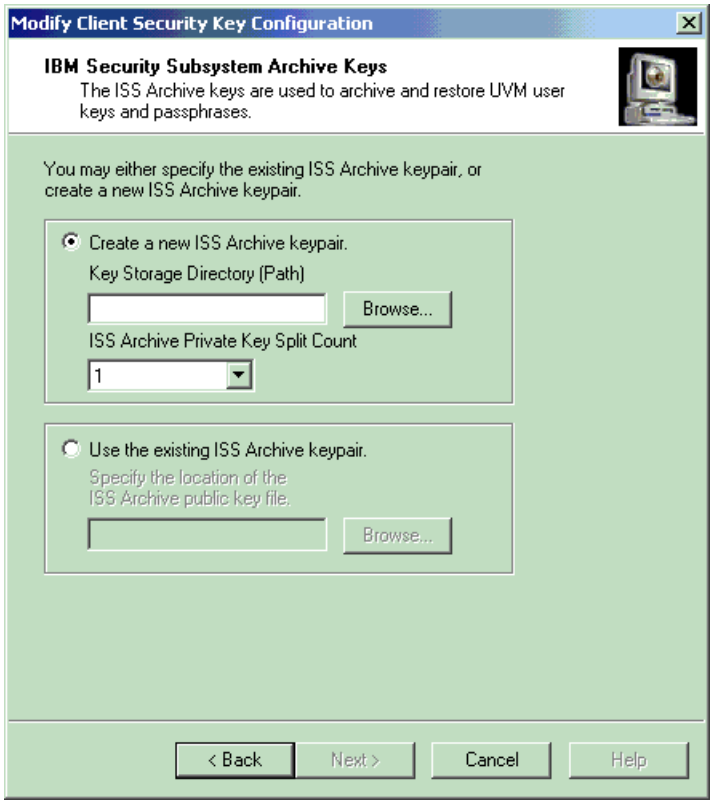
4. Click **Enroll User**.

   The following IBM Security Subsystem Administrator Utility message is displayed.



5. Click **OK**.

   When you select to generate new keys, the Modify Client Security Key Configuration – IBM Security Subsystem Archive Keys window opens.



6. Type the Key Storage Directory (Path) or click **Browse** to point to the storage directory, and click **Next**.

   A message is displayed indicating that the operation completed successfully.

7. Click **OK**.

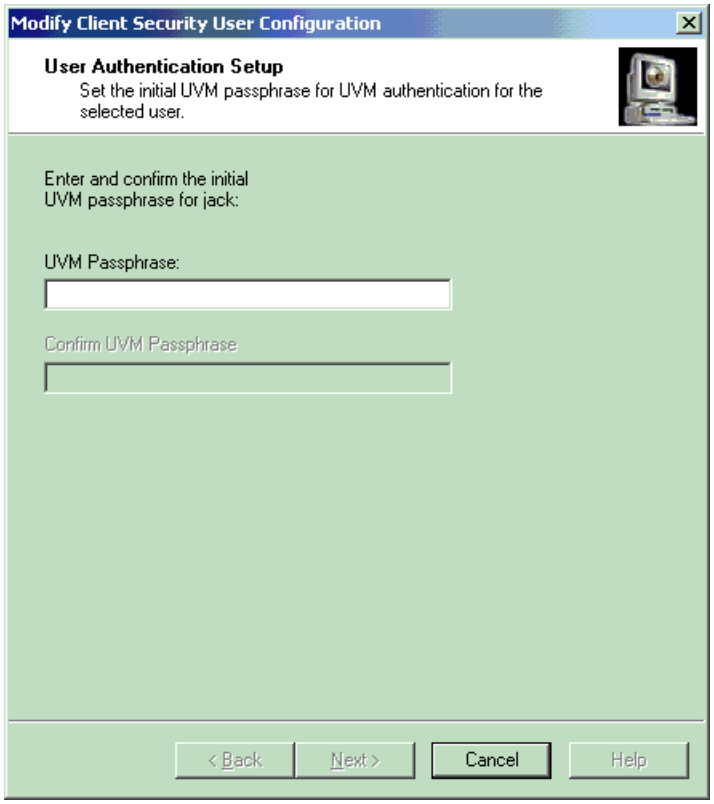
   The Modify Client Security Key Configuration – ISS Key Setup / Archive window opens.

8. Type the Archive Location path or click **Browse** to point to the archive location, and click **Next**.

   A message is displayed indicating that the operation completed successfully.

9. Click **OK**.

   The Modify Client Security User Configuration – User Authentication Setup window opens.



10. Type and confirm an initial UVM passphrase for the user, and click **Next**.

    A message is displayed indicating that the operation completed successfully.

11. Click **OK**.

    The Modify Client Security User Configuration – Windows Logon Password window opens.

12. Select between the following choices:

    ? If you want to store the user's Windows password now, complete the following steps:

    a) Click the appropriate radio button, and type the operating system password associated with the user in the Windows Password field.

    b) In the Confirm Windows Password field, type the operating system password associated with the user.

    c) Click **Next**.

    Important: Click **Have user store Windows password later using the Client Utility** if you are uncertain about the user's valid Windows password. The system will supply the same Windows password for the user regardless of domain. If you click **Store user's Windows password now** and enter the wrong Windows password, or leave the password field blank, the user will be denied access to the system.

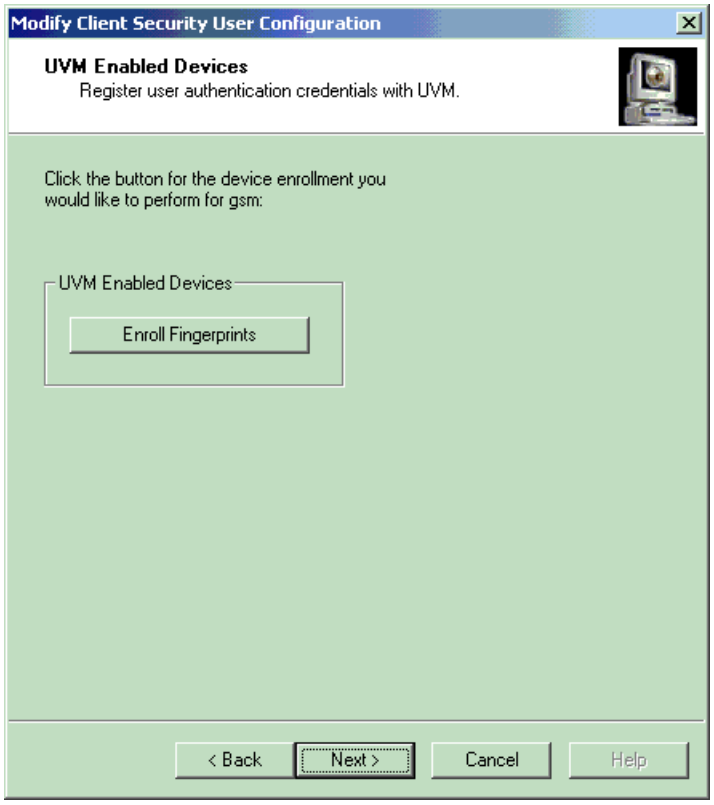
    ? If you want to have the user store the Windows password later using the Client Utility, click the appropriate radio button and then click **Next**.

    Note: If you intend to use UVM logon protection, you must store a Windows password for at least one user enrolled in UVM. This action enables the **Use UVM Logon Protection for this workstation instead of using Windows Logon Protection** checkbox.

A message is displayed indicating that the operation completed successfully.

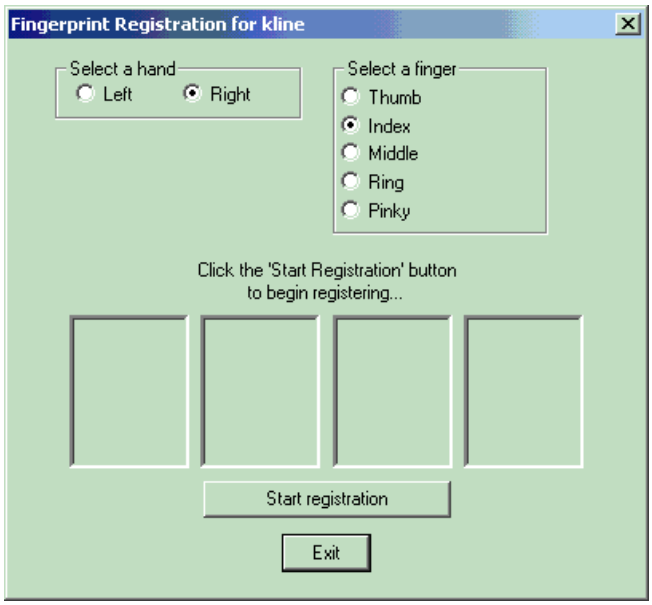
13. Click **OK**.

    The Modify Client Security User Configuration – UVM Enabled Devices window opens.



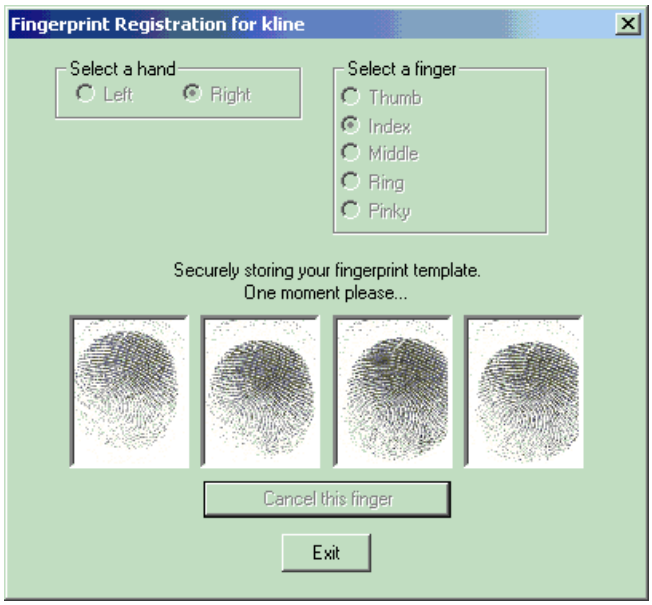
14. Click **Enroll Fingerprints**.
15. Select a hand and finger to be registered.

    The Fingerprint Registration window reflects your selections.

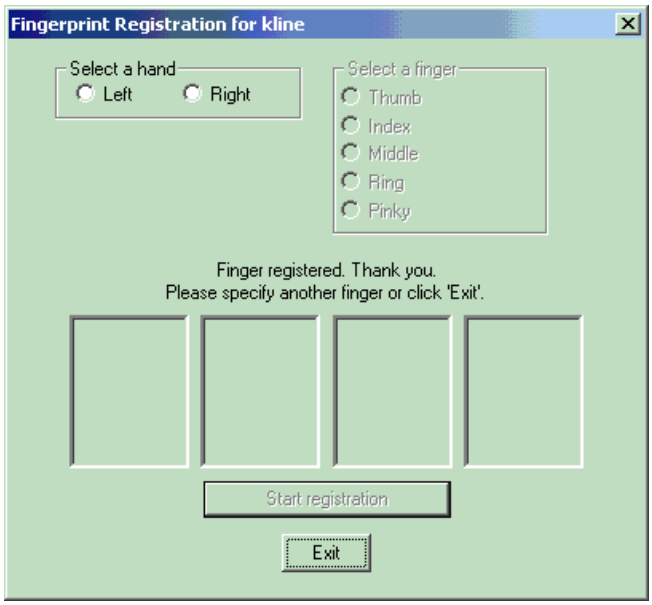


16. Click **Start registration**.
17. Place a finger on the UVM-aware fingerprint sensor and follow the on-screen instructions. Each fingerprint must be scanned four times. Click **Cancel this finger** to cancel the fingerprint scan.

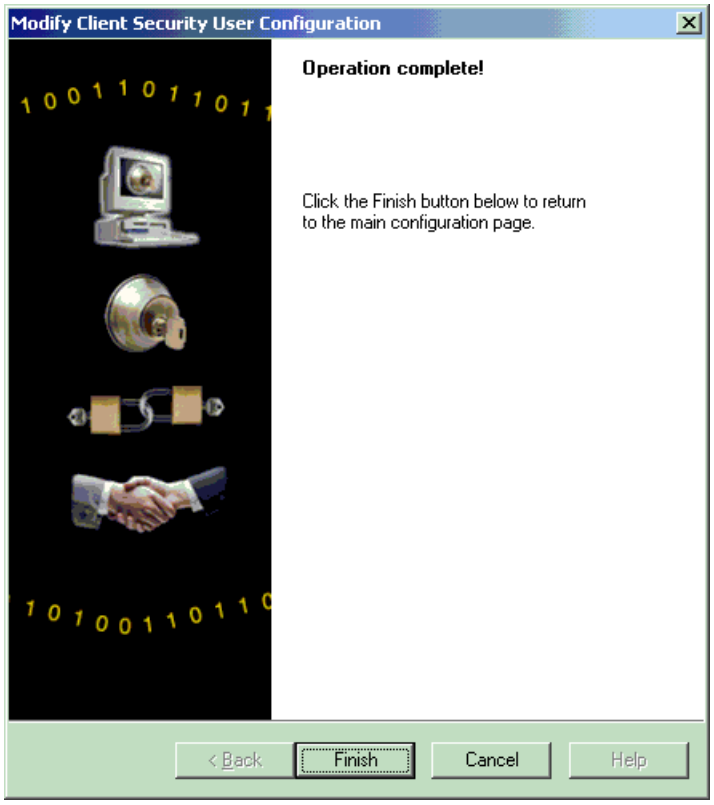
    The screen below shows the fingerprints that are being stored.



    The screen below will display after fingerprints have been successfully registered.



18. Click **Exit** when finished registering fingerprints.
19. The Modify Client Security User Configuration – Operation complete window opens.



20. Click **Finish**.

    This returns you to the Administrator Utility main window.

You have now added a user to UVM, created user encryption keys for the client, and registered user fingerprints. To add other users, repeat this procedure.

Note: If you intend to use UVM logon protection, you must store a Windows password for at least one user enrolled in UVM. This action enables the **Use UVM Logon Protection for this workstation instead of using Windows Logon Protection** checkbox.

21. After adding new users to UVM, inform them of the UVM passphrases that were set for them. Users can change their UVM passphrases by using the Client Utility. For details, see "Using the Client Utility," on page 53.

After users have been added

After users have been added, additional security features provided by Client Security can be set up, such as the following:

- UVM protection for the operating system logon. See "Setting up UVM protection for the operating system logon," on page 23 for more information.
- Register user fingerprints with UVM. See "Registering user fingerprints with UVM," on page 24 for more information.

  Note: If a UVM-aware fingerprint sensor is installed prior to adding users to UVM, fingerprint registration can be done at that time.
- Archive user encryption keys. See "Changing the key archive," on page 37 for more information.
- Set up and use the Client Security screen saver. See "Setting up the Client Security screen saver," on page 52 for more information.

Setting up UVM protection for the operating system logon

1. Select the **Use UVM Protection for this Workstation instead of using Windows Logon Protection** check box.

   The following message is displayed.

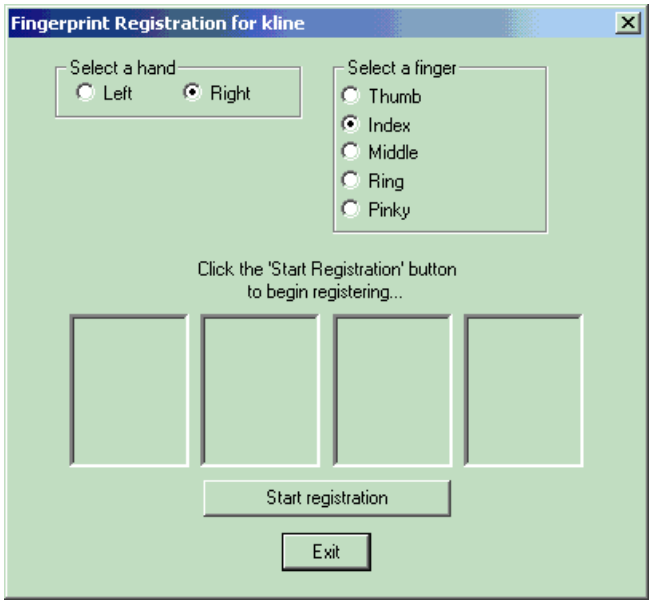
   Note: The **UVM Protection for this Workstation instead of using Windows Logon Protection** check box is activated when you supply the Windows logon password for the current user. If this check box is not available, return to the steps for providing the Windows logon password.

2. Click **Yes** or **No** to continue.
3. To activate UVM protection for the system logon, you must restart the computer.

When the computer restarts, you will be prompted to log on to the computer. For more information on using UVM protection, see "Using UVM protection for the system logon," on page 51.

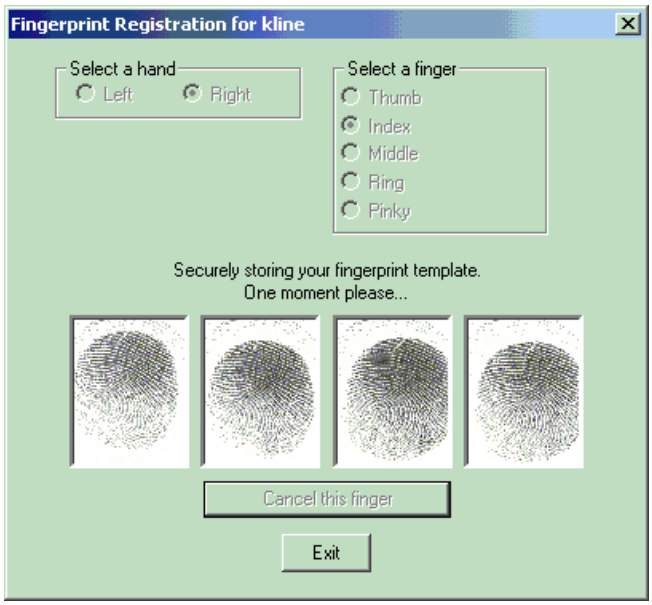
Registering user fingerprints with UVM

1. In the **Select a user** area, select a user name from the list.
2. Click **Edit User**.
3. Click **Register user's fingerprints**.
4. In the **Select a hand** area, click **Left** or **Right**.
5. In the **Select a finger** area, click to select the finger you will scan for prints, and click **Start registration**.

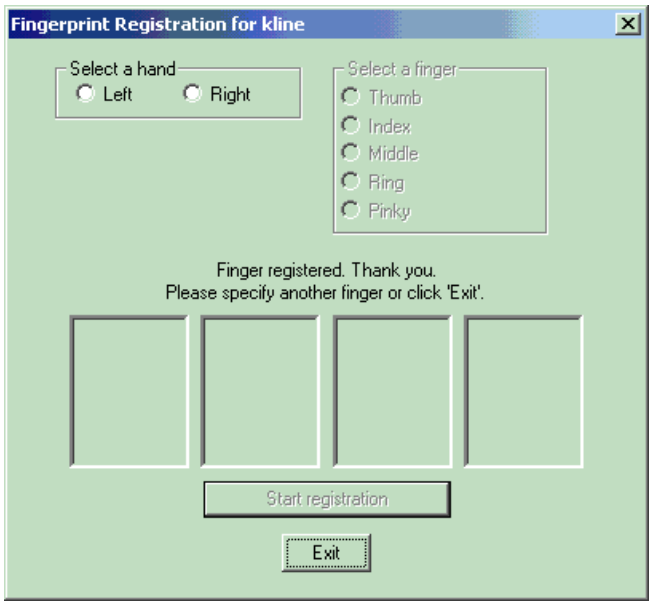


6. Place your finger on the UVM-aware fingerprint sensor and follow the on-screen instructions. You must scan each fingerprint four times. Click **Cancel this finger** to cancel the fingerprint scan.

   The screen below shows the fingerprints that are being stored.



7. Specify another finger to register, or click **Exit** to finish.



Chapter 3 - Working with UVM policy

After you have added users to UVM, you must edit and save a security policy for each IBM client. The security policy provided by Client Security Software is called UVM policy, which combines the settings that you provided in Chapter 2 - Adding users to UVM with authentication requirements at the client level. UVM policy can be used to control the security policy of a client locally, or remotely across multiple clients.

The Administrator Utility has a built-in UVM policy editor that you can use to edit and save UVM policy for a local client or remote clients. Tasks performed at the IBM client, such as logging on to the operating system or clearing the screen saver, are called authentication objects, and objects must have authentication requirements assigned to them within UVM policy. For example, you can set UVM policy to require the following:

- Each user must type a UVM passphrase and use fingerprint authentication to log on to the operating system. (Fingerprint authentication is optional.)
- Each user must type a UVM passphrase each time a digital certificate is acquired.
- Policy Director will control specific authentication objects as set in UVM policy.

Note: UVM policy sets the requirements for authentication objects for the IBM client and not for the individual user. Therefore, if you set UVM policy to require fingerprint for an authentication object (such as the operating-system logon), each user that is added to UVM must have registered their fingerprints to use that object. For details about adding a user, see "Chapter 2 - Adding users to UVM," on page 13.

UVM policy is saved in a file named globalpolicy.gvm. To use UVM on remote clients, UVM policy can be saved on one IBM client and then copied to other clients. Using UVM policy on remote clients can save you the time it takes to set up UVM policy on a per client basis.

The sections in this chapter provide information about the following:

- Editing UVM policy for a local client and remote clients, and viewing the policy summary.
- Changing the password for the UVM-policy file. Each time you save globalpolicy.gvm, you can save the file with a new password.
- Giving Policy Director control of certain authentication objects.

Editing a local UVM policy

You edit a local UVM policy and use it only on the client for which it was edited. If you installed Client Security in its default location, the local UVM policy is stored as \Program Files\IBM\Security\UVM_Policy\globalpolicy.gvm.

You use the UVM-policy editor to edit and save a local UVM policy. The interface for the UVM-policy editor is provided in the Administrator Utility.

Notes:

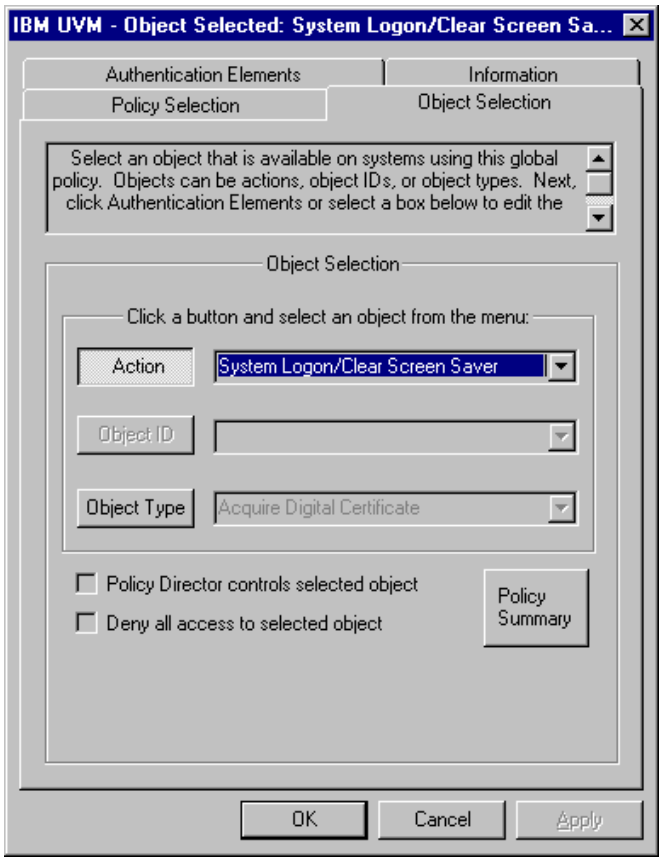
- ✍ Only a user who has been added to UVM can use the UVM-policy editor.
- ✍ If you set UVM policy to require fingerprint for an authentication object (such as the operating-system logon), each user that is added to UVM must have registered their fingerprints to use that object.
- ✍ If you save changes to the UVM policy, a message is displayed that asks for the admin private key. Type the admin private key and click **OK** to save your changes. If you provide an incorrect admin private key, your changes will not be saved.

To start the UVM-policy editor:

1. Enter the Administrator Utility, and click the **Policy Configuration** button.
2. In the **UVM Policy** area, select **Local Client**, and then click **Edit UVM Policy**.
3. The Global Policy Access Password window opens. Type *password* and press Enter.

   Note: The default access password for the UVM-policy file is the word *password*. After you edit the UVM policy, you can change the access password. For more information, see "Changing the password for a UVM-policy file," on page 31.
4. On the **Policy Selection** page, select the UVM-policy file (globalpolicy.gvm) from the drop-down menu.
5. Click the **Object Selection** tab, then click **Action** or **Object type** and select the object for which you want to assign authentication requirements. Actions include System Logon / Clear Screen Saver and E-mail Decryption; an object type is Acquire Digital Certificate.

   The following example shows that **System Logon/Clear Screen Saver** is selected.



For each object you select, do one the following:

? Click the **Authentication Elements** tab, and edit the settings for the available authentication elements that you want to assign to the object.

? Select **Policy Director controls selected object** to enable Policy Director to control the object you chose. You can select this option only if you want Policy Director to control the authentication elements for the IBM client. For more information, see *Using Client Security with Policy Director*.

Important: If you enable Policy Director to control the object, you are giving control to the Policy Director object space. If you do this, you must reinstall Client Security Software to re-establish local control over that object.

? Select **Deny all access to selected object** to deny access for the object you chose.

Note: While you are editing UVM policy, you can view the policy summary information by clicking on **UVM Policy Summary**. Also, you can click **Apply** to save your changes. If you click **Apply**, a message is displayed that prompts you for the admin private key. Type the admin private key and click **OK** to save your changes. If you provide an incorrect admin private key, your changes will not be saved.

6. Click the **Information** tab and type information for the system name, user details, and system and enterprise administrator details.

7. Click the **Policy Selection** tab and click the **UVM Policy** button. The **Save** and **Save as** buttons become available. Do one of the following:

   ? Click **Save** to save the policy file and follow the instructions on the screen.

   ? To save the file with a new password, click **Save as** and see "Changing the password for a UVM-policy file," on page 31 for information on changing to a new password.

   Note: If you save your changes, a message is displayed that asks for the admin private key. Type the admin private key and click **OK** to continue. If you provide an incorrect admin private key, your changes will not be saved.

8. Click **OK** to save your changes and exit.

Editing and using UVM policy for remote clients

To use UVM policy across multiple IBM clients, you can edit and save UVM policy for remote clients, and then you can copy the UVM-policy file to other IBM clients. If you installed Client Security in its default location, the remote UVM-policy file will be stored as \Program Files\IBM\Security\UVM_Policy\remote\globalpolicy.gvm. You must save the UVM-policy file once before the \remote subdirectory and its contents are created.

You use the UVM-policy editor to edit and save a UVM policy for remote clients. The interface for the UVM-policy editor is provided in the Administrator Utility.

Notes:

✍ Only a user who has been added to UVM can use the UVM-policy editor.

✍ If you set a UVM policy to require remote clients to provide a fingerprint for an authentication object (such as the operating-system logon), each user must have fingerprints registered to use that object. Also, all remote clients that will use the policy must have UVM-aware fingerprint sensors installed.

✍ If you save changes to the UVM policy, a message is displayed that requests the admin private key. Type the admin private key and click **OK** to save your changes. If you provide an incorrect admin private key, your changes will not be saved.

To start the UVM-policy editor:

1. Enter the Administrator Utility, and click the **Policy Configuration** button.
2. In the **UVM Policy** area, select **Remote Clients**, and then click **Edit UVM Policy**.
3. The Global Policy Access Password window opens. Type *password* and press Enter.

   Note: The default access password for the UVM-policy file is the word *password*. After you edit the UVM policy, you can change the access password. For more information, see "Changing the password for a UVM-policy file," on page 31.

4. On the **Policy Selection** page, select the UVM-policy file (globalpolicy.gvm) from the drop-down menu.

5. Click the **Object Selection** tab, then click **Action** or **Object type** and select the object for which you want to assign authentication requirements. Actions include System Logon / Clear Screen Saver and E-mail Decryption; an object type is Acquire Digital Certificate.
6. For each object you select, do one the following:
   - ✍ Click the **Authentication Elements** tab, and edit the settings for the available authentication elements that you want to assign to the object.
   - ✍ Select **Policy Director controls selected object** to enable Policy Director to control the object you chose. You can select this option only if you want Policy Director to control the authentication elements for the IBM client. For more information, see *Using Client Security with Policy Director*.

     Important: If you enable Policy Director to control the object, you are giving control to the Policy Director object space. If you do this, you must reinstall Client Security Software to re-establish local control over that object.
   - ✍ Select **Deny all access to selected object** to deny access for the object you chose.

   Note: While you are editing the UVM-policy file, you can view the policy summary information by clicking on **UVM Policy Summary**. Also, you can click **Apply** to save your changes. If you click **Apply**, a message is displayed that prompts you for the admin private key. Type the admin private key and click **OK** to save your changes. If you provide an incorrect admin private key, your changes will not be saved.
7. Click the **Information** tab and type information for the system name, user details, and system and enterprise administrator details.
8. Click the **Remote Configuration** tab. Select the authentication elements that are available on the remote clients that will use this UVM policy.

   For Policy Director administrators: If remote clients are enabled by Policy Director, select the **Policy Director enabled client** check box.
9. Click the **Policy Selection** tab and click the **UVM Policy** button. The **Save** and **Save as** become available. Do one of the following:
   - ✍ Click **Save** to save the policy file.
   - ✍ To save the file with a new password, click **Save as** and see "Changing the password for a UVM-policy file," on page 31 for information on changing to a new password.

   Note: If you save your changes, a message is displayed that asks for the admin private key. Type the admin private key and click **OK** to continue. If you provide an incorrect admin private key, your changes will not be saved.
10. Click **OK** to save your changes and exit.
11. Copy the following files to other remote IBM clients that will use this UVM-policy:
    - ✍ \IBM\Security\UVM_Policy\remote\globalpolicy.gvm
    - ✍ \IBM\Security\UVM_Policy\remote\globalpolicy.gvm.sig

Notes:

- If you installed Client Security Software in its default location, the root directory for the preceding paths is \Program Files
- Copy both files to the following directory path on the remote clients: \IBM\Security\UVM_Policy\

Changing the password for a UVM-policy file

To protect the settings for UVM policy, you can change the access password for the UVM-policy file. Before you can edit the UVM-policy file, you must type the access password each time you enter the UVM-policy editor.

The following instructions assume that you have accessed the UVM-policy editor and that you are ready to save the UVM-policy file. For details, see "Editing a local UVM policy," on page 26.

To change the password for the UVM-policy file:

1. Select a UVM-policy file (globalpolicy.gvm) and click the **UVM Policy** button.
2. Click **Save as** to save the file with a new password. The **Save as** window opens.
3. After you save the file, a message is displayed that asks you to verify that you want save the file with a new name. Click **OK**.
4. In the **Access Password** field, type the current password for the UVM-policy file and click **Change Password**.

5. In the **Access Password** field, type the current password and click **Change Password**.

6. In the **New Password** field, type a new password.

   Rules for the policy password: The policy password can be any combination of alphanumeric characters less than 256 characters in length.

7. In the **Verify Password** field, type the new password again and press **Enter**. For the new password to take affect, you must press **Enter** after you type the password again in the **Verify Password** field.

Chapter 4 - Setting up UVM protection for Lotus Notes

You can use Lotus Notes to communicate with other users in a variety of ways. For example, Notes users can send e-mail and share information through databases or spreadsheets.

To access Notes servers, each Notes user must have a User ID. The User ID is a file that uniquely identifies a Notes user, and it determines the access privileges that are assigned to a user. In Notes, you can set the User ID to be password protected so that a password is required each time a user logs on to Notes. To use the security features provided by Client Security, you can set up UVM protection for a User ID, so that a Notes user must type a UVM passphrase to access Notes or to change the password.

Lotus Notes version 4.5 or later is supported. Lotus Notes must be installed before you can set up UVM protection.

Notes:

- ✍ You can set up UVM protection only for the current user ID of a Notes session. If you want to switch IDs for a Notes session you must disable UVM protection, log on to Notes and switch user IDs, and then reset the new User ID password for UVM.
- ✍ The cryptographic operations of the IBM embedded Security Chip do not replace any of the encryption features provided by the User ID file in Notes. For example, the public and private keys of the User ID file are not replaced by keys created with Client Security Software.

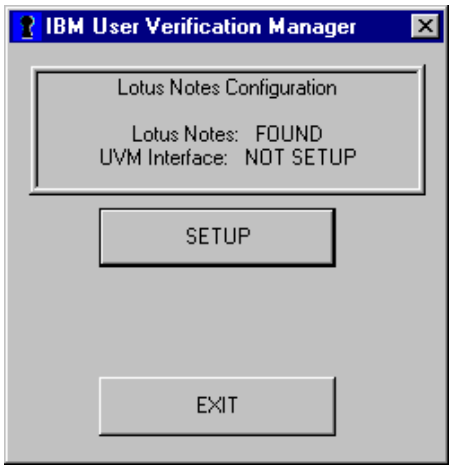
Enabling UVM protection for a User ID

Before you can enable UVM protection for Notes, note the following:

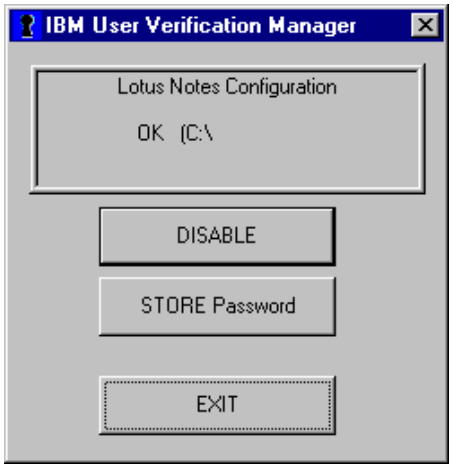
- ✍ Notes must be installed on the IBM client
- ✍ Notes User ID with a password must be established
- ✍ User must be added to UVM

To set up UVM protection for Lotus Notes:

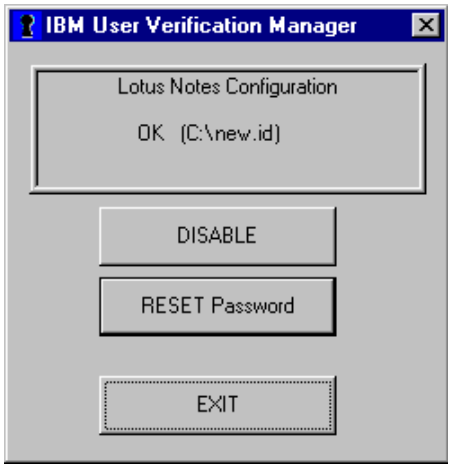
1. Click **Start > Programs > IBM Client Security Software > Lotus Notes Configuration**. The Lotus Notes Configuration window opens.



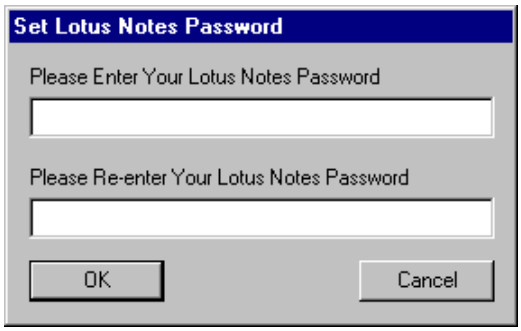
2. Click **Setup**. The following window opens and displays the current user ID associated with the Lotus Notes session. Click **Store Password**.



Note: If you have switched User IDs, the following window will open. You can click **Reset Password** to set up UVM protection for the new User ID.



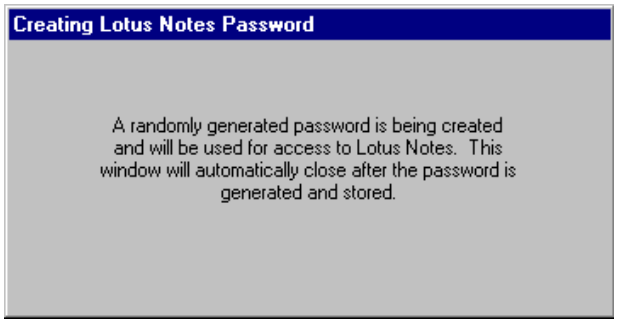
3. Type the Lotus Notes password associated with current user ID file, type it again to confirm it, and then click **OK**.



A windows opens that informs you to change the password in Lotus Notes. Click **OK**.

4. Click **Exit** on the Lotus Notes Configuration window. Next, open Notes and change your User ID password.

   Note: If you change your Notes User ID password after you have enabled UVM protection, UVM will generate a random password for the User ID and the original password will be removed. The following window will open when you change your Notes User ID password.

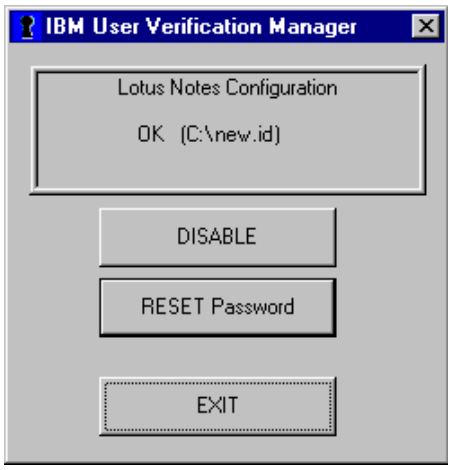


5. Before you can use UVM protection for Lotus Notes, you must edit and save the UVM policy used for the client so that the Lotus Notes authentication objects are protected. See "Chapter 3 - Working with UVM policy," on page 26 for more information about editing and saving UVM policy.

Disabling UVM protection for a User ID

If you want to disable UVM protection for a User ID, do the following:

1. Click **Start > Programs > IBM Client Security Software > Lotus Notes Configuration**. The Lotus Notes Configuration window opens.



2. Click **Disable**.

   If you click **Disable,** a message is displayed that provides a disable warning. Click **OK** to continue. The warning message is a notification that UVM and Notes integration is being disabled. If you want to reset the UVM and Notes integration in the future, use the Lotus Notes Configuration utility to reset the password with the User ID file.

   Note: After you disable the password, you can remove the association between UVM and Notes integration by clicking **Remove password**. If you do this, you must request a new User ID file to use.

Setting up UVM protection for a switched User ID

If you want to switch from a User ID that has UVM protection enabled to another User ID, you must do the following:

1. Exit Notes.
2. Disable UVM protection for the current User ID, see "Disabling UVM protection for a User ID," on page 35 for details.
3. Enter Notes and switch User IDs, see your Lotus Notes documentation for information on switching User IDs.
4. If you want to set up UVM protection for the User ID that you have switched to, enter the Lotus Notes Configuration tool (provided by Client Security Software), and set up UVM protection, see "Enabling UVM protection for a User ID," on page 33.

Chapter 5 - Using other features of the Administrator Utility

If you set up Client Security Software on IBM clients, you used the Administrator Utility to enable the IBM embedded Security Chip, set a Security Chip password, generate the hardware keys, and set up the security policy. This chapter provides instructions for using other features that the Administrator Utility provides.

Note: For Windows NT and Windows 2000 users, you must have administrator user rights assigned to your user ID to use the Administrator Utility.

To perform the instructions in the sections of this chapter, you must open the Administrator Utility by doing the following:

1. From the Windows desktop of the IBM client, click **Start > Programs > IBM Client Security Software > Administrator Utility**.

   Because access to the Administrator Utility is protected by the Security Chip password, the following message is displayed that asks you to type the Security Chip password.

2. Type the Security Chip password, and then click **OK**. The Administrator Utility window opens.

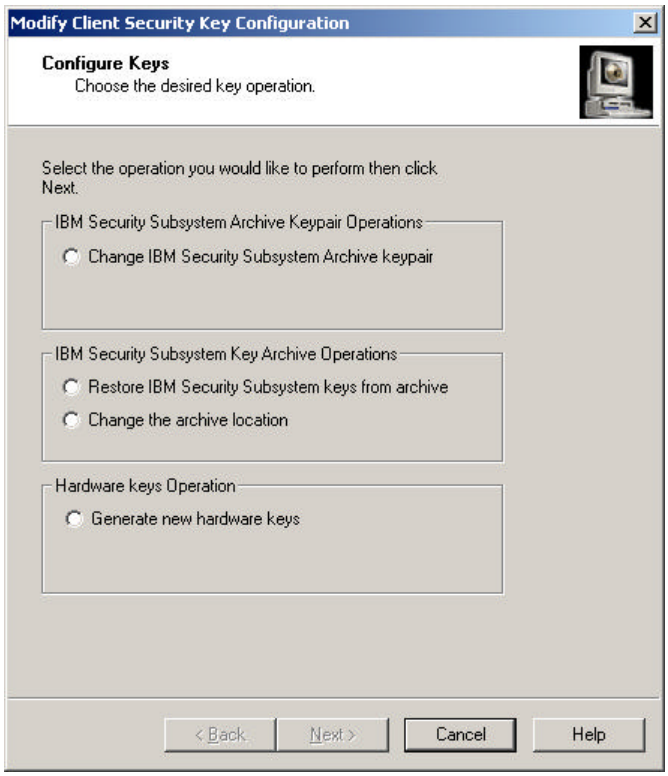
Changing the key archive location

When the key archive is first created, copies of all encryption keys are created and saved to the location specified at installation.

Note: The client user can also change the key archive location using the Client Utility. For more information, see " Using the Client Utility," on page 53.

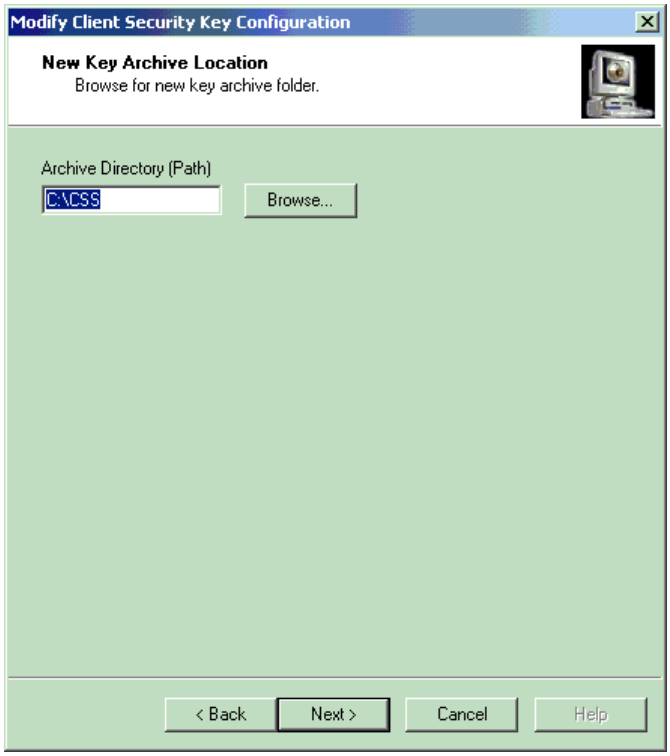
To change the key archive location:

1. From the Windows desktop of the IBM client, click **Start > Programs > IBM Client Security Software > Administrator Utility**.
2. Click the **Key Configuration** button. The Modify Client Security Key Configuration – Configure Keys screen is displayed.



3. Click the **Change the archive location** radio button.

   The New Key Archive Location screen is displayed.



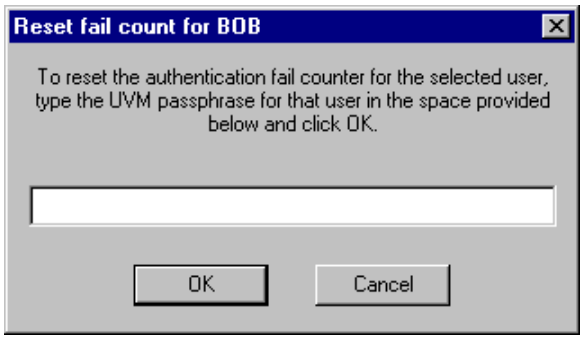
4. Type the new path, or click **Browse** to select the path.

5. Click **Next**.
6. Click **Finish**.

Resetting the authentication fail counter

To reset the authentication fail counter for a user:

1. Open the Administrator Utility.
2. In the **Windows users enrolled in UVM** area, select a user.
3. Click **Reset Fail Count**. The following window opens.



4. Type the UVM passphrase for the user selected and click **OK**.

   A message is displayed that notifies you that the operation was successful.
5. Click **OK**.

Changing information for Policy Director settings

The following information is intended for a security administrator who plans to use Policy Director to manage authentication objects for the UVM security policy. For more information, see *Using Client Security with Policy Director*.

Editing Policy Director setup information

To configure the Policy Director setup information on the IBM client:

1. Open the Administrator Utility; for details, see the instructions on page 37.
2. Click the **Policy Configuration** button.
3. Select **DCE** or **LDAP** for the server registry that you will use.
4. For each field related to the server registry you selected, enter the appropriate information.

Refreshing the local cache

A local replica of security policy information as managed by Policy Director is maintained at the IBM client. You can set the refresh rate of the local cache in increments of months and day, or you can click a button to immediately update the local cache.

To set or refresh the local cache:

1. Open the Administrator Utility; for details, see the instructions on page 37.

2. Click the **Policy Configuration** button.
3. Do one of the following:
   - ✍ To refresh the local cache, click **Refresh NOW**.
   - ✍ To set the refresh rate, type the number of months and days in the fields provided. The months and days values represent the amount of time between scheduled

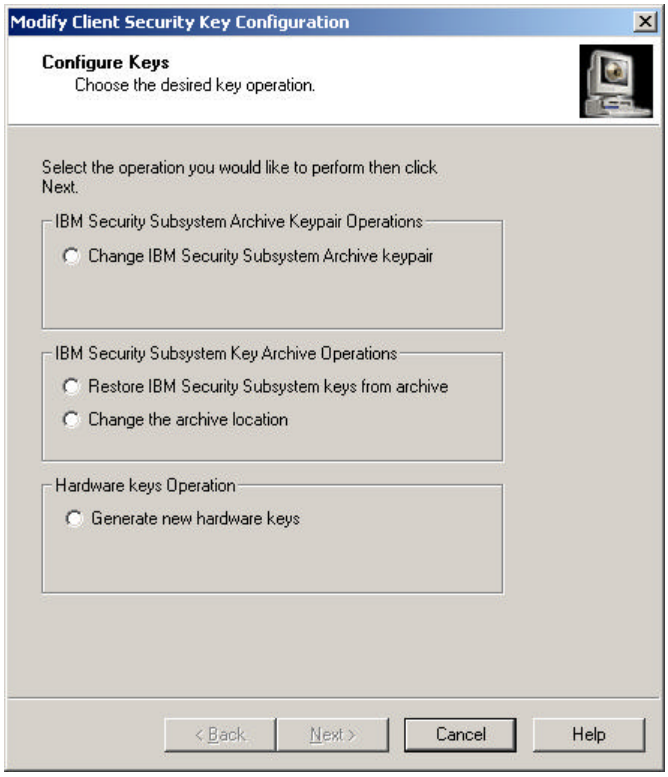
Changing the archive key pair

When the archive key pair is first created, it is usually stored on a diskette or shared directory that can be accessed by multiple users. If the archive key pair becomes damaged, you can change to a different archive key pair.

To change the archive key pair:

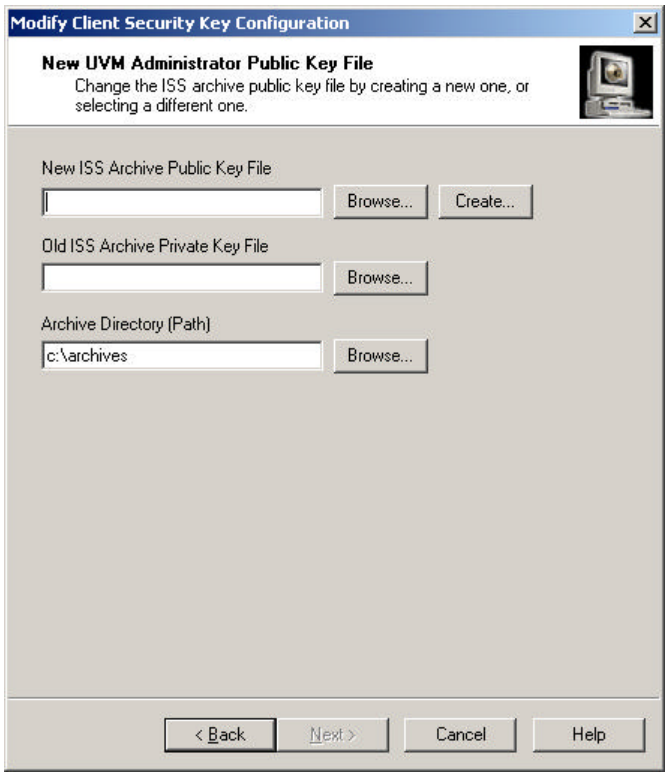
1. Open the Administrator Utility; for details, see the instructions on page 37.
2. Click the **Key Configuration** button.

   The Modify Client Security Key Configuration – Configure Keys screen is displayed.



3. Click the **Change IBM Security Subsystem Archive keypair** radio button.

   The Modify Client Security Key Configuration – New UVM Administrator Public Key File screen is displayed.



4. In the **New ISS Archive Public Key File** field, type the file name for the new admin public key. You can also click **Browse** to search for the file, or click **Create** to generate a new admin public key file.

   Note: Make sure you create the new admin public key in a location other than that which contains the Old ISS Archive Private Key file.

5. In the **Old ISS Archive Private Key File** field, type the file name for the archive key pair, or click **Browse** to search for the file.

6. In the **Archive Directory (Path)** field, type the path where the key archive is stored, or click **Browse** to select the path.

7. Click **Next**. The IBM Security Subsystem Archive Private Key Components screen is displayed.

   Note: If the archive key pair was split into multiple key elements, a message is displayed that asks you to type in the location and name of each file. Click **Read Next** after you type each file name in the **Key File** field.

8. Click **OK**.

Restoring keys

When you restore keys, you are copying the most recent user key files from the key archive and storing them on the IBM embedded Security Chip of the computer. These copied user key files appear in the directory where they were previously stored on the computer, such as on a network directory or diskette.

Reasons why key restoration might be necessary are if you replace a system board or a failed hard disk drive.

Restoring the encryption keys from archive

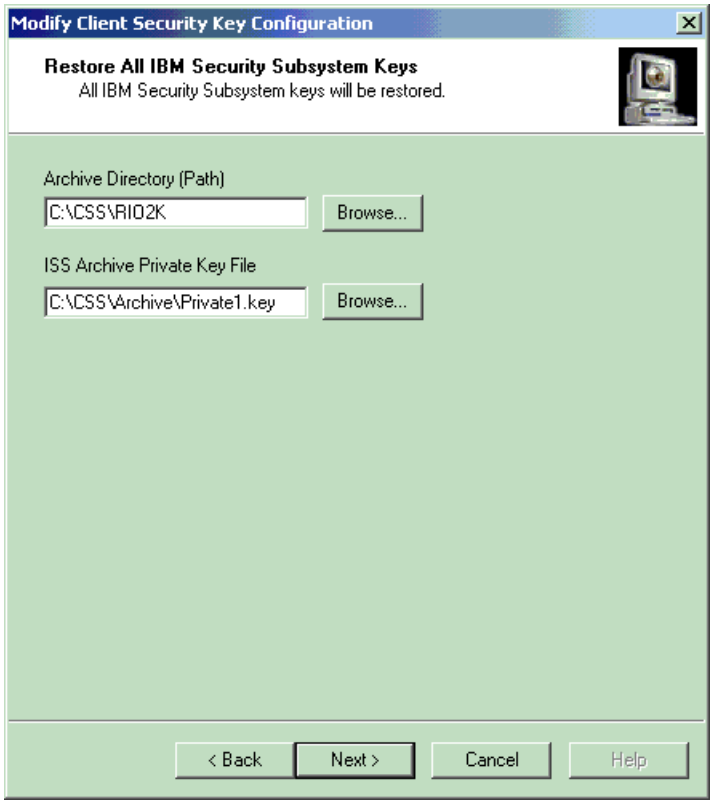
If you replace the system board in your computer with a system board that contains the IBM embedded Security Chip, and the encryption keys are still valid on your hard disk drive, you can restore the encryption keys that were previously associated with the computer by "re-encrypting" them with the IBM embedded Security Chip on the new system board.

You can perform the key restoration after you have enabled the new chip and set a Security Chip password. For details, see "Enabling the IBM embedded Security Chip and setting a Security Chip password," on page 48.

To restore keys after a system board replacement, do the following:

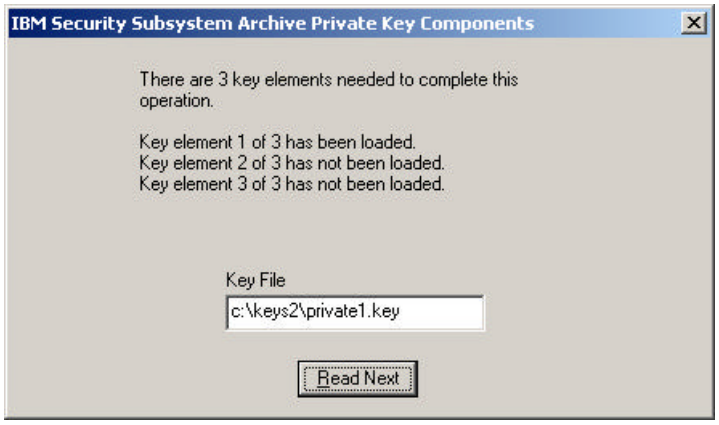
1. Open the Administrator Utility and click the **Key Configuration** button.

   The following window opens. The text is for example purposes only.



2. In the **Archive Directory (Path)** field, type the path and file name of the admin public key, or click **Browse** to search for the file.
3. In the **ISS Archive Private Key File** field, type the path and file name of the admin private key, or click **Browse** to search for the file.
4. Click **Next**. The IBM Security Subsystem Archive Private Key Components screen is displayed.

   Note: If the archive key pair was split into multiple key elements, a message is displayed that asks you to type in the location and name of each file. Click **Read Next** after you type each file name in the **Key File** field.



   A message is displayed that notifies you that the operation was successful.
5. Click **OK**.
6. Click **Finish**.

   Note: If you change the admin key pair after you restore the archive, an error message displays. If this occurs, you must add the users to UVM, and then request new certificates.

Hard disk drive failure

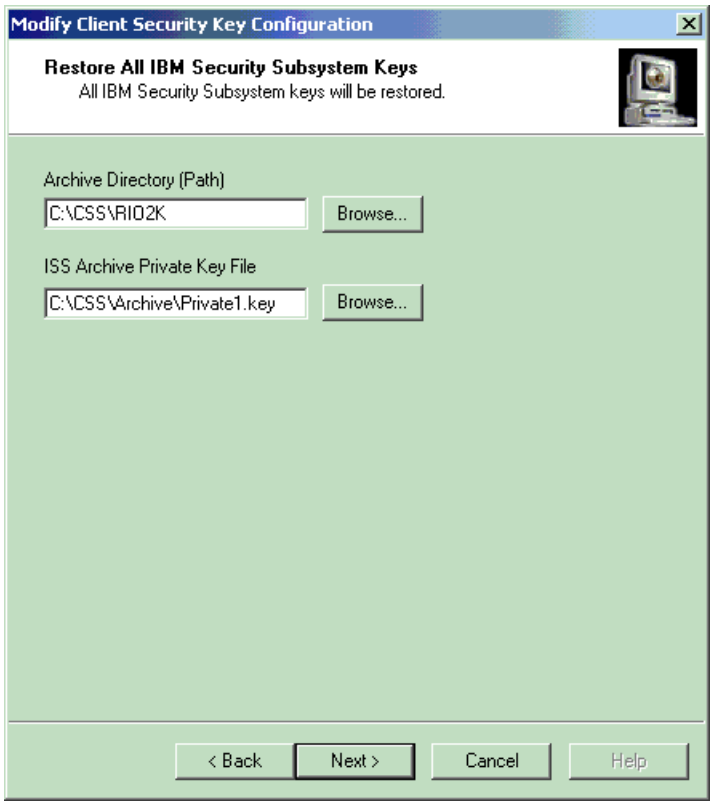
If a hard disk drive failure in the computer compromises the integrity of the user keys, you can restore the keys from the key archive. Restoring the keys will overwrite any keys that could still be stored but damaged.

Note: The following instructions assume that the Administrator Utility has not been damaged by a hard disk drive failure. If the hard disk drive failure has damaged the client security files, you might have to reinstall Client Security Software.

To restore user keys from a key archive:

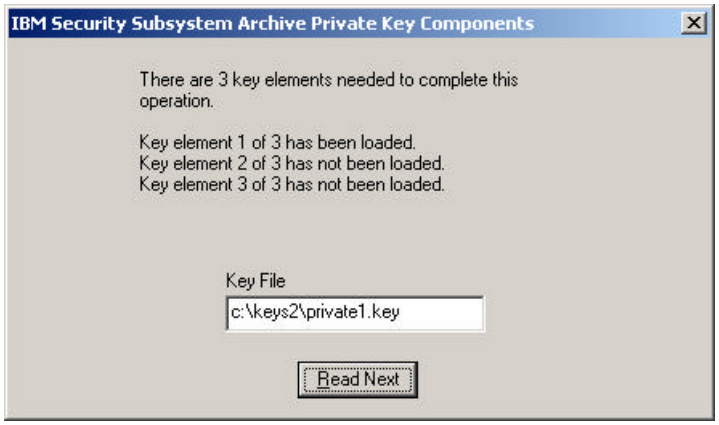
1. Open the Administrator Utility and click the **Key Configuration** button.
2. Click the **Restore IBM Security Subsystem keys from archive** radio button.

   The Modify Client Security Key Configuration – Restore All IBM Security Subsystem Keys window opens.



3. In the **Archive Directory (Path)** field, type the path for the admin public key, or click **Browse** to locate the file.
4. In the **ISS Archive Private Key File** field, type the path and file name for the admin private key, or click **Browse** to locate the file.
5. Click **Next**. The IBM Security Subsystem Archive Private Key Components screen is displayed.

   Note: If the archive key pair was split into multiple key elements, a message is displayed that asks you to type in the location and name of each file. Click **Read Next** after you type each file name in the **Key File** field.



   A message is displayed that notifies you that the operation was successful.
6. Click **OK**.

7. Click **Finish**.

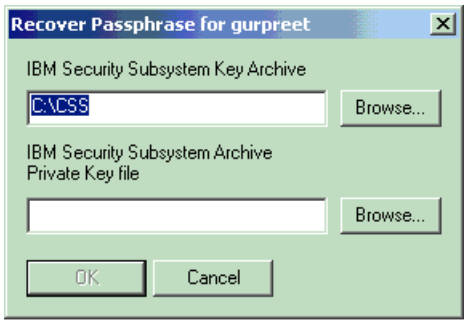
Recovering a UVM passphrase

A UVM passphrase is created for each user that you add to the security policy for the IBM client. Because passphrases can be lost or forgotten, or can be changed by the client user, the Administrator Utility provides a way to recover the passphrase.

To recover the passphrase:

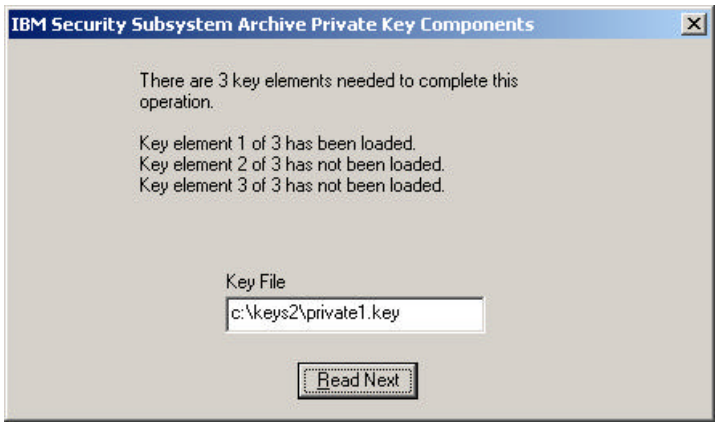
1. Open the Administrator Utility and select a user in the **Windows Users Enrolled in UVM** field.
2. Click the **Recover Passphrase** button.

   The Recover Passphrase window opens.



3. In the **IBM Security Subsystem Key Archive** field, type the path and file name for the admin public key, or click **Browse** to locate the file.
4. In the **IBM Security Subsystem Archive Private Key file** field, type the path and file name for the admin private key.
5. Click **OK**.

   Note: If the admin private key was split into multiple files, a message is displayed that asks you to type in the location and name of each file. Click **Read Next** after you type each file in the **Key File** field.



   A message is displayed that shows you the UVM passphrase for the user.

Changing the IBM Security Chip password

You must set a Security Chip password to enable the IBM embedded Security Chip. Access to the Administrator Utility is also protected by the Security Chip password.

Notes:

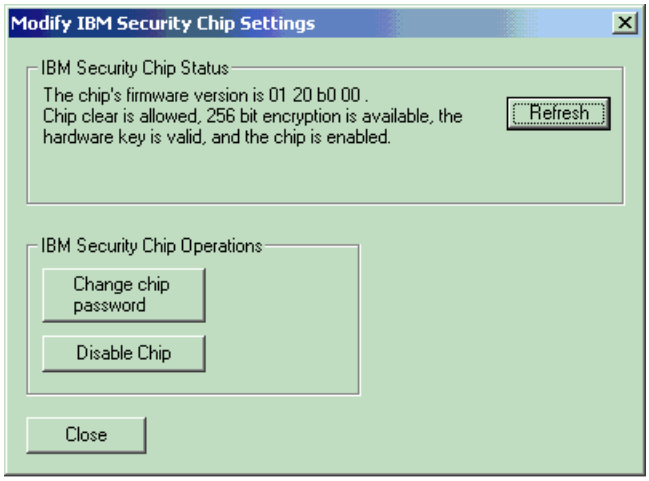
? For improved security, change the Security Chip password periodically. A password that remains unchanged for a long period of time can be more vulnerable to outside parties.

? For information on the rules of the Security Chip password, see "Appendix B - Rules for the Security Chip password and the UVM passphrase," on page 74.

To change the Security Chip password:

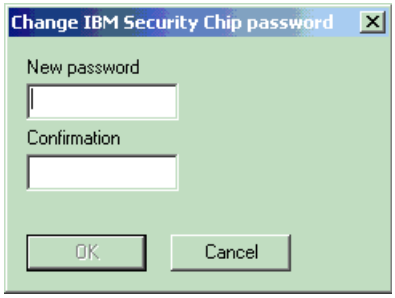
1. Open the Administrator Utility and click the **Chip Settings** button.

   The Modify IBM Security Chip Settings screen is displayed.



2. Click **Change chip password**.

   The Change IBM Security Chip password widow opens.



3. In the **New password** field, type the new password.
4. In the **Confirmation** field, type the password again.
5. Click **OK**.

   A message is displayed that notifies you that the operation was successful.

Attention: Do not press **Enter** or **Tab > Enter** to save the changes. If you do, the Disable chip window will open. If the Disable chip window opens, do not disable the chip; instead, exit from the window.

6. Click **OK**.

Viewing information about Client Security Software

The following information about the IBM embedded Security Chip and Client Security Software is available through the Chip Setup screen:

? Encryption status of the embedded Security Chip

? Status on enablement of the IBM embedded Security Chip

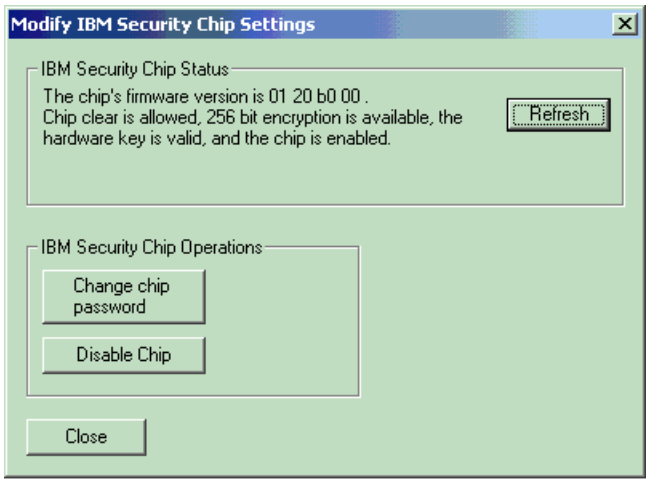
? Version number of the firmware used with Client Security Software

? The validity of the hardware encryption keys

To view client security information:

1. Open the Administrator Utility and click the **Chip Settings** button.

   The Modify IBM Security Chip Settings window opens containing information about the software and IBM Security Chip status.



2. Click **Refresh** to verify the status.
3. Click **Close** to exit.

Disabling the IBM embedded Security Chip

The Administrator Utility provides a way to disable the IBM embedded Security Chip. Because the Security Chip password is required to start the Administrator Utility and disable the chip, as an administrator, you can prohibit unauthorized users from disabling the chip by protecting the Security Chip password.

Attention: Do not disable the chip if UVM protection is enabled for the system logon. If you do, the contents of the hard disk become unusable, and you must re-format the hard disk drive and reinstall all software. To clear UVM protection, open the Administrator Utility, and click the **Use UVM Logon Protection for this Workstation instead of using Windows Logon Protection**

check box. You must restart the computer before UVM protection for the system logon is disabled.

To disable the embedded Security Chip:

1. Open the Administrator Utility and click the **Chip Settings** button.
2. In the **Disable Chip** area, click **Disable** and follow the on-screen instructions.

Notes:

- ✍ If your computer has Enhanced Security enabled, you might have to type the administrator password that was set in the Configuration/Setup Utility to disable the chip.
- ✍ To use the IBM embedded Security Chip and hardware encryption keys after the chip is disabled, the chip must be re-enabled.

Enabling the IBM embedded Security Chip and setting a Security Chip password

If you need to enable the IBM embedded Security Chip after the software has been installed, you can use the Administrator Utility to reset the Security Chip password and to set up new encryption keys.

Reasons why you might need to enable the IBM embedded Security Chip are if you need to restore the key archive after a system board replacement or if you have disabled the chip.

To enable the chip and set a Security Chip password:

1. Click **Start > Programs > IBM Client Security Software > Administrator Utility**.

   The following message is displayed that asks you to enable the IBM embedded Security Chip for the IBM client.

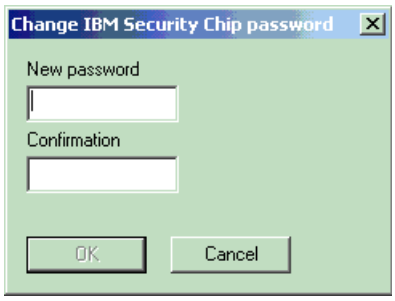
2. Click **Yes**.

   You must restart the computer before the IBM embedded Security Chip will be enabled. A message is displayed that asks you to restart the computer.

   Note: If your computer has Enhanced Security enabled, you might have to type the administrator password that was set in the Configuration/Setup Utility to enable the chip.

3. Click **OK** to restart the computer.
4. From the Windows desktop of the IBM client, click **Start > Programs > IBM Client Security Software > Administrator Utility**.

   Because access to the Administrator Utility is protected by the Security Chip password, the following message is displayed that asks you to type the Security Chip password.



5. Type a new Security Chip password in the **New password** field, and then type it again in the **Confirmation** field.
6. Click **OK**.

Enabling Entrust support

The IBM Embedded Security Chip works with Client Security Software to enhance Entrust security features. Enabling Entrust support on a computer with Client Security Software transfers Entrust software security functions to the IBM Security Chip.

Client Security Software will automatically find the file necessary to enable Entrust support. If the file is not in the usual path, a dialog opens for the user to browse for the `entrust.ini` file. After the user locates and selects the file, Client Security is ready to enable Entrust support. After clicking the Enable Entrust Support button, reboot is necessary before Entrust will make use of the IBM Embedded Security Chip.

To enable Entrust support:

1. Click **Start > Programs > IBM Client Security Software > Enable Entrust Support**.

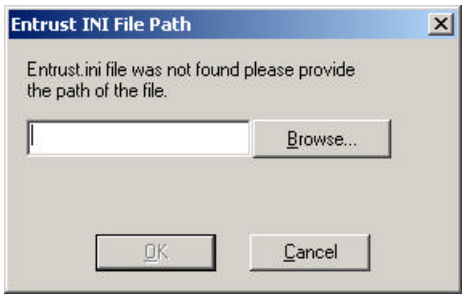
   The IBM Client Security Entrust Support screen is displayed with a message indicating the Entrust support is disabled.

2. Click **Enable Entrust Support**.

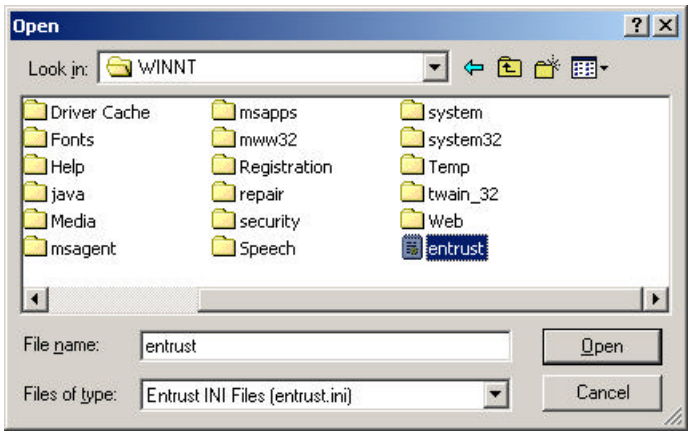
The IBM Client Security Entrust Support screen is displayed. The message on the screen is changed to reflect that Entrust support is enabled.

Note: You must restart the computer for the changes to take effect.

3. If the entrust.ini file is not in the usual path, the Entrust INI File Path window opens.



4. Click **Browse** to search for the entrust.ini file. The Open window is displayed.



5. Select the file and click **Open**. The Entrust INI File Path window opens with the file path displayed in the field
6. Click **OK**. The IBM Client Security Entrust Support screen is displayed with a message indicating that Entrust support is enabled.

Chapter 6 - Instructions for the client user

This chapter provides information to help a client user do the following:

- use UVM protection for the system logon
- set up the Client Security screen saver
- use the Client Utility
- use secure e-mail and Web browsing

The information in this section is also provided in the *Client Security User's Guide*.

Using UVM protection for the system logon

This section contains information about using UVM protection for the system logon. Before you can use UVM protection, it must be enabled for the computer. For more information, see "Setting up UVM protection for the operating system logon," on page 23.

UVM protection enables you to control access to the operating system through a logon interface. The logon procedure might differ depending on which operating system is used: Windows NT, or Windows 98 and Windows Millennium Edition.

Using UVM logon protection for Windows NT

For Windows NT, UVM logon protection *replaces* the Windows NT logon application, so that, if a user tries to unlock the computer, the UVM logon window opens instead of the Windows NT logon window.

After UVM protection is enabled for the computer, the UVM logon interface will open each time you start the computer.

Also, if the computer is already running, you can press **Ctrl + Alt + Delete** to access the UVM logon interface and perform the following tasks:

- shut down the computer
- lock the computer (see below for information on unlocking the computer)
- open the Task Manager
- log off the current user

To unlock a client that runs Windows NT and uses UVM protection:

1. Press **Ctrl + Alt + Delete** to access the UVM logon interface.
2. Type your user name and the domain where you are logged on, and then click **Unlock**.

   The UVM passphrase window opens.

   Note: Although UVM recognizes multiple domains, your user password must be the same for all domains.
3. Type your UVM passphrase, and then click **OK** to access the operating system. If fingerprint authentication is required by the UVM policy, a message is displayed that prompts you for a fingerprint scan.

Using UVM logon protection for Windows 98 and Windows Millennium

For Windows 98 and Windows Millennium, UVM protection for the system logon uses the operating system logon window. UVM protection forces a Client Security screen saver session to be launched upon logon.

To access a computer that uses UVM protection with Windows 98 or Windows Millennium:

1. If the operating system logon window opens, type the user name and password information, and click **OK**.

   The UVM passphrase window opens.

2. Type the UVM passphrase associated with the user name typed in the operating system logon, and then click **OK** to access the operating system.

   If a fingerprint scan is required, a message is displayed that prompts for a fingerprint scan.

   If all the authentication requirements set in the UVM policy are met, the computer unlocks. If not, the Client Security screen saver displays, and the UVM passphrase window opens again.[2]

Setting up the Client Security screen saver

This section contains information about setting up the Client Security screen saver. The Client Security screen saver is one of the software components that is automatically installed by Client Security Software. Before you can use the Client Security screen saver, at least one user must be registered on the security policy of your computer. For details, follow the steps in "Chapter 2 - Adding users to UVM," on page 13.

The Client Security screen saver is a series of moving images that display after your computer is idle for a specified period of time. Setting up the Client Security screen saver is a way to control access to the computer through a screen saver application. Once the Client Security screen saver displays on your desktop, you must type your UVM passphrase to access the system desktop.

To set up the Client Security screen saver:

1. Click **Start > Settings > Control Panel**.
2. Click the **Display** icon.
3. Click the **Screen Saver** tab.
4. In the **Screen Saver** drop-down menu, select **Client Security**. To change the speed of the screen saver, click **Settings** and select the desired speed.
5. Click **OK**.

Note: The behavior of the Client Security screen saver differs depending on UVM Administrator Utility and Windows screen saver settings.

✍ In Windows 9x/ME, the Client Security screen saver always prompts for UVM authentication, and will launch automatically upon system startup if

[2] The Client Security screen saver may or may not be the selected screen saver for your computer. For Windows 98, UVM logon protection uses the Client Security screen saver to secure the logon.

the **Use UVM Logon Protection** checkbox has been checked in the Administrator Utility.

✍ In Windows NT/2000, the system checks Windows settings first, and then the UVM Administrator Utility settings. Consequently, the screen saver only locks if the **Password protected** checkbox has been selected on the Windows screen saver settings tab.

If this box has been selected, the system requires either the Windows password or the UVM passphrase, depending upon whether the **Use UVM Logon Protection** checkbox has been selected in the Administrator Utility. If it has been selected, the system requires the UVM passphrase. If it has not been selected, the system requires the Windows password.

Also, other authentication requirements might have been set in the security policy for the computer; therefore, further authentication might still be required. For example, you might have to scan your fingerprints to unlock the computer.

If the Client Security is activated, press any key or move the mouse to unlock the computer. Depending on what authentication requirements have been set in the security policy for the computer, you might have to type your UVM passphrase and scan your fingerprints to unlock your computer.

Note: If you disable the IBM embedded Security Chip or remove all users from the security policy, the Client Security screen saver is unavailable.

Using the Client Utility

The Client Utility lets you or the client user change the following:

? **Change UVM passphrase**. To improve security, you can periodically change the UVM passphrase for a client user.

? **Update Windows logon settings**.[3] If you change the Windows NT password for a client user with the User Manager program, you must also change the password by using the Client Utility. Note that if you use the Administrator Utility to change the Windows logon password for a user, all user encryption keys previously created for that user will be deleted, and the associated digital certificates will become invalid.

? **Update the key archive**. If you create digital certificates and want to make copies of the private key stored on the IBM embedded Security Chip, or if you want to move the key archive to another location, update the key archive.

? **Register user fingerprints**. If you want to use a UVM-aware fingerprint sensor (or scanner) for authentication, you can register your fingerprints with UVM.

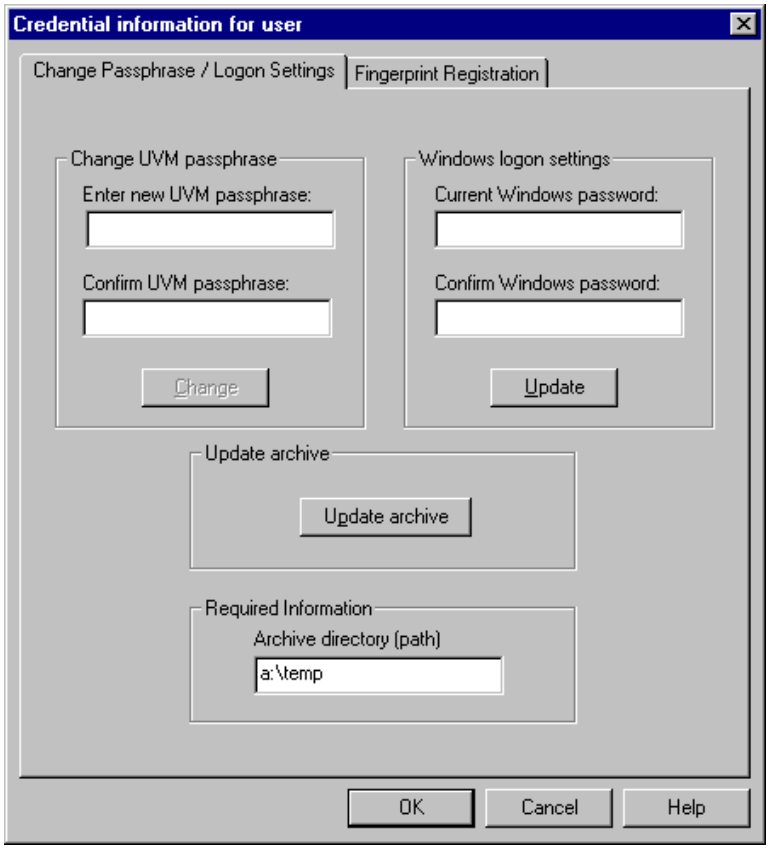
Note: Before you can register fingerprints with UVM, a fingerprint scanner must be attached to the IBM client system. For instructions on how to attach and use the fingerprint scanner, refer to the documentation provided by the hardware vendor.

To use the Client Utility:

[3] Changing the Windows logon password is applicable for users of Windows NT only.

1. Click **Start > Programs > IBM Client Security Software > Client Utility**. The UVM passphrase window opens.
2. Type the UVM passphrase for the client user who requires a UVM passphrase or Windows NT password change, and click **OK**.

   The following window opens.



3. In the **Required information** area, type the path to the key archive that was set up for this user.

   Note: After you set up a key archive, the Administrator Utility populates the **Archive directory (path)** field with the last path that was entered. If the information in **Archive directory (path)** field is deleted or, if the information is incorrect for the user you want to add, make sure that you re-type the correct information because the archive directory is required information.

4. Do one of the following:

   ? To change the UVM passphrase, in the **Change current passphrase** area, type a new passphrase in the **New passphrase** field. Next, type the passphrase again in the **Confirm new passphrase** field, and then click **Change**. For information on the rules for the UVM passphrase, see "Appendix B - Rules for the Security Chip password and the UVM passphrase," on page 74.

   ? To change the Windows NT logon password, in the **Windows password** field, type a new Windows NT password. Next, type the new password again in the **Confirm Windows password** field, and then click **Update**.

For rules on the Windows NT logon password, see the operating system documentation.

Note: Only change Windows logon information in User Manager for the user currently logged on.

- To update the key archive, click **Update archive**; then click **OK** on the window that opens and notifies you that the operation was successful.
- To register user fingerprints, click **Fingerprint Registration** and follow the instructions. For more information, see steps 4 through 6 for "Registering user fingerprints with UVM," on page 24.

5. Click **OK** to exit.

Using secure e-mail and Web browsing

If you send unsecured transactions over the Internet, they are subject to being intercepted and read. You can prohibit unauthorized access to your Internet transactions by getting a digital certificate and using it to digitally sign and encrypt your e-mail messages or to secure your Web browser.

A digital certificate (or digital ID or security certificate) is an electronic credential issued and digitally signed by a certificate authority. When a digital certificate is issued to you, the certificate authority is validating your identity as the owner of the certificate. A certificate authority is a trusted provider of digital certificates and can be a third-party issuer such as VeriSign, or the certificate authority can be set up as a server within your company. The digital certificate contains your identity, such as your name and e-mail address, expiration dates of the certificate, a copy of your public key, and the identity of the certificate authority and its digital signature.

Using Client Security Software with Microsoft applications

The instructions provided in this section are specific to the use of Client Security Software as it generally relates to obtaining and using digital certificates with applications that support the Microsoft CryptoAPI, such as Outlook Express.

For details on how to create the security settings and use e-mail applications such as Outlook Express and Outlook, see the documentation provided with those applications.

Notes:

- To use 128-bit browsers with Client Security Software, the IBM embedded Security Chip must support 256-bit encryption. You can find out the encryption strength provided by Client Security Software in the Administrator Utility. For details, see "Viewing information about Client Security Software," on page 47.
- For information about known limitations when using Client Security Software with Microsoft applications and troubleshooting information, see "Known limitations," on page 61 and "Troubleshooting charts," on 64.

Obtaining a digital certificate

When you use a certificate authority to create a digital certificate to be used with Microsoft applications, you will be prompted to choose a cryptographic service provider (CSP) for the certificate.

To use the cryptographic capabilities of the IBM embedded Security Chip for your Microsoft applications, make sure you select **IBM embedded Security Subsystem CSP** as your CSP when you obtain your digital certificate. This ensures that the private key of the digital certificate is stored on the IBM Security Chip.

Also, if available, select strong (or high) encryption for extra security. Because the IBM embedded Security Chip is capable of up to 1024-bit encryption of the private key of the digital certificate, select this option if it is available within the certificate authority interface; 1024-bit encryption is also referred to as strong encryption.

After you select **IBM embedded Security Subsystem CSP** as the CSP, you might have to type your UVM passphrase, scan your fingerprints, or do both to meet the authentication requirements for obtaining a digital certificate. The authentication requirements are defined in the UVM policy for the computer.

Updating the key archive

After you create a digital certificate, back up the certificate by updating the key archive. You can update the key archive by using the Administrator Utility. For more information, see "Changing the key archive," on page 37.

Using the digital certificate

Use the security settings in your Microsoft applications to view and use digital certificates. See the documentation provided by Microsoft for more information.

After you create the digital certificate and use it to sign an e-mail message, UVM will prompt you for authentication requirements the first time you digitally sign an e-mail message. You might have to type your UVM passphrase, scan your fingerprints, or do both to meet the authentication requirements for using the digital certificate. The authentication requirements are defined in the UVM policy for the computer.

Using Client Security Software with Netscape applications

The instructions provided in this section are specific to the use of Client Security Software as it generally relates to obtaining and using digital certificates with applications that support PKCS#11, specifically Netscape applications.

For details on how to use the security settings for Netscape applications, see the documentation provided by Netscape.

Notes:

? To use 128-bit browsers with Client Security Software, the IBM embedded Security Chip must support 256-bit encryption. You can find out the encryption strength provided by Client Security Software in the Administrator Utility. For details, see "Viewing information about Client Security Software," on page 47.

? For information about known limitations when using Client Security Software with Netscape applications and troubleshooting information, see "Known limitations," on page 61 and "Troubleshooting charts," on 64.

Installing the IBM embedded Security Chip PKCS#11 module

Before you can use a digital certificate, you must install the IBM embedded Security Chip PKCS#11 module onto the computer. Because the installation of the IBM embedded Security Chip PKCS#11 module requires a UVM passphrase, you must add at least one user to the security policy for the computer. For details, see "Chapter 2 - Adding users to UVM," on page 13.

To install the IBM embedded Security Chip PKCS#11 module, do one of the following:

1. Do one of the following:

   ? If Netscape was installed on the computer before Client Security Software was installed, you can run the installation file from the Windows Start menu to add the IBM embedded Security Chip module. Click **Start > Programs > IBM Client Security Software > Add IBM Embedded Security Subsystem Module**.

   ? If Netscape was installed on the computer after Client Security Software was installed, open and run the installation file in Netscape. Open Netscape and click **File > Open page**. Locate the install file, IBMPKCSINSTALL.HTML, and open it in Netscape. (If you accepted the default directory when you installed the software, the file is located in C:\Program Files\IBM\Security.) When you open the file in Netscape, the installation file runs.

   The UVM passphrase window opens.

2. Type the UVM passphrase and click **OK**.

   A message is displayed asking if you are sure you want to install this security module.

3. Click **OK**.

   A message is displayed that notifies you that the module was installed.

4. Click **OK**.

Using the PKCS#11 logon protection

If PKCS#11 logon protection is setup for the computer, you must meet the authentication requirements each time you log on to Netscape. You might have to type your UVM passphrase, scan your fingerprints, or do both to meet the authentication requirements. The authentication requirements are defined in the UVM policy for the computer.

Selecting the IBM embedded Security Chip when generating a digital certificate

When you generate a digital certificate in Netscape, select the IBM embedded Security Chip as the generator of the private key associated with the certificate.

During digital certificate creation, you will be asked to select the card or database you wish to generate your key in, select **IBM embedded Security Subsystem**.

For more information on generating a digital certificate and using it with Netscape, see the documentation provided by Netscape.

Updating the key archive

After you create a digital certificate, back up the certificate by updating the key archive. You can update the key archive by using the Administrator Utility. For more information, see "Changing the key archive," on page 37.

Using the digital certificate

Use the security settings in your Netscape applications to view, select, and use digital certificates. For example, in the security settings for Netscape Messenger, you must select the certificate before you can use it to digitally sign or encrypt e-mail messages. See the documentation provided by Netscape for more information.

After you have installed the IBM embedded Security Chip PKCS#11 module, UVM will prompt you for authentication requirements each time you use the digital certificate. You might have to type your UVM passphrase, scan your fingerprints, or do both to meet the authentication requirements. The authentication requirements are defined in the UVM policy for the computer.

Note: If you do not meet the authentication requirements set by the UVM policy, the following window opens.

Click **OK**, and Netscape opens. You will not be able to use the digital certificate generated by the IBM embedded Security Chip until you restart Netscape, and provide the correct UVM passphrase, fingerprints, or both.

Chapter 7 - Troubleshooting

This chapter presents specific tips, known limitations, and troubleshooting information that is helpful to an administrator. Use this chapter to prevent or identify and correct problems that might come up as you use Client Security Software.

Administrator tips

The information in this section contains helpful tips for an administrator when installing, setting up and using Client Security Software.

Setting an administrator password in the Configuration/Setup Utility

Security settings are available in the Configuration / Setup Utility of IBM clients. These settings enable you to do the following:

? Change the Security Chip password (for the IBM embedded Security Chip)

? Enable or disable the IBM embedded Security Chip

? Clear the IBM embedded Security Chip (see the Attention box below for important information about clearing the security chip)

Attention

? If a user clears the IBM embedded Security Chip, all encryption keys and certificates stored on the chip will be lost and the contents of the hard disk could become unusable.

? Do not clear or disable the IBM embedded Security Chip if UVM protection is enabled. If you do, the contents of the hard disk become unusable, and you must re-format the hard disk drive and reinstall all software. To clear UVM protection, open the Administrator Utility, click the **Key Configuration button**, and clear the **Use UVM Logon Protection for this Workstation instead of using Windows Logon Protection** check box. You must restart the computer before UVM protection is disabled.

Because these security settings are accessible through the Configuration / Setup Utility of the computer, set an administrator password to deter unauthorized users from changing these settings.

To set an administrator password:

1. Shut down and restart the computer.
2. When the Configuration / Setup Utility prompt appears on the screen, press **F1**. The main menu of the Configuration / Setup Utility opens.
3. Select **System Security**.
4. Select **Administrator Password**.
5. Type your password and press the down arrow on your keyboard.
6. Type your password again and press the down arrow.
7. Select **Change Administrator password** and press Enter; then press Enter again.

8. Press Esc to exit and save the settings.

After you set an administrator password, a prompt appears each time you try to access the Configuration/Setup Utility.

Important: Keep a record of your administrator password in a secure place. If you lose or forget the administrator password, you cannot access the Configuration/Setup Utility, and you cannot change or delete the password without removing the computer cover and moving a jumper on the system board. See the hardware documentation that came with your computer for more information.

Protecting the Security Chip password

You set a Security Chip password to enable the IBM embedded Security Chip for a client. After you set a Security Chip password, access to the Administrator Utility is protected by this password. You should protect the Security Chip password to prohibit unauthorized users from changing settings in the Administrator Utility.

Clearing the IBM embedded Security Chip

If you want to erase all user encryption keys from the IBM embedded Security Chip and clear the Security Chip password for the chip, you must clear the chip. Read the information in the Attention box below before clearing the IBM embedded Security Chip.

Attention

? If a user clears the IBM embedded Security Chip, all encryption keys and certificates stored on the chip will be lost and the contents of the hard disk could become unusable.

? Do not clear or disable the IBM embedded Security Chip if UVM protection is enabled. If you do, the contents of the hard disk will become unusable, and you must re-format the hard disk drive and reinstall all software. To clear UVM protection, open the Administrator Utility, click the **Key Configuration button**, and clear the **Use UVM Logon Protection for this Workstation instead of using Windows Logon Protection** check box. You must restart the computer before UVM protection is disabled.

To clear the IBM embedded Security Chip:

1. Shut down and restart the computer.
2. When the Configuration/Setup Utility prompt appears on the screen, press **F1**. The main menu of the Configuration/Setup Utility opens.
3. Select **System Security**.
4. Select **IBM Embedded Security Chip**.
5. Select **Clear IBM Security Chip**.
6. Select **Yes** for Clear IBM Security Chip.
7. Press Esc to continue.
8. Press Esc to exit and save the settings.

Known limitations

This section provides information about known limitations related to Client Security Software.

Using Client Security Software with Windows 98, or Windows Millennium

The Windows 98 and Windows Millennium operating systems have known security limitations: Operating systems derived for the Windows NT kernel adhere to more stringent security standards than operating systems derived from the Windows 9X kernel. Consequently, operating systems derived from the 9X kernel are not as secure, and some Client Security Software features might behave differently. For example, Windows 9x-based operating systems do not report suspend / resume events to the screen saver. Therefore, the Client Security screen saver might not provide the same level of security as it does under NT-based operating systems.

Using Client Security Software with Netscape applications

Netscape opens after an incorrect UVM passphrase is entered: If the UVM passphrase window opens, you must type the UVM passphrase and click **OK** before you can continue. If you type the incorrect UVM passphrase, the following message is displayed.

Click **OK** to continue. Although Netscape opens, you will not be able to use the digital certificate generated by the IBM embedded Security Chip. You must exit and re-enter Netscape, and type the correct UVM passphrase before you can use the IBM embedded Security Chip certificate.

Algorithms do not display: All hashing algorithms supported by the IBM embedded Security Chip PKCS#11 module are not selected if the module is viewed in Netscape. The following algorithms are supported by the IBM embedded Security Chip PKCS#11 module, but are not identified as being supported when viewed in Netscape:

? SHA-1

? MD5

IBM embedded Security Chip certificate and encryption algorithms

The following information is provided to help identify issues about the encryption algorithms that can be used with the IBM embedded Security Chip certificate. See Microsoft or Netscape for current information about the encryption algorithms used with their e-mail applications.

? **When sending e-mail from one Outlook Express (128-bit) client to another Outlook Express (128-bit) client:** If you use Outlook Express with the 128-bit version of Internet Explorer 4.0 or 5.0 to send encrypted e-mail to other

clients using Outlook Express (128-bit), e-mail messages encrypted with the IBM embedded Security Chip certificate can only use the 3DES algorithm.

? **When sending e-mail between an Outlook Express (128-bit) client and a Netscape client:** An RC2(40), RC2(64), or RC2(128) encryption request from a Netscape client to an Outlook Express (128-bit) client is always returned to the Netscape client with the RC2(40) algorithm.

? **Some algorithms might not be available for selection in the Outlook Express (128-bit) client:** Depending on how your version of Outlook Express (128-bit) was configured or updated, some RC2 algorithms and other algorithms might not be available for use with the IBM embedded Security Chip certificate. See Microsoft for current information on the encryption algorithms used with your version of Outlook Express.

Using the Administrator Utility

Users are not deleted from the Administrator Utility in Windows 98: If you delete a user from Windows 98, the user name is not deleted from the list of users in the Administrator Utility.

The Deny all access to selected object check box is not disabled if Policy Director control is selected: In the UVM-policy editor, if you select **Policy Director controls selected object** to enable Policy Director to control an authentication object, the **Deny all access to selected object** check box is not disabled. Although the **Deny all access to selected object** check box remains active, it cannot be selected to override Policy Director control.

Using UVM protection for a Lotus Notes User ID

UVM protection does not operate if you switch User IDs within a Notes session: You can set up UVM protection only for the current user ID of a Notes session. If you want to switch from a User ID that has UVM protection enabled to another User ID, you must do the following:

1. Exit Notes.
2. Disable UVM protection for the current User ID, see "Disabling UVM protection for a User ID," on page 35 for details.
3. Enter Notes and switch User IDs, see your Lotus Notes documentation for information about switching User IDs. If you want to set up UVM protection for the User ID that you have switched to, proceed to step 4.
4. Enter the Lotus Notes Configuration tool provided by Client Security Software and set up UVM protection, see "Enabling UVM protection for a User ID," on page 33.

Event log error messages

Error messages related to Client Security Software are generated in the event log: Client Security Software uses a device driver that might generate error messages in the event log. The errors associated with these messages do not affect the normal operation of your computer.

Error messages when access to an authentication object is denied

UVM invokes error messages that are generated by the associated program if access is denied for an authentication object: If UVM policy is set to deny access for an authentication object, for example e-mail decryption, the message

stating that access has been denied will vary depending on what software is being used. For example, an error message from Outlook Express that states access is denied to an authentication object will differ from a Netscape error message that states that access was denied.

Troubleshooting charts

Use the troubleshooting charts in this section to find solutions to problems that have definite symptoms.

Using Client Security Software with Microsoft applications

The following troubleshooting charts contain information that might be helpful if you experience problems using Client Security Software with Microsoft applications.

Problems reading encrypted e-mail using Outlook Express	**Action**
Encrypted e-mail cannot be decrypted because of the differences in encryption strengths of the Web browsers used by the sender and recipient.	Verify the following: 1. The encryption strength for the Web browser that the sender uses is compatible with the encryption strength of the Web browser that the recipient uses. 2. The encryption strength for the Web browser is compatible with the encryption strength provided by the firmware of Client Security Software. **Note:** To use 128-bit Web browsers with Client Security Software, the IBM embedded Security Chip must support 256-bit encryption. If the IBM embedded Security Chip supports 56-bit encryption, you must use a 40-bit Web browser. You can find out the encryption strength provided by Client Security Software in the Administrator Utility. For details, see "Viewing information about Client Security Software," on page 47.

Problems using a certificate from an e-mail address that has multiple certificates associated with it	**Action**
Outlook Express can list multiple certificates associated with a single e-mail address and some of those certificates can become invalid. A certificate can become invalid if the private key associated with the certificate no longer exists on the IBM embedded Security Chip of the sender's computer where the certificate was generated.	Ask the recipient to resend his digital certificate; then select that certificate in the address book for Outlook Express.

Failure message when trying to digitally sign an e-mail message	**Action**
If the composer of an e-mail message tries to digitally sign an e-mail message when the composer does not yet have a certificate associated with his or her e-mail account, an error message displays.	Use the security settings in Outlook Express to specify a certificate to be associated with the user account. See the documentation provided for Outlook Express for more information.
Outlook Express (128 bit) encrypts e-mail messages with the 3DES algorithm only	**Action**
When sending encrypted e-mail between clients that use Outlook Express with the 128-bit version of Internet Explorer 4.0 or 5.0, only the 3DES algorithm can be used.	To use 128-bit browsers with Client Security Software, the IBM embedded Security Chip must support 256-bit encryption. If the IBM embedded Security Chip supports 56-bit encryption, you must use a 40-bit Web browser. You can find out the encryption strength provided by Client Security Software in the Administrator Utility. For details, see "Viewing information about Client Security Software," on page 47. Also, see Microsoft for current information on the encryption algorithms used with Outlook Express.
Outlook Express clients return e-mail messages with a different algorithm	**Action**
An e-mail message encrypted with the RC2(40), RC2(64), or RC2(128) algorithm is sent from a client using Netscape Messenger to a client using Outlook Express (128-bit). A returned e-mail message from the Outlook Express client is encrypted with the RC2(40) algorithm.	No action is required. An RC2(40), RC2(64), or RC2(128) encryption request from a Netscape client to an Outlook Express (128-bit) client is always returned to the Netscape client with the RC2(40) algorithm. See Microsoft for current information on the encryption algorithms used with your version of Outlook Express.
Error message when using a certificate in Outlook Express after a hard disk drive failure	**Action**
Certificates can be restored by using the key restoration feature in the Administrator Utility. Some certificates, such as the free certificates provided by VeriSign, might not be restored after a key restoration.	After restoring the keys, do one of the following ✍ obtain new certificates ✍ register the certificate authority again in Outlook Express

Outlook Express does not update the encryption strength associated with a certificate sent from Netscape Messenger.	**Action**
If a sender selects the encryption strength in Netscape and sends a signed e-mail message to a client using Outlook Express with Internet Explorer 4.0 (128-bit), the encryption strength of the returned e-mail might not match.	Delete the associated certificate from the address book in Outlook Express. Open the signed e-mail again and add the certificate to the address book in Outlook Express.
In Outlook Express, the error decryption message displays.	**Action**
You can open a message in Outlook Express if you double-click it. In some instances, if you double-click an encrypted message too quickly, an error decryption message appears. Also, a decryption error message might display in the preview pane, if you select an encrypted message.	If you attempted to open an e-mail message and the decryption error message appears, close the message, and then open the encrypted e-mail message again. If the error message appears in the preview pane, no action is required.
An error message displays when you click the Send button twice as you are trying to send an encrypted e-mail message.	**Action**
When using Outlook Express, if you click the send button twice to send an encrypted e-mail message, an error message displays stating that the message could not be sent.	Close this error message and click the Send button once.
Error message when requesting a certificate from a certificate authority in Internet Explorer.	**Action**
If you are using Internet Explorer, you might receive an error message if you request a certificate that uses the IBM embedded Security Chip CSP.	Request the digital certificate again.

Authentication fails at logon for Windows 98 clients.	**Action**
Windows 98 clients with UVM protection might experience an authentication error if they try to log on.	Restart the computer.

Using Client Security Software with Netscape applications

The following troubleshooting charts contain information that might be helpful if you experience problems using Client Security Software with Netscape applications.

Problems reading encrypted e-mail	**Action**
Encrypted e-mail cannot be decrypted because of the differences in encryption strengths of the Web browsers used by the sender and recipient.	Verify the following: 1. The encryption strength for the Web browser that the sender uses is compatible with the encryption strength of the Web browser that the recipient uses. 2. The encryption strength for the Web browser is compatible with the encryption strength provided by the firmware of Client Security Software. **Note:** To use 128-bit browsers with Client Security Software, the IBM embedded Security Chip must support 256-bit encryption. If the IBM embedded Security Chip supports 56-bit encryption, you must use a 40-bit Web browser. You can find out the encryption strength provided by Client Security Software in the Administrator Utility. For details, see "Viewing information about Client Security Software," on page 47.

Failure message when trying to digitally sign an e-mail message when using Netscape Messenger	**Action**
If the IBM embedded Security Chip certificate has not been selected in Netscape Messenger, and a composer of an e-mail message tries to sign the message with the certificate, an error message displays.	Use the security settings in Netscape Messenger to select the certificate. When Netscape Messenger is open, click the security icon on the toolbar and the Security Info window opens. Click **Messenger** in the left panel and then select the IBM embedded Security Chip certificate. See the documentation provided by Netscape for more information.

An e-mail message sent from Netscape Messenger to Outlook Express is returned to the Netscape client with a different algorithm	**Action**
An e-mail message encrypted with the RC2(40), RC2(64), or RC2(128) algorithm is sent from a client using Netscape Messenger to a client using Outlook Express (128-bit). A returned e-mail message from the Outlook Express client is encrypted with the RC2(40) algorithm.	No action is required. An RC2(40), RC2(64), or RC2(128) encryption request from a Netscape client to an Outlook Express (128-bit) client is always returned to the Netscape client with the RC2(40) algorithm. See Microsoft for current information on the encryption algorithms used with your version of Outlook Express.
Unable to use the digital certificate generated by the IBM embedded Security Chip	**Action**
The digital certificate generated by the IBM embedded Security Chip is not available for use.	Verify that the correct UVM passphrase was typed when Netscape was opened. If you type the incorrect UVM passphrase, an error message displays stating an authentication failure. If you click **OK**, Netscape opens, but you will not be able to use the certificate generated by the IBM embedded Security Chip. You must exit and re-open Netscape, and then type the correct UVM passphrase.
New digital certificates from the same sender are not replaced within Netscape	**Action**
If a digitally signed e-mail is received more than once by the same sender, the first digital certificate associated with the e-mail is not overwritten.	If you receive multiple e-mail certificates, only one certificate is the default certificate. Use the security features in Netscape to delete the first certificate, and then re-open the second certificate or ask the sender to send another signed e-mail.
Cannot export the IBM embedded Security Chip certificate	**Action**
The IBM embedded Security Chip certificate cannot be exported in Netscape. The export feature in Netscape can be used to back up certificates.	Go to the Administrator Utility or Client Utility to update the key archive. If you update the key archive, copies of all the certificates associated with the IBM embedded Security Chip are created.

Error message when trying to use a certificate in Netscape that has been restored after a hard disk drive failure	**Action**
Certificates can be restored by using the key restoration feature in the Administrator Utility. Some certificates, such as the free certificates provided by VeriSign, might not be restored after a key restoration.	After restoring the keys, obtain a new certificate.
Netscape agent opens and causes Netscape to fail	**Action**
Netscape agent opens and closes Netscape.	Turn off the Netscape agent.
Netscape delays if you try to open it	**Action**
If you add the IBM embedded Security Chip PKCS#11 module and then open Netscape, a short delay will occur before Netscape opens.	No action is required. This tip is for informational purposes only.

Obtaining a digital certificate

The following troubleshooting information might be helpful if you experience problems obtaining a digital certificate.

UVM passphrase window or fingerprint authentication window displays multiple times during a digital certificate request.	**Action**
The UVM security policy dictates that a user provides the UVM passphrase or fingerprints before a digital certificate can be acquired. If the user tries to acquire a certificate, the authentication window that asks for the UVM passphrase or fingerprint scan displays more than once.	Type your UVM passphrase or scan your fingerprint each time the authentication window opens.

A VBScript or JavaScript error message displays.	**Action**
If you request a digital certificate, an error message related to VBScript or JavaScript might display.	Restart the computer, and obtain the certificate again.

Using Client Security Software with Lotus Notes

The following troubleshooting information might be helpful if you experience problems with using Lotus Notes with Client Security Software.

An error message displays if you attempt to change the Notes password and you are using Client Security Software	**Action**
Changing the Notes password when using Client Security Software might display in an error message.	Retry the password change. If this does not work, restart the client.

An error message displays after the randomly-generated password is created by Client Security Software	**Action**
An error message might display if you do the following: 1. Use the Lotus Notes Configuration tool to set UVM protection for a Notes ID 2. Open Notes and use the function provided by Notes to change the password for Notes ID file 3. Close Notes immediately after you change the password.	Click **OK** to close the error message. No action is required. Contrary to the error message, the password has changed. The new password is a randomly-generated password created by Client Security Software, specifically UVM. The Notes ID file is now encrypted with the randomly-generated password, and the user does not need a new User ID file. If the end user changes the password again, UVM will generate a new random password for the Notes ID.

Using the Administrator Utility

The following troubleshooting information might be helpful if you experience problems when using the Administrator Utility.

An error message displays after a key restoration and the admin public key is changed.	**Action**
If you clear the embedded Security Chip and then restore the key archive, an error message might display if you change the admin public key.	Add the users to UVM and request new certificates, if applicable.
An error message displays after the admin public key is changed and you attempt to recover a UVM passphrase.	**Action**
If you change the admin public key and then attempt to recover a UVM passphrase for a user, an error message might display.	Do one of the following: ✍ If the UVM passphrase for the user is not needed, no action is required. ✍ If the UVM passphrase for the user is needed, you must add the user to UVM, and request new certificates, if applicable.
An error message displays if you try to save the UVM-policy file.	**Action**
If you attempt to save a UVM-policy file (globalpolicy.gvm) by clicking Apply or Save, an error message might display.	Exit the error message, edit the UVM-policy file again to make your changes, and then save the file.
An error message displays if you try to open the UVM-policy editor.	**Action**
If the current user (logged on to the operating system) has not been added to UVM, the UVM-policy editor will not open.	Add the user to UVM and open the UVM-policy editor.

An error message displays while you are using the Administrator Utility.	**Action**
If you are using the Administrator Utility, the following error message might display: `A buffer I/O error occurred while trying to access the Client Security chip. This might be corrected by a reboot.`	Exit the error message, and restart your computer.

A disable chip message is displayed if you attempt to change the Security Chip password.	**Action**
If you attempt to change the Security Chip password, and you press **Enter** or **Tab > Enter** after you type the confirmation password, the Disable chip button will be enabled and a disable chip confirmation message is displayed.	Do the following: 1. Exit from the disable chip confirmation window. 2. To change the Security Chip password, type the new password, type the confirmation password, and then click **Change**. Do not press **Enter** or **Tab > Enter** after you type the confirmation window.

Using UVM-aware devices

The following troubleshooting information might be helpful if you experience problems when using UVM-aware devices.

A UVM-aware device stops working properly	**Action**
If you disconnect a UVM-aware device from a Universal Serial Bus (USB) port, and then connect the device to the USB port again, the device might not work properly.	Restart the computer after the device has been connected to the USB port.

Appendix A - U.S. export regulations for Client Security Software

The IBM Client Security Software package has been reviewed by the IBM Export Regulation Office (ERO), and as required by U.S. government export regulations, IBM has submitted appropriate documentation and obtained retail classification approval for up to 256 bit encryption support from the U.S. Department of Commerce for international distribution except in those countries embargoed by the U.S. Government. Regulations in the U.S.A. and other countries are subject to change by the respective country government.

If you are not able to download the Client Security Software package, please contact your local IBM sales office to check with your IBM Country Export Regulation Coordinator (ERC).

Appendix B - Rules for the Security Chip password and the UVM passphrase

This appendix contains two tables that outline the rules for the Security Chip password and the UVM passphrase.

The following table describes the rules for the Security Chip password.

Security Chip password rules

Length	The password must be exactly eight characters long.
Characters	The password must contain alphanumeric characters only. A combination of letters and numbers is allowed. No exceptional characters, like space, !, ?, %, are allowed.
Properties	Set the Security Chip password to enable the IBM embedded Security Chip in the computer. This password must be typed each time you access the Administrator Utility.
Incorrect attempts	If you incorrectly type the password ten times, the computer locks up for 1 hour and 17 minutes. If after this time period has passed, you type the password incorrectly ten more times, the computer locks up for 2 hours and 34 minutes. The time the computer is disabled doubles each time you incorrectly type the password ten times.

To improve security, the UVM passphrase is longer and can be more unique than a traditional password.

The following table describes the rules for the UVM passphrase.

UVM passphrase rules

Length	The passphrase can be up to 256 characters long.
Characters	The passphrase can contain any combination of characters that the keyboard produces, including spaces and nonalphanumeric characters.
Properties	The UVM passphrase is different from a password that you might use to log on to an operating system. The UVM passphrase can be used in conjunction with other authenticating devices, such as a UVM-aware fingerprint sensor.
Incorrect attempts	If you incorrectly type the UVM passphrase multiple times during a session, the computer will not lock up. There is no limit on the number of incorrect attempts.

Appendix C - Rules for using UVM protection for system logon

UVM protection ensures that only those users who have been added to UVM for a specific IBM client are able to access the operating system. Windows operating systems include applications that provide logon protection. Although UVM protection is designed to work in parallel with those Windows logon applications, UVM protection does differ by operating system.

For Windows NT, UVM logon interface replaces the operating system logon, so that the UVM logon window opens each time a user tries to log on to the system.

For Windows 98 and Windows Millennium, UVM protection uses the Client Security screen saver to secure the logon.

UVM protection for the system logon is not supported for clients running Windows 2000.

Read the following tips before you set and use UVM protection for the system logon:

- Do not clear the IBM embedded Security Chip while UVM protection is enabled. If you do, the contents of the hard disk become unusable, and you must re-format the hard disk drive and reinstall all software. For more information, see "Administrator tips," on page 59.
- If you use the Microsoft Family Logon client for Windows 98, configure Microsoft Family Logon before you assign UVM passphrases for users and before you set and use UVM protection. See the Attention box on page 14 for more information.
- If you clear the **Use UVM Logon Protection for this Workstation instead of using Windows Logon Protection** check box in the Administrator Utility, the system returns to the Windows logon process without UVM logon protection.
- In Windows NT, you have the option of specifying the maximum number of attempts allowed for typing the correct password for the Windows NT logon application. This option does not apply to UVM logon protection. There is no limit that you can set for the number of attempts allowed for typing the UVM passphrase. For rules on the UVM passphrase, see " Appendix B - Rules for the Security Chip password and the UVM passphrase," on page 74.

Appendix D - Notices and Trademarks

This appendix gives legal notice for IBM products as well as trademark information.

Notices

This information was developed for products and services offered in the U.S.A.

IBM may not offer the products, services, or features discussed in this document in other countries. Consult your local IBM representative for information on the products and services currently available in your area. Any reference to an IBM product, program, or service is not intended to state or imply that only that IBM product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any IBM intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any non-IBM product, program, or service.

IBM may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

The following paragraph does not apply to the United Kingdom or any other country where such provisions are inconsistent with local law:
INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and / or changes in the product(s) and / or the program(s) described in this publication at any time without notice.

Licensees of this program who wish to have information about it for the purpose of enabling: (1) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact IBM Corporation, Department 80D, P.O. Box 12195, 3039 Cornwallis, Research Triangle Park, NC 27709, U.S.A. Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer

Agreement, IBM International Program License Agreement or any equivalent agreement between us.

Trademarks

IBM and SecureWay are trademarks of the IBM Corporation in the United States, other countries, or both.

Tivoli is a trademark of Tivoli Systems Inc. in the United States, other countries, or both.

Microsoft, Windows, and Windows NT are trademarks of Microsoft Corporation in the United States, other countries, or both.

Other company, product, and service names may be trademarks or service marks of others.