SafeNet Authentication Client (Linux)

User's Guide
Version 8.0 Revision A

Support

We work closely with our reseller partners to offer the best worldwide technical support services. Your reseller is the first line of support when you have questions about products and services. However, if you require additional assistance you can contact us directly at:

Telephone

You can call our help-desk 24 hours a day, seven days a week:

USA: 1-800-545-6608

International: +1-410-931-7520

Email

You can send a question to the technical support team at the following email address:

support@safenet-inc.com

Website

You can submit a question through the SafeNet Support portal:

http://c3.safenet-inc.com/secure.asp

Additional Documentation

We recommend reading the following SafeNet Token publication:

- SafeNet Authentication Client (Linux) 8.0 Administrator's Guide
- SafeNet Authentication Client (Linux) 8.0 User's Guide
- SafeNet Authentication Client (Linux) 8.0 ReadMe

Table of Contents

Chapter 1

Introduction

SafeNet Authentication Client enables token operations and the implementation of token based PKI solutions.

In this chapter:

- Overview
- New Features

Overview

Public Key Infrastructure (PKI) is a framework for creating a secure method for exchanging information based on public key cryptography, providing for trusted third-party vetting of, and vouching for, user identities. It is an arrangement that consists of a system of digital certificates, Certificate Authorities, and other registration authorities that verify and authenticate the validity of each party involved in an internet transaction.

SafeNet's Authentication Client enables integration with various security applications. It enables token security applications and third party applications to communicate with the token. These include token PKI solutions usingPKCS#11 or proprietary token applications

SafeNet Authentication Client enables the implementation of strong two-factor authentication using standard certificates as well as encryption and digital signing of data. Generic integration with PKCS#11 security interfaces enables out-of-the-box interoperability with a variety of security applications offering secure web access, PC and data security, secure email, and more. PKI keys and certificates can be created, stored, and used securely from within token hardware or software devices.

SafeNet Authentication Client can be deployed and updated using any standard software distribution system.

The SafeNet Authentication Client Tools application is installed by the SafeNet Authentication Client, providing easy-to-use configuration tools for users and administrators.

New Features

The following features were introduced in SafeNet Authentication Client 8.0 (for Linux):

- Support for eToken NG Flash 5.3/Support for eToken NG Flash 5.3 Anywhere (in PKI mode only).
- Support for upgrade from previous version.

Chapter 2

SafeNet Authentication Client User Interface

This section describes how to find your way around the SafeNet Authentication Client user interface.

In this chapter:

Overview of SafeNet Authentication Client User Interface

Administrators use SafeNet Authentication Client Tools to set token policies. Users use Tools to perform basic token management functions, such as changing passwords and viewing certificates on the tokens. In addition, Tools provides users and administrators with a quick and easy way to transfer digital certificates and keys between a computer and a token.

Tools includes an initialization feature allowing administrators to initialize tokens according to specific organizational requirements or security modes, and a password quality feature which sets parameters to calculate a token password quality rating.

CAUTION:

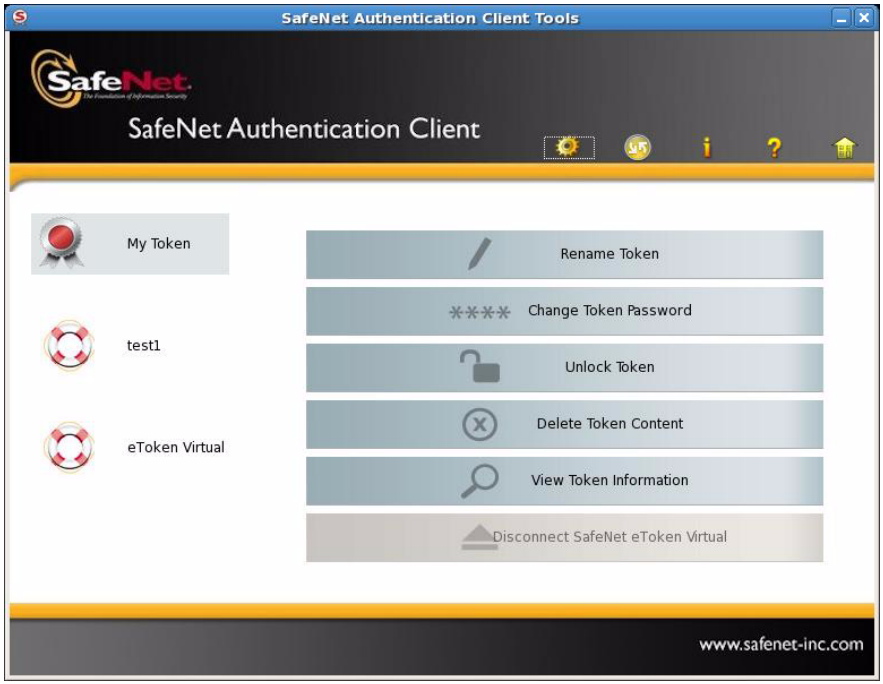
Do not remove the token from the USB port during an operation. This may cause corruption of data on the token.

Tools provides information about the token, including its identification and capabilities. It has access to information stored on the token such as keys and certificates, and enables management of content, such as password profiles.

To launch the application, do one of the following:

- Right-click the application tray icon  and select **Tools** from the menu.
- Double-click the application tray icon
- From Linux desktop select **Applications > SafeNet > SafeNet Authentication Client > SafeNet Authentication Client Tools**.

The SafeNet Authentication Client Tools window opens.


SafeNet Authentication Client Tools
SafeNet
SafeNet Authentication Client
My Token
test1
eToken Virtual
Rename Token
Change Token Password
Unlock Token
Delete Token Content
View Token Information
Disconnect SafeNet eToken Virtual
www.safenet-inc.com

SafeNet Authentication Client Tray Icon

The SafeNet Authentication Client tray icon gives you quick access to many of the functions in the application.

Launching the Tray Menu

To access the tray menu:

- Click the application tray icon . The tray menu opens.

Tray Icon Menu

The following functions can be accessed quickly from the tray icon menu:

- **Tools**: launches SafeNet Authentication Client Tools.
- **Generate OTP:** generates OTP for SafeNet eToken Virtual. This function is available only if SafeNet eToken Virtual is configured to support this function.
- **Delete Token Content:** removes the deletable data from the token.
- **Change Token Password**: changes the token password.
- **Tokens:** provides the option to select the active token when more than one is inserted.
- **About:** displays product information
- **Hide:** hides the icon

Hiding and Unhiding the Tray Icon

To hide the tray Icon:

- Click the application tray icon and select **Hide**.

To unhide the tray menu:

Do one of the following:

- Remove and re-insert the token
- Re-boot the computer

SafeNet Authentication Client Tools Main Screen

Tools includes two viewing options:

- **Simple View:** to perform basic and common tasks. See *Simple View* on page 9.
- **Advanced View:** for complete control over the SafeNet Authentication Client and the inserted tokens.
  See *Advanced View* on page 12.

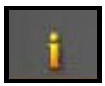
Each view displays two panes:

- The left pane indicates which token (Simple View) or which object (Advanced View) is to be managed.
- The right pane enables the user to perform specific actions to the selected token or object.

A toolbar at the top of the window enables certain actions to be initiated in both views.

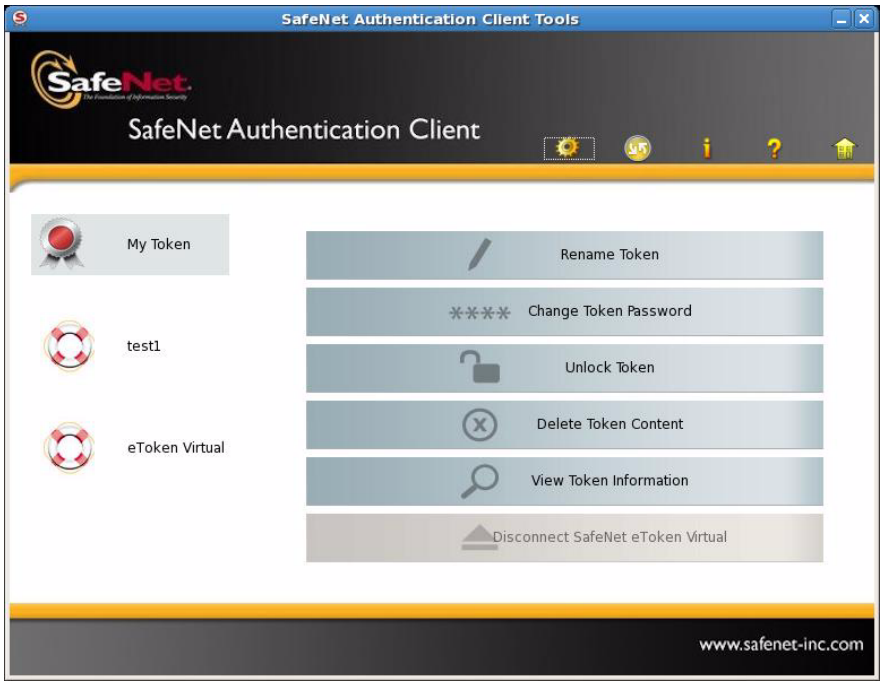
SafeNet Authentication Client Tools Main Screen Toolbar

The main screen toolbar is displayed in both Simple and Advanced View. The toolbar contains the following icons:

Icon	Action
	**Advanced View** – switches from the simple to the advanced view
	**Simple View** - switches from the advanced to the simple view
	**Refresh** – refreshes the data for all connected tokens
	**About** – displays product version information
	**Help** – launches the help
	**SafeNet Home** - opens the SafeNet's website

Simple View

The SafeNet Authentication Client Tools is launched in Simple View.



When a token is inserted or SafeNet eToken Virtual is present, a specific icon representing the inserted token is displayed in the left pane.

Each token has a name displayed to the right of the icon. *My Token* is the default name if no name has been assigned to the token.

The selected token is marked by a shaded rectangle in the left pane.

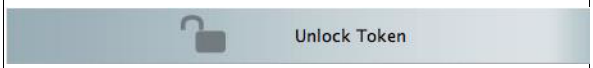
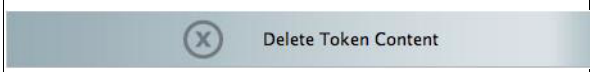
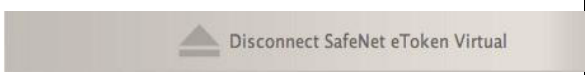
Authenticator Icons

The icon indicates the type of authenticator attached.

Icon	Type
	eToken PRO, SafeNet eToken Virtual, eToken NG Flash, eToken NG Flash Anywhere
	eToken PRO Anywhere
	SafeNet eToken Rescue
	eToken NG-OTP
	Reader
	eToken PRO Smartcard
	Broken token
	Unknown token

Simple View Functions

In the right pane, you can select any of the enabled buttons to perform the action described.

Function	Button
Rename Token - sets the token name.	
Change Token Password – changes the token password.	
Unlock Token – resets the token password via a challenge response mechanism. Enabled only when an administrator password has been initialized on the token.	
Delete Token Content - removes deletable data from the token.	
View Token Information – provides detailed information about the token.	
Disconnect SafeNet eToken Virtual – disconnects the SafeNet eToken Virtual or SafeNet eToken Rescue, with an option for deleting it.	

Advanced View

The Advanced View provides additional token management functions.

To see the advanced view, click the **Advanced View** icon  in the Simple View.

The left pane provides a tree view of the different objects to be managed. The tree expands to show objects of inserted tokens.

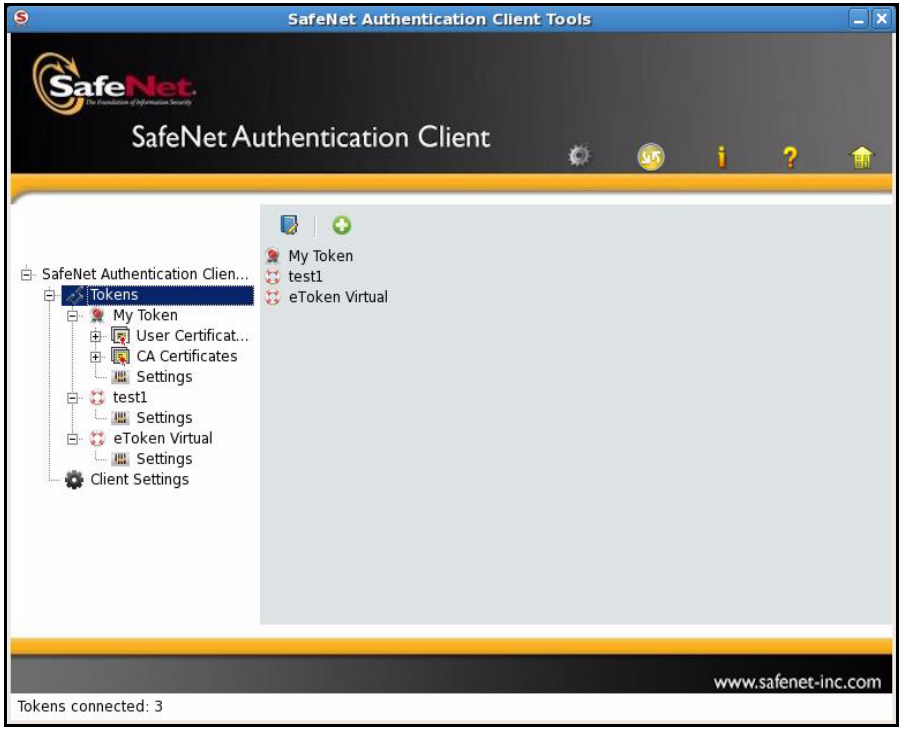
When you select an object, the relevant functions are available by clicking on the icons in the right pane, or by right clicking on the object and selecting the required function from the menu.

Advanced View Functions

You can access the advanced functions by selecting the required object from the left pane in the Tools Advanced View window.

Tokens Node

When you select the Tokens node, the list of attached tokens is displayed in the right pane.

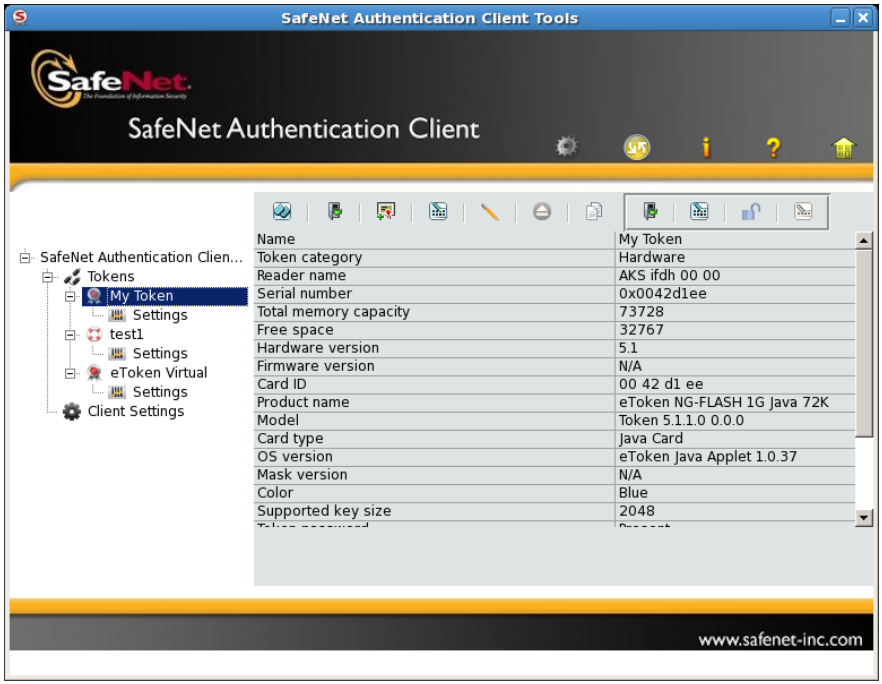


The following functions are available.

Function	Icon	Right-Click Menu Item
Reader Settings See *Reader Settings* on page 49		Reader Settings
Connect SafeNet eToken Virtual See *Overview of SafeNet eToken Virtual and SafeNet eToken Rescue* on page 52		Connect SafeNet eToken Virtual

Attached Tokens

The names of the tokens are displayed in the left pane. When you select a token, information about the token is displayed in the right pane and the name of the token reader is displayed in the tool-tip.



The following user functions are available.

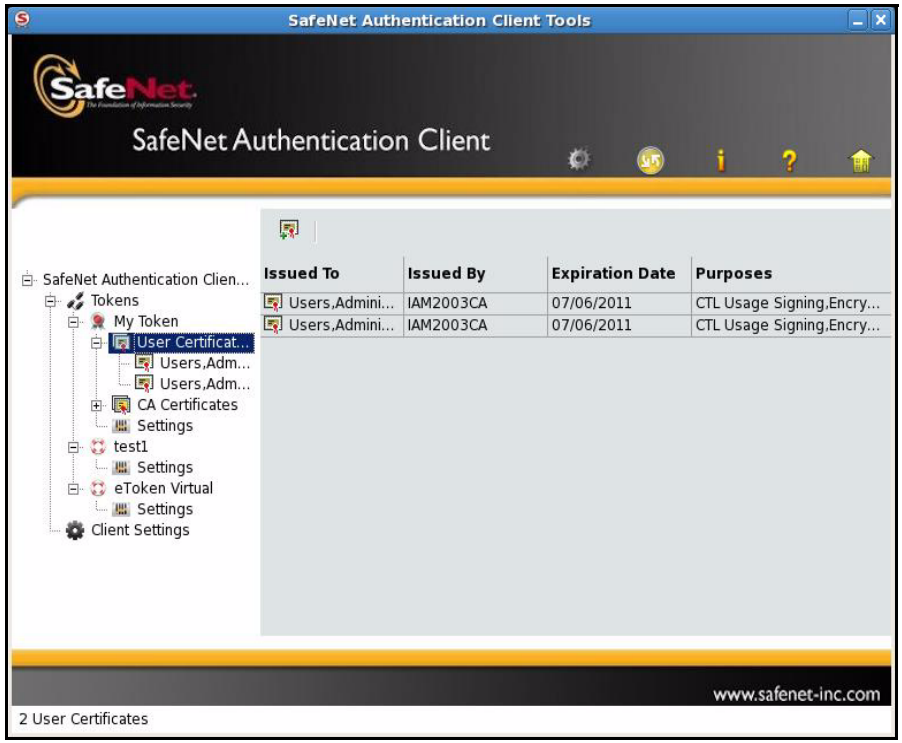
User Function	Icon	Right-Click Menu Item
Initialize Token See *Token Initialization* on page 21		Initialize
User Logon to Token See *Logging On to a Token as a User* on page 33		Log on
Import Certificate See *Importing a Certificate onto a Token* on page 34		Import Certificate
Change Password See *Changing the Token Password* on on page 39.		Change Password
Rename Token See *Renaming a Token* on on page 41.		Rename
Disconnect SafeNet eToken Virtual. See *Disconnecting SafeNet eToken Virtual or SafeNet eToken Rescue* on on page 53		Disconnect
Copy to Clipboard See *Copying Token Information to the Clipboard* on page 41		*Not available*

Some functions are available only if an administrator password has been set for the token. The administrator icons are located on the right of the window, enclosed within a border:

Administrator Function	Icon	Right-Click Menu Item
Log On as Administrator See *Logging On to a Token as an Administrator* on page 34.		Log On as Administrator
Change Administrator Password See *Changing the Administrator Password* on page 42.		Change Administrator Password
Unlock Token See *Unlocking a Token using Challenge Response* on page 45.		Unlock
Set Token Password (is activated only when you have logged on to the token with an administrator password) See *Unlocking a Token Using Set Token Password* on page 44.		Set Token Password

User Certificates

If the token contains certificates, a *User Certificates* node is displayed in the left pane under the token. Information about the certificates on the token is displayed in the right pane.

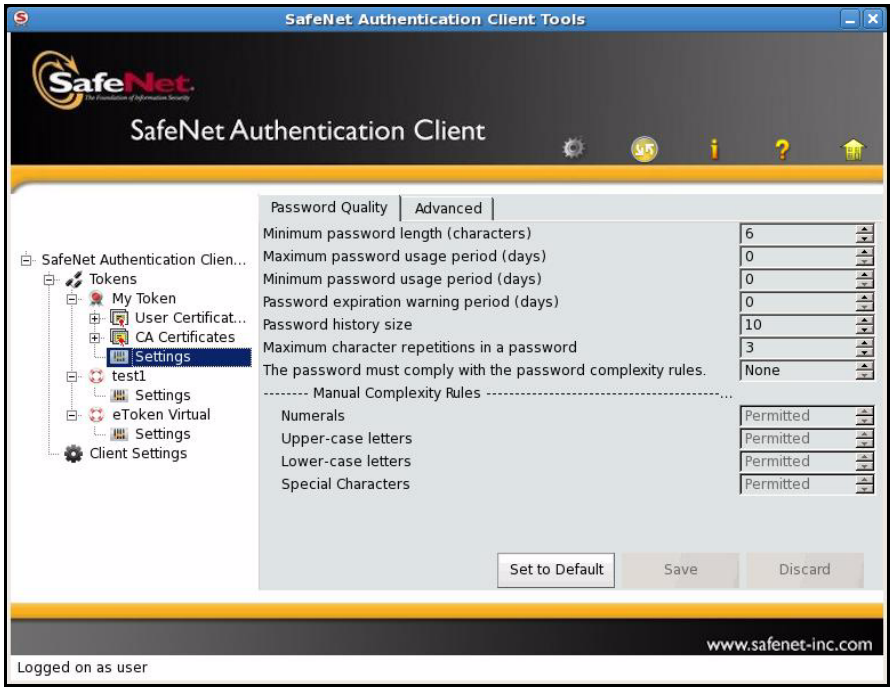


The following functions are available:

User Function	Icon	Right-Click Menu Item
Import Certificate See *Importing a Certificate onto a Token* on page 34		Import Certificate
Export Certificate See *Exporting a Certificate from a Token* on page 37		Export Certificate
Delete Certificate See *Deleting a Certificate* on page 38		Delete Certificate

Settings

Each attached token has a *Settings* window.



The settings window contains two tabs:

- Password Quality (See *Setting Password Quality* on page 58)
- Advanced (See *Setting Private Data Caching* on page 60 and *Setting RSA Key Secondary Authentication* on page 62)

SafeNet Authentication Client Settings

The client settings will affect all tokens that will be initialized after the settings have been configured.

The *SafeNet Authentication Client Settings* window contains two tabs, as in the *Settings* window:

- Password Quality
- Advanced

See *SafeNet Authentication Client Settings* on page 65.

Chapter 3

Token Initialization

Token initialization restores a token to its initial state, removing all objects stored on the token since manufacture, frees up memory, and resets the token password.

Typically, initialization is carried out on a token when an employee leaves the company, enabling the token to be issued to another employee.

Note:
You cannot initialize SafeNet eToken Virtual with SafeNet Authentication Client.

In this chapter:

Overview of Token Initialization

The token initialization option restores a token to its initial state. It removes all objects stored on the token since manufacture, frees up memory, and resets the token password, allowing administrators to initialize the token according to specific organizational requirements or security modes.

Initializing a token is useful, for example, after an employee has left a company. It completely removes the employee's individual certificates and other personal data from the token, preparing it to be used by another employee.

The following data is initialized:

- Token Name
- Token Password
- Administrator Password (optional)
- Login retries before token is locked (for token and administrator passwords)
- Token Password must be changed on first logon
- Initialization key

Using customizable parameters, you can select specific parameters that will apply to certain tokens. These parameters may be necessary if you wish to use the token for specific applications or if you require a specific user or administrator password on all the tokens in the organization.

Initializing a Token

To initialize a token:

1. Click **Initialize Token** on the toolbar, or right-click the token name in the left pane and select **Initialize** from the shortcut menu.

   The *Initialize Token* window opens.

2. Enter a name for the token in the *Token Name* field. If no name is entered, the default name, "My Token", is applied**.**
3. Select **Set Token Password** to initialize the token with a token password. Otherwise, the token is initialized without a token password, and it will not be usable for SafeNet (eToken) applications.

4. If **Set Token Password** is selected, enter a new token password in the *Set Token Password* and *Confirm* fields.

   Note:
   The default password for a new token is 1234567890. If the user uses the default password during initialization, and default password quality requirements are used, the user must select the *Token Password must be changed at first logon* option. Otherwise the initialization will fail, as the default password will not meet default password quality requirements (See *Setting Password Quality* on page 58). If the *Token Password must be changed at first logon* field is selected, the initialization will succeed and the user will be prompted to set a new token password when next logging on with the token. The user will then be required to set a password meeting password quality requirements, as configured in the settings window (See *Setting Password Quality* on page 58).

5. To initialize an administrator password, select **Set Administrator Password** and enter a password in the *Set Administrator Password* and *Confirm* fields. (Minimum password length is 4 characters.)

   Note:
   Creating an administrator password enables certain functions to be performed on the token, such as resetting a token password on a locked token.

6. In the *Logon retries before token is locked* field, enter a value between 1 and 15. This counter specifies the number of times the user or administrator can attempt to log on to the token with an incorrect password before the token is locked. The default number of incorrect logon attempts is 15.
7. If required, select **Token Password must be changed on first logon**.

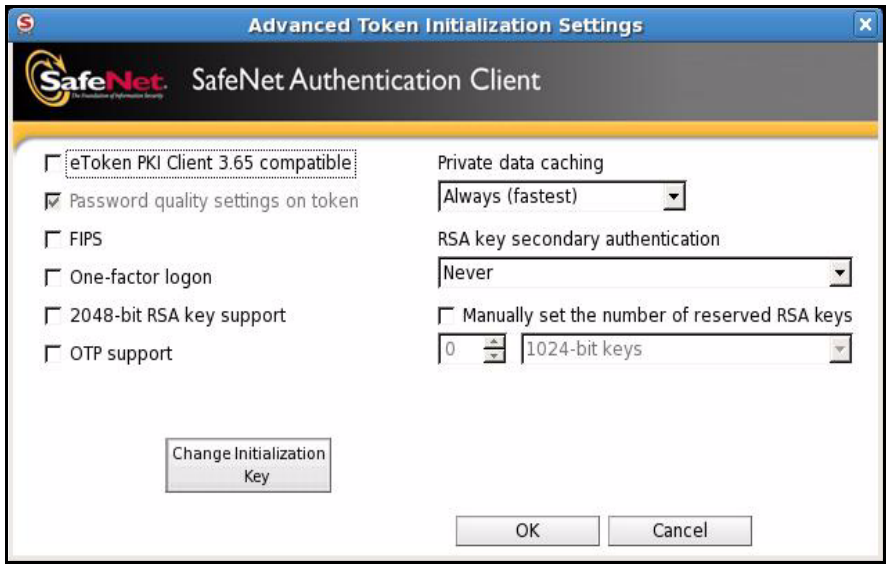
   This is selected by default.
8. If you want to configure advanced settings, continue from the next section (see *Configuring Advanced Initialization Settings*).
9. Click **Start**.

   When the initialization process is complete, a confirmation message is displayed.

Configuring Advanced Initialization Settings

To configure advanced settings:

1. In the *Initialize Token* window click **Advanced**.
   The *Advanced Token Initialization Settings* window opens.



2. Complete the fields as follows:

Field	Description
eToken PKI Client 3.65 compatible	Select to maintain compatibility with token RTE 3.65.
Password quality settings on token	Select to keep password policy on the token device. (This is enabled only when the 3.65 compatible is selected).
FIPS	Select to enable FIPS support. FIPS (Federal Information Processing Standards) is a US government approved set of standards designed to improve the utilization and management of computer and related telecommunication systems. Any token with applet 1.1.25 or above supports FIPS.

Field (Continued)	Description (Continued)
One-factor logon	Default: disabled. When one factor logon is enabled, only the presence of the token is required to log on to applications. A password is not required. **Note:** For security reasons, one-factor logon is not applied to SafeNet Authentication Client Tools.
2048-bit RSA key support	Select to enable 2048-bit RSA key support (on compatible token).
OTP support	Select to enable OTP support (on compatible token).
Private data caching	In SafeNet Authentication Client, public information stored on the token is cached to enhance performance. This option defines when private information (excluding private keys on the physical token) can be cached outside the token. Select one of the following options: ■ **Always (fastest):** always caches private information in the application memory. This enables fast performance, as certain information is cached on the host machine. However, this option is less secure than if no cache is allowed. ■ **While user is logged on:** caches private data outside the token as long as the user is logged on to the token. Once the user logs out, all the private data in the cache is erased. ■ **Never:** does not cache private data.

Field (Continued)	Description (Continued)
RSA key secondary authentication	An authentication password may be set for an RSA key. If this option is used, then in addition to having the token and knowing the token's password, accessing the RSA key requires knowing the password set for that particular key. This option defines the policy for using this secondary authentication of RSA keys. ■ **Always:** every time an RSA key is generated, you are prompted to enter a secondary password for accessing this key. Clicking **OK** generates the key and uses the entered password as the secondary RSA password for that key. Clicking **Cancel** causes key generation to fail. ■ **Always prompt user:** every time an RSA key is generated, a secondary password for accessing this key is requested. However, the user can choose to dismiss the prompt (by clicking **Cancel**), and key generation will continue without using a secondary password for the generated RSA key. ■ **Prompt on application request:** this enables applications that use secondary authentication for RSA keys to make use of this feature on the token (when creating the key in Crypto API with a user protected flag). ■ **Never:** secondary passwords are not created for any RSA key and the authentication method uses only the token password to access the key.
Manually set the number of reserved RSA keys	Set the number of reserved RSA keys. This ensures that there will always be memory available for this number of keys.
Change Initialization Key	The initialization key protects against accidental initialization and requires a separate password to be entered before initialization can occur.

3. If you want to change the token initialization key continue from the next section (see *Changing the Token Initialization Key* on page 28), else, click **OK** to return to the *Initialize Token* window.
4. Click **Start**.

   When the initialization process is complete, a confirmation message is displayed.

Changing the Token Initialization Key

Two initialization keys can be provided during the initialization process. One is the current initialization key, it is required so the initialization can be done. The Default Initialization and Specified Initialization Key refer to current initialization key. Second is the Change Initialization key which is the new value of the initialization key that can be set during initialization.

To change the Token Initialization Key:

1. In the *Advanced Token Initialization Settings* window, click **Change Initialization Key**.
   The *Token Initialization Key* window opens.

2. Complete the fields as follows:

Field	Description
Use default initialization Key	Select to use factory-set default.
Use this initialization Key	Enter the initialization key to be used.
Change the key for the next initialization to:	Set the new value of the 2nd initialization key for any of the 3 options specified. ■ **Default:** Revert to default. ■ **Random:** If selected, it will never be possible to re-initialize the token. ■ **This Value:** Enter and confirm a a value for initialization key.

3. Click **OK** to return to the *Advanced Token Initialization Settings* window, then click **OK** again to return to the *Initialize Token* window.
4. Click **Start**.

   When the initialization process is complete, a confirmation message is displayed.

Chapter 4

Token Management

The SafeNet Authentication Client Tools application and the SafeNet Authentication Client tray menu enable you to configure the options that control the use of token devices.

In this chapter:

Selecting the Active Token

If more than one token is attached, you must select which device you want to work with.

Note:
The token selected here is relevant only for tray menu functions.

To select the active token:

1. Click the application tray icon  .
2. Select **Tokens.**
   A list of inserted tokens is displayed.

3. Select the required token.

Logging On to a Token

You can log on to a token as a user or as an administrator.

An administrator has limited permissions on a token. No changes to any user information may be made, nor may the user's security be affected. The administrator's functions are restricted to *Change Administrator Password*, *Set Token Password*, *Unlocking Token using Challenge Response* and *Change Password Quality Settings* that are stored on the token.

Logging On to a Token as a User

To log on as a user:

1. Open **SafeNet Authentication Client Tools**.
2. Click the **Advanced View** icon  .
   The *Advanced View* window opens.
3. Do one of the following:
   - Select the required token in the left pane and click the **Log On to Token** icon:
     
   - Right-click the required token in the left pane and select **Log On** from the shortcut menu.

   The **Log on** window opens.

4. Enter the token password in the *Password* field and click **OK**.
   The user is logged on.

Logging On to a Token as an Administrator

To log on as an administrator:

1. Open **SafeNet Authentication Client Tools**.
2. Click the **Advanced View** icon.
3. Do one of the following:
   - Select the required token in the left pane and click the **Log on as Administrator** icon:

   - Right-click the required token in the left pane and select **Log on as Administrator** from the shortcut menu.

   The *Log on* dialog box opens.
4. Enter the administrator password in the *Password* field and click **OK**.

   The user is logged on as the Administrator.

Importing a Certificate onto a Token

The following certificate types are supported:

- .pfx
- .p12
- .cer

Note:
In Linux it is possible to export only to *.cer format.

If a PFX file is selected, the private key and corresponding certificate will be imported to the token. You will be asked if CA certificates should be imported to the token, and you will be asked to enter the password (if it exists) protecting the PFX file.

In the case of a CER file (which contains only X.509 certificates), the program checks if a private key exists on the token. If the private key is found, the certificate is stored with it. If no private key is found, then you are asked if you want to store the certificate as a CA certificate.

Note:
It is not possible to import a certificate onto SafeNet eToken Rescue.

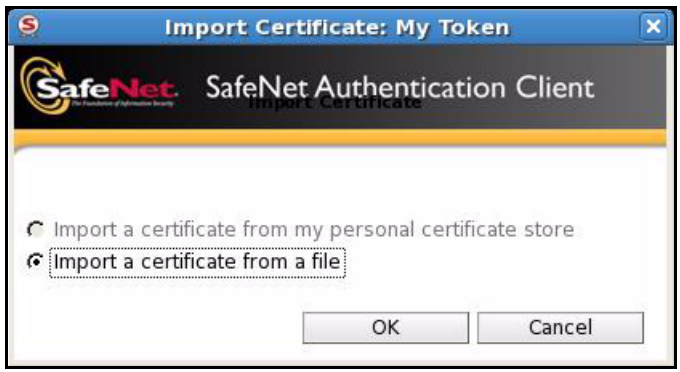
To import a certificate:

1. Open **SafeNet Authentication Client Tools**.
2. Click the **Advanced View** icon.
3. In the left pane of the *Advanced View* window, select the required token.
4. Do one of the following:
   - In the left pane of the Advanced View window, select the required token and click the **Import Certificate** icon

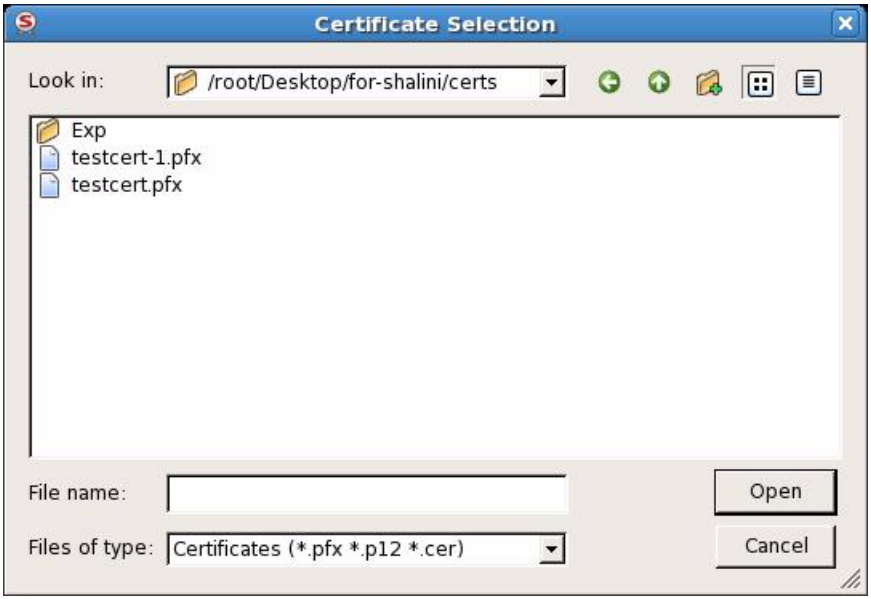
   - In the left pane of the Advanced View window, right click the required token and select **Import Certificate** from the menu.

   The *Import Certificate* window opens.



5. Select the following
   - **Import a certificate from a file**
6. Click **OK**.

The *Choose a certificate* dialog box opens.



7. Select the certificate file to import and click **Open.**
   If the certificate requires a password, the *Password* dialog box opens.

8. Enter the certificate password.

A window opens asking if you want to store the CA certificates on the token.

9. Select **Yes** or **No**.
   All requested certificates are imported, and a confirmation message opens.

Exporting a Certificate from a Token

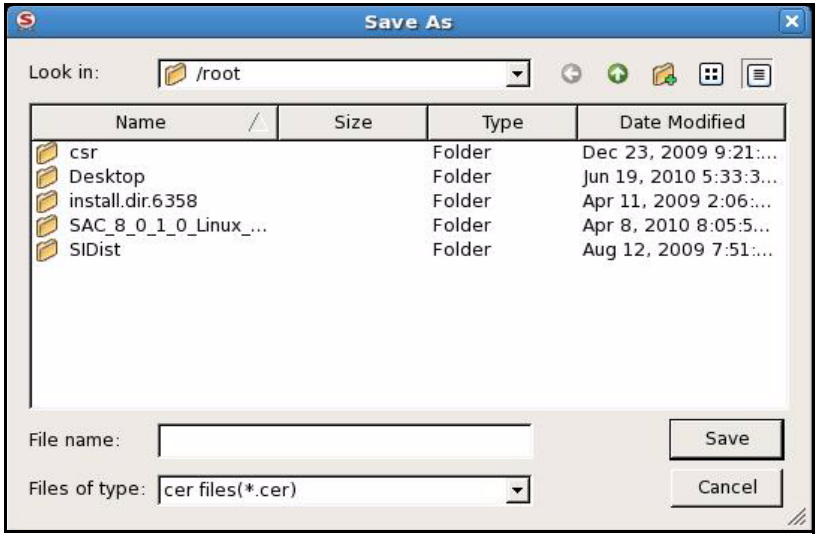
A physical token or SafeNet eToken Virtual exports only the certificate without its key.

Note:
In Linux it is possible to export only to *.cer format.

To export a certificate:

1. Open **SafeNet Authentication Client Tools**.
2. Click the **Advanced View** icon.
3. In the left pane of the *Advanced View* window, select the required certificate and click the **Export Certificate** icon.

The *Save As* window opens.



4. Select the location to store the certificate, enter a file name and click **Save**.

Note:
The certificate file must be DER encoded or Base64 (not PKCS #7).

Deleting a Certificate

You can remove a certificate from a token.

To delete a certificate from a Token:

1. Open **SafeNet Authentication Client Tools**.
2. Click the **Advanced View** icon.
3. Do one of the following:
   - In the left pane of the Advanced View window, expand the required token, select the required certificate and click the **Delete Certificate** icon.

- In the left pane of the Advanced View window, expand the required token, right-click the required certificate and select **Delete Certificate** from the shortcut menu.

The *Delete Certificate* window opens.

4. Do one of the following:
   - To cancel the deletion click **No**.
   - To delete the certificate click **Yes**.

Changing the Token Password

All the manufactured token devices are configured with the factory initial password, 1234567890. To ensure strong, two factor security, it is important for the user to change the token password to a private token password as soon as the new token is received.

When a token password has been changed, the new password is used for all token applications involving the token. It is the user's responsibility to remember the token password. Without it, the user cannot use the token.

Note:
The token password is an important security measure in safeguarding your company's private information. The best passwords are at least eight characters long and include upper and lower case letters, punctuation marks and numbers created in a random order. We recommend against using passwords that can be easily discovered, such as names or birth dates of family members.

To change the token password:

1. Open **SafeNet Authentication Client Tools**.
2. In the left pane of the *Tools* window, select the token to which the new password will be assigned.
3. Click **Change Password** in the right pane.

Tip:
You can change the token Password also by clicking on the application tray icon and selecting **Change Token Password**.

The *Change Password* window is displayed.

4. Enter the current token password in the *Current Token Password* field.
5. Enter the new token password in the *New Token Password* and *Confirm New Token Password* fields.

Note:
As you type a new password, the password quality indicator on the right displays a percentage score of how well the new password matches the password quality policy.

6. Click **OK**.

   The token password is changed.

Renaming a Token

You can change the token name.

To rename a token:

1. Open **SafeNet Authentication Client Tools**.
2. In the left pane of the *Tools* window, select the token to be renamed.
3. Click **Rename Token** in the right pane.
4. If prompted, enter the token password.
   The *Rename Token* window opens.

5. Enter the new name in the *New Token name* field.
6. Click **OK**.
   The new token name is displayed in the *Tools* window.

Copying Token Information to the Clipboard

To copy and paste token information:

1. Do one of the following:
   - In the *Token Info* window click **Copy**.

- In Advanced view, select the required token in the left pane and click the Copy to Clipboard icon:

2. Place the cursor in the target application and paste the information.

Changing the Administrator Password

Setting an administrator password on the token enables the administrator to unlock a locked token by resetting a new token password if it is forgotten. We recommend initializing all tokens with an administrator password.

Password Quality feature enables the administrator to set certain complexity and usage requirements for the password.

See *Setting Password Quality* on page 58.

Note:
Password is an important security measure in safeguarding your company's private information. The best passwords are at least eight characters long and include upper and lower case letters, punctuation marks and numbers created in a random order. We recommend against using passwords that can be easily discovered, such as names or birth dates of family members.

To change the Administrator Password:

1. Open **SafeNet Authentication Client Tools**.
2. To change the administrator password, do one of the following:

- In the left pane of the *Tools* window, select the required token and click the *Change Administrator Password* icon:

  The *Change Administrator Password* icon is located at the right of the window, enclosed within a border:

- In the left pane of the *Tools* window, right-click the required token and select **Change Administrator Password** from the menu.

The *Change Administrator Password* window opens.

3. Enter the current administrator password in the *Current Password* field.

Note:
If an incorrect password is entered more than a specified number of times, the token will be locked.

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4. Enter the new administrator password in the *New Password* and *Confirm Password* fields.
5. Click **OK**.

   The token's administrator password is changed.

Unlocking a Token

If you enter an incorrect password more than a specified number of times, the token hardware device, SafeNet eToken Virtual or SafeNet eToken Rescue will be locked.

You can unlock the token only if an administrator password was set during initialization.

The unlock feature is available for token hardware devices and SafeNet eToken Virtual. This feature is not available for SafeNet eToken Rescue.

CAUTION:

The number of times that SafeNet eToken Virtual can be unlocked can be limited to a specified number. If this number is exceeded, the SafeNet eToken Virtual becomes unusable and must be replaced.

If the administrator has access to the user's computer, the token may be unlocked using the *Set Token Password* feature (see *Unlocking a Token Using Set Token Password* on page 44).

When the administrator is located remotely, for example when an employee is out of the office, a Challenge Response authentication method can be employed to unlock the token (see *Unlocking a Token using Challenge Response* on page 45). With this method, the user sends the administrator the Challenge Code supplied by Tools, and then enters the Response Code provided by the administrator. The user then enters a new password and the token is unlocked.

Unlocking a Token Using Set Token Password

To unlock a token using Set Token Password:

1. Log on to the token as an administrator (see *Logging On to a Token as an Administrator* on page 34).
2. Do one of the following:
   - Click the **Set Token Password** icon:

- Right-click the token in the left pane and select **Set Token Password** from the shortcut menu.

The *Set Password* window opens.

3. Enter a new password in the *New Password* and *Confirm Password* fields.
   The *Logon retries before token is locked* displays the maximum login failures set by the administrator during initialization.
4. Click **OK**.
   The token is unlocked.
   You can now log on as a user with the new password.

Unlocking a Token using Challenge Response

To unlock a token using Challenge Response:

1. Open **SafeNet Authentication Client Tools**.
2. In the left pane of the *Tools* window, select the token to be unlocked.
3. Click **Unlock Token** in the right pane.
   The Unlock Token window is displayed.

4. Contact the administrator and provide the Challenge Code.

Note:
To copy the challenge code to the clipboard, click on the **Copy challenge code to clipboard** icon:

CAUTION:

After providing the Challenge Code to the administrator, **do not** undertake any activities that use the token until after receiving the Response Code and completing the unlocking procedure.
If any other token activity occurs during this process, it will affect the context of the Challenge Response process and invalidate the procedure.

The administrator provides the Response Code to be entered.

Note:
The creation of response code depends on the backend application being used by the organization. System administrators should refer to the relevant documentation for details on how to generate the response code.

5. Select **Token Password must change on first logon** if the new password is known to others and must be changed.
6. Enter a new token password in the *Password* and *Confirm* fields.
7. Click **OK**.

   The token is unlocked and a confirmation message is displayed.

Deleting Token Content

The *Delete Token Content* function enables you to delete all deletable objects on your token. Objects types include data objects (profiles), keys and certificates (CA or user).

Non-deletable objects will not be removed. Non-deletable objects are created when the administrator configures the object attributes.

The *Delete Token Content* function leaves the data structure on your token intact. It is less wide-reaching than the *Initialize* function which restores a token to its initial state, removing all objects stored on the token since manufacture and resets the token password (See Chapter 3 Token Initialization on page 21).

To Delete Token Content:

1. Click the application tray icon and select **Delete Token Content** from the menu**.**
   The *Delete Token Content* window opens, prompting you to confirm the delete action.

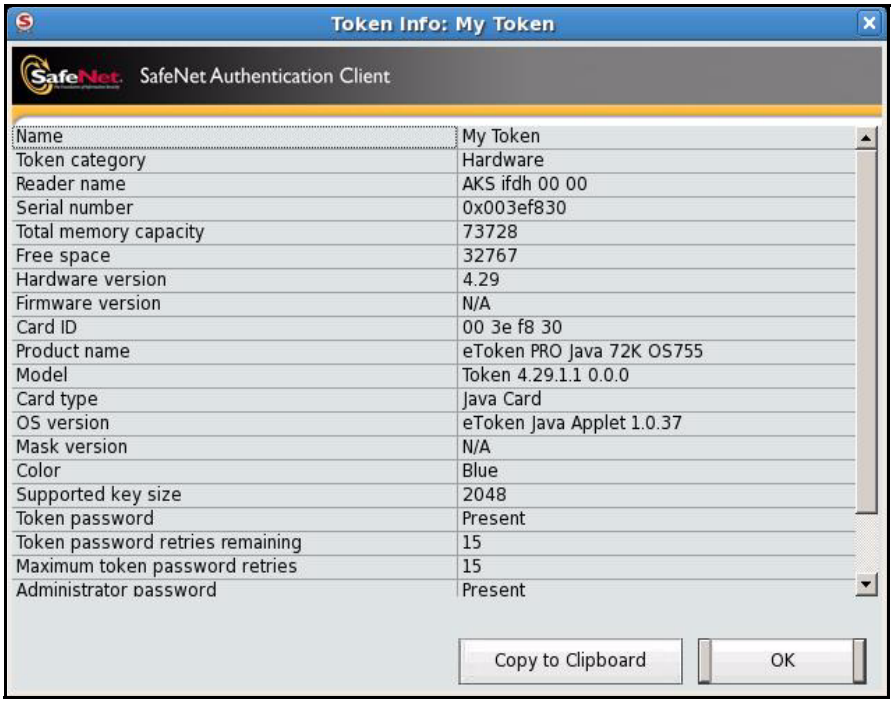
2. To continue with the delete process, click **OK,** else click **Cancel.**
   The *Log On* window opens.
3. Enter the token password and click **OK**.
   The *Delete Token Content* window opens, confirming that the delete process has been successful.
4. Click **OK** to finish.

Viewing Token Information

To view token information:

1. Open **SafeNet Authentication Client Tools**.
2. In the left pane of the *Tools* window, select the required token.
3. Click **View Token Information** in the right pane.

The Token Info window opens.



Reader Settings

During SafeNet Authentication Client installation, four virtual smart card and two SafeNet eToken Virtual readers are installed.

The number of available hardware and software readers is configured by your system administrator.

When a token is inserted into a USB port, or SafeNet eToken Virtual is added, the effect is the same as inserting a smart card into one of the readers.

To display the number of readers:

1. Open **SafeNet Authentication Client Tools**.
2. Click the **Advanced View** icon.
3. Do one of the following:

- Click the **Reader Settings** icon 
- Right-click the *Tokens* node and select **Reader Settings** from the shortcut menu

The *Reader Settings* window opens.

> In Linux, the smart card service (pcscd) loads the smartcard driver dynamically. The number of virtual readers available for token is determined by the **`pcscSlots`** property value in the **`eToken.conf`** file. For more details, see *SafeNet Authentication Client (Linux) Administrator's Guide*.

4. Set the required number of hardware or software readers in the appropriate field.
   The default number of available readers are:
   - Hardware readers: 4 (On Linux platform this is disabled, and shows how many tokens can be connected, determined by the pcscslots property value.)
   - Software readers: 2
5. Click **OK** to close the window.
6. Restart *Tools* to make the changes effective.

Chapter 5

SafeNet eToken Virtual

SafeNet Authentication Client supports the SafeNet eToken Virtual line of products. This includes SafeNet eToken Virtual and SafeNet eToken Rescue. These are stored as files on your computer or on a mass storage device.

Tip:
To obtain SafeNet eToken Rescue or SafeNet eToken Virtual, contact your system administrator.

In this chapter:

Overview of SafeNet eToken Virtual and SafeNet eToken Rescue

SafeNet Authentication Client supports software tokens.

The following types of software tokens are available:

- **SafeNet eToken Rescue:** provides a solution when a staff member loses or damages a token when away from the office. SafeNet eToken Rescue is a read-only token. You cannot import certificates. It operates for a limited period of time.
- **SafeNet eToken Virtual:** performs all the functions of an eToken NG-OTP. It supports OTP generation (if so configured).
- SafeNet eToken Virtual is "locked" to a particular computer or storage device (such as a flash drive). This means that it can be used only on the computer or storage device where it was enrolled.
- **SafeNet eToken Virtual Temp**: identical to SafeNet eToken Virtual, but contains certificates which become invalid after a specified time period.

Using SafeNet eToken Virtual/SafeNet eToken Rescue to Replace a Lost Token

To use SafeNet eToken Virtual/SafeNet eToken Rescue to replace a lost token, the SafeNet eToken Virtual/SafeNet eToken Rescue must be enrolled using the Token TMS Client.

For more details, refer to the Token TMS Client documentation.

Connecting SafeNet eToken Virtual or SafeNet eToken Rescue

To connect SafeNet eToken Virtual or SafeNet eToken Rescue:

1. Open **SafeNet Authentication Client Tools**.
2. Click the **Advanced View** icon.
3. Select **Tokens** in the left pane.
4. Click the **Connect SafeNet eToken Virtual** icon  or right-click **Tokens** and select **Connect SafeNet eToken Virtual** from the shortcut menu.
5. Navigate to the SafeNet eToken Virtual file (**.etvp*) or SafeNet eToken Rescue file (**.etv)* and click it. The SafeNet eToken Virtual/SafeNet eToken Rescue file is added.
6. Click OK.

Disconnecting SafeNet eToken Virtual or SafeNet eToken Rescue

When the SafeNet eToken Virtual is no longer necessary, disconnect it from its attached reader.

To disconnect SafeNet eToken Virtual or SafeNet eToken Rescue:

1. Open **SafeNet Authentication Client Tools**.
2. Click the **Advanced View** icon.
3. Select the SafeNet eToken Virtual or SafeNet eToken Rescue to be disconnected and do one of the following:
   - In the left pane, right-click and select **Disconnect**.
   - In the right pane, click **Disconnect SafeNet eToken Virtual** (or **Disconnect SafeNet eToken Rescue**) icon.
     The Disconnect SafeNet eToken Virtual message is displayed.
4. Do one of the following:

- To keep the SafeNet eToken Virtual/SafeNet eToken Rescue file on the computer, click **Disconnect**; only the connection from the SafeNet eToken Virtual to the SafeNet Authentication Client is disconnected.
- To remove the SafeNet eToken Virtual/SafeNet eToken Rescue file from the computer, click **Delete**.

Note:
Disconnecting the SafeNet eToken Virtual/SafeNet eToken Rescue is applicable when the user is out of the office and may need to use the SafeNet eToken Virtual/SafeNet eToken Rescue on the road later. When the lost token is replaced, the SafeNet eToken Virtual/SafeNet eToken Rescue should be deleted from the computer.
After the SafeNet eToken Virtual/SafeNet eToken Rescue is deleted, it can be recreated only by reinstalling it.

Unlocking SafeNet eToken Virtual

Note:
The unlock function is supported only by SafeNet eToken Virtual (not SafeNet eToken Rescue).

If you enter an incorrect password more than a specified number of times, the SafeNet eToken Virtual will be locked. See *Unlocking a Token using Challenge Response* on page 45 or *Unlocking a Token Using Set Token Password* on page 44.

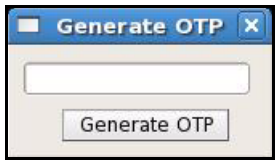
Note:
The number of times that SafeNet eToken Virtual can be unlocked can be limited to a specified number. If this number is exceeded, the SafeNet eToken Virtual becomes unusable.

Generating a One Time Password (OTP)

The Generate OTP function is available only if SafeNet eToken Virtual or SafeNet eToken Rescue, with the OTP feature activated, is stored on your computer.

To generate an OTP:

1. Click the application tray icon  . The **SafeNet Authentication Client** tray menu opens.
2. Select **Generate OTP**.
   The *Generate OTP* window opens.



3. Click **Generate OTP**.
   The *Log on* window opens.
4. Enter the token password.
   The generated OTP is displayed in the *Generate OTP* window.

Chapter 6

Token Settings

Configurations set in token settings determine behavior that applies to the specific token.

In this chapter:

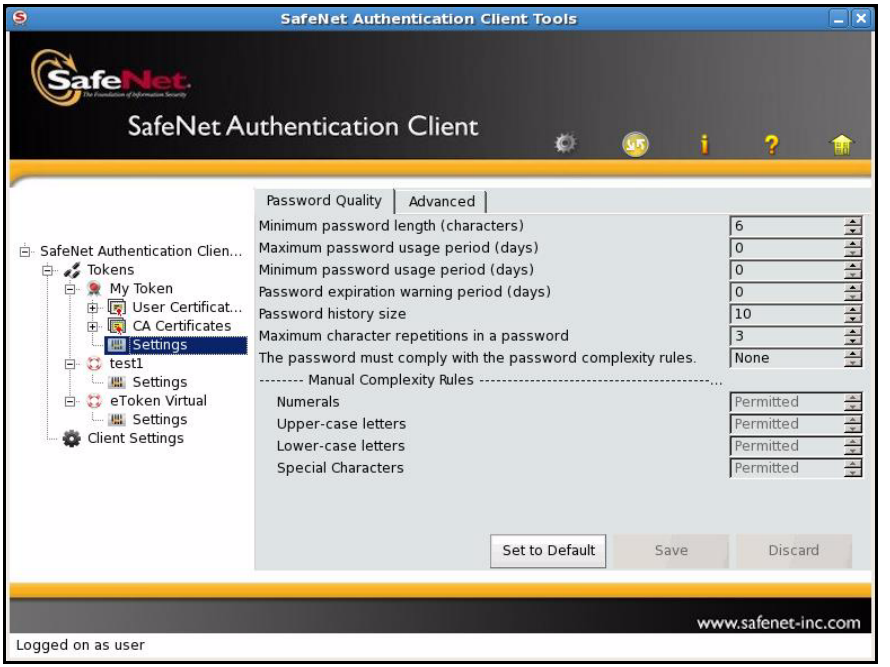
Setting Password Quality

Once password quality parameters are set, any future passwords are automatically checked against these parameters to determine the password's level of acceptability.

If the token was initialized in early PKI Client versions (RTE), no password policy is stored on the token.

To set password quality:

1. Open **SafeNet Authentication Client Tools**.
2. Click the **Advanced View** icon.
3. In the left pane of the *Advanced View* window, expand the required token and select **Settings**.
4. In the right pane select the **Password Quality** tab.



5. Enter the password quality parameters as follows:

Password Quality Parameter	Description
Minimum password length (characters)	Default: 6 characters
Maximum password usage period (days)	The maximum period before which the password must be changed. Default: 0 (none)
Minimum password usage period (days)	The minimum period before the password can be changed Default: 0 (none)
Password expiration warning period (days)	Defines the number of days before the password expires that a warning message is shown. Default: 0 (none)
Password history size	Defines how many previous passwords should not be repeated. Default: 10
Maximum character repetitions in a password	Defines number of times a character can be repeated in the password. Default: 3
The password must comply with the complexity rules	Determines if the complexity requirements are required in the token password. ■ **At least 3 rules:** Complexity requirements are enforced ■ **None:** Complexity requirements are not enforced ■ **Manual:** Complexity requirements, as set manually in the *Manual Complexity* settings, are enforced (Default)

Password Quality Parameter (Continued)	Description (Continued)
Manual Complexity Rules	For each of the character types (**Numerals, Upper-case letters, Lower-case letters and Special Characters**) select one of the following options: ■ **Permitted -** Can be included in the password, but is not mandatory (Default). ■ **Mandatory -** Must be included in the password. ■ **Forbidden -** Must not be included in the password.

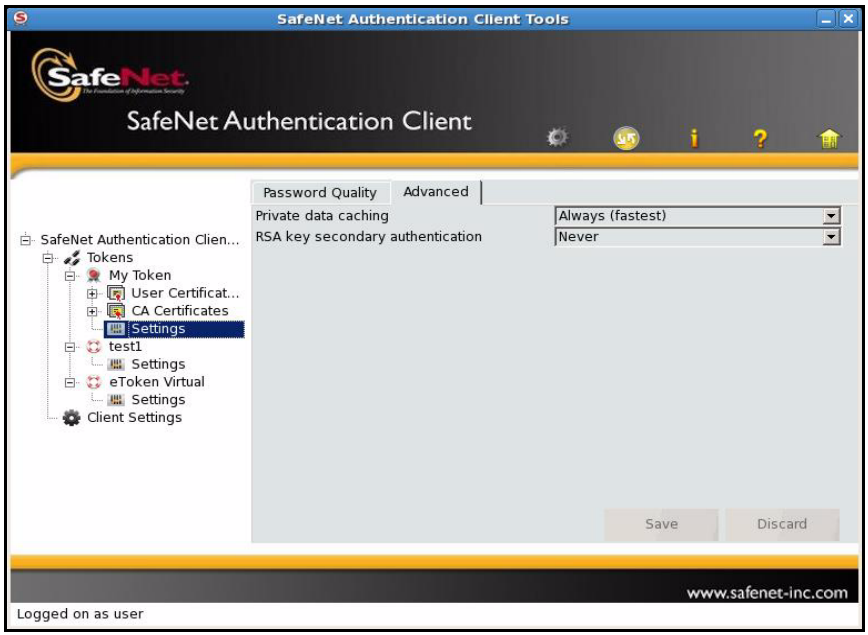
6. Do one of the following:
   - To save your changes click **Save**.
   - To ignore your changes click **Discard**.
   - To return to default settings click **Set to Default**.

Setting Private Data Caching

In SafeNet Authentication Client, public information stored on the token is cached to enhance performance. This option defines when private information (excluding private keys on the physical token) can be cached outside the token.

To set private data caching:

1. Open **SafeNet Authentication Client Tools**.
2. Click the **Advanced View** icon.
3. In the left pane of the *Advanced View* window, expand the required token and select **Settings**.
4. In the right pane select the **Advanced** tab.



5. In the *Private data caching* field select one of the following options:

Option	Description
Always (fastest)	Always caches private information in the application memory. This enables fast performance, as certain information is cached on the host machine. However, this option is less secure than if no cache is allowed.
While user is logged on	Caches private data outside the token as long as the user is logged on to the token. Once the user logs out, all the private data in the cache is erased.
Never	Does not cache private data.

6. Do one of the following:
   - To save your changes click **Save**.
   - To ignore your changes click **Discard**.

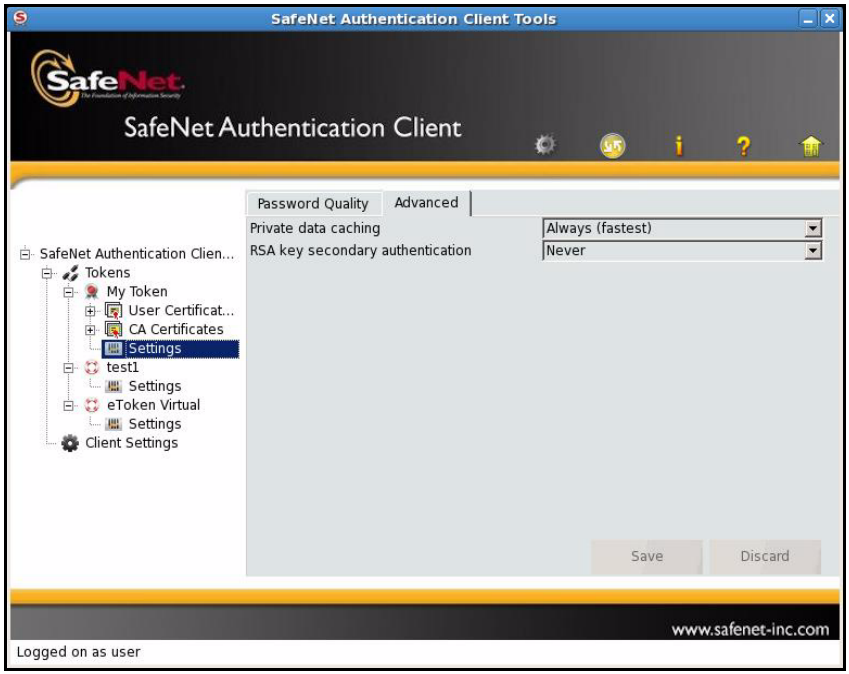
Setting RSA Key Secondary Authentication

An authentication password may be set for an RSA key. If this option is used, then in addition to having the token and knowing the token's password, accessing the RSA key requires knowing the password set for that particular key.

This option defines the policy for using this secondary authentication of RSA keys.

To set RSA key secondary authentication:

1. Open **SafeNet Authentication Client Tools**.
2. Click the **Advanced View** icon.
3. In the left pane of the *Advanced View* window, expand the required token and select **Settings**.
4. In the right pane select the **Advanced** tab.



5. In the *RSA key secondary authentication* field, select one of the following options:

Option	Description
Always	Every time an RSA key is generated, you are prompted to enter a secondary password for accessing this key. Clicking OK generates the key and uses the entered password as the secondary RSA password for that key. Clicking Cancel causes key generation to fail.
Always prompt user	Every time an RSA key is generated, a secondary password for accessing this key is requested. However, the user can choose to dismiss the prompt (by clicking Cancel), and key generation will continue without using a secondary password for the generated RSA key.
Prompt on application request	This enables applications that use secondary authentication for RSA keys to make use of this feature on the token (when creating the key in Crypto API with a user protected flag).
Never	Secondary passwords are not created for any RSA key and the authentication method uses only the token password to access the key.

6. Do one of the following:
   - To save your changes click **Save**.
   - To ignore your changes click **Discard**.

Chapter 7

SafeNet Authentication Client Settings

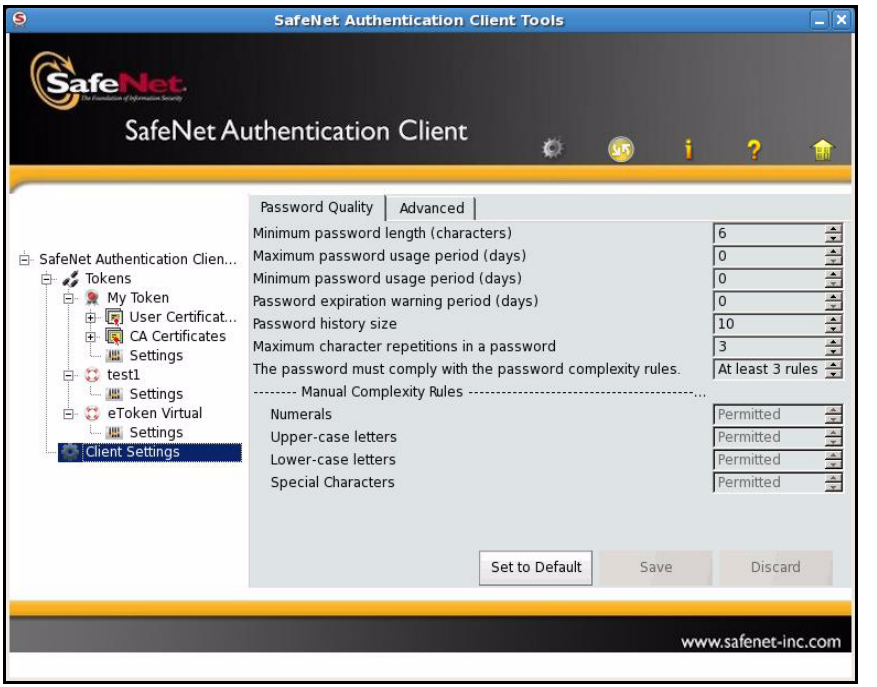
The SafeNet Authentication Client Settings set the parameters that apply to all tokens that are initialized after the settings have been configured.

In this chapter:

Opening SafeNet Authentication Client Settings

To open SafeNet Authentication Client Settings:

1. Open **SafeNet Authentication Client Tools**.
2. Click the **Advanced View** icon.
3. In the left pane of the *Advanced View* window, select **Client Settings**.



Client Settings Password Quality

To set the Client Settings Password Quality:

1. Open **SafeNet Authentication Client Tools**.
2. Select **Client Settings** in Advance View (See *Opening SafeNet Authentication Client Settings* on page 66).

3. Select the **Password Quality** tab.
4. Change the password quality settings.

Tip:
The SafeNet Authentication Client Settings password quality is configured in the same way as the token password quality settings. See *Setting Password Quality* on page 58)

5. Do one of the following:
   - To save your changes click **Save**.
   - To ignore your changes click **Discard**.
   - To return to default settings click **Set to Default**.

Copying CA Certificates to a Local Store

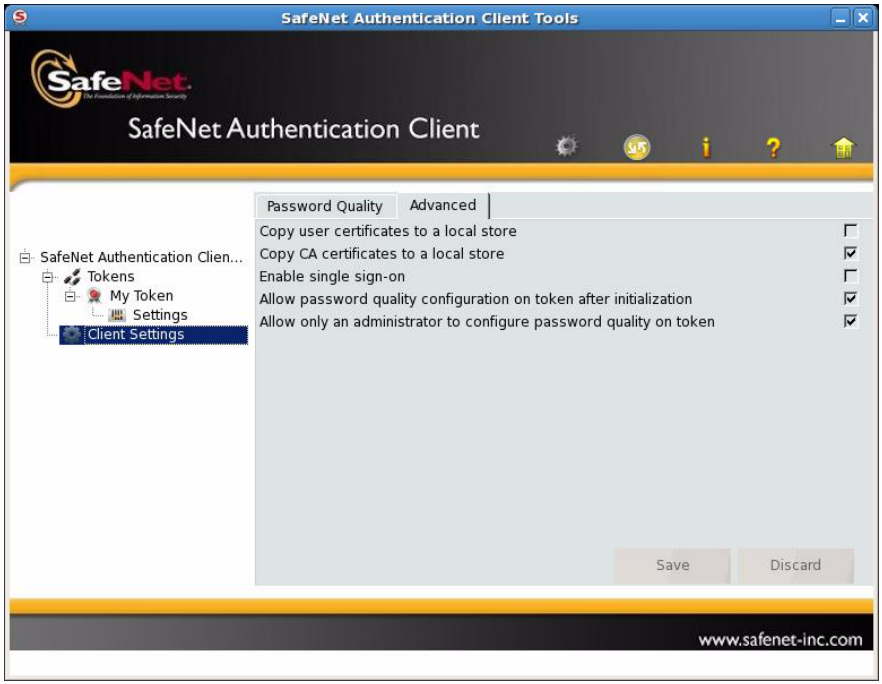
CA certificates can be downloaded onto a token. When the token is inserted into the computer, one or more of these CA certificates may not be on the computer. In such a case, the CA certificate may be loaded onto the computer.

This option is selected by default.

To open CA certificate management:

1. Open **SafeNet Authentication Client Tools**.
2. Select **Client Settings** in Advance View (See *Opening SafeNet Authentication Client Settings* on page 66).

3. Select the **Advanced** tab.



4. Select **Copy CA certificates to a local store**.
5. Do one of the following:
   - To save your changes click **Save**.
   - To ignore your changes click **Discard**.

Allowing password quality configuration on token after initialization

The *Allow password quality configuration on token after initialization* option defines whether the password quality parameters may be changed after initialization.

This option is selected by default.

To allow password quality configuration on token after initialization:

1. Open **SafeNet Authentication Client Tools**.
2. Select **Client Settings** in Advance View (See *Opening SafeNet Authentication Client Settings* on page 66).
3. Select the **Advanced** tab.
4. Select **Allow password quality configuration on token after initialization.**
5. Do one of the following:
   - To save your changes click **Save**.
   - To ignore your changes click **Discard**.

Allowing only an administrator to configure password quality on token

The *Allow only an administrator to configure password quality on token* option defines whether the password quality parameters may be changed after initialization by the administrator, or, if unchecked, by the user.

This option is selected by default.

To allow only an administrator to configure password quality on token:

1. Open **SafeNet Authentication Client Tools**.
2. Select **Client Settings** in Advance View (See *Opening SafeNet Authentication Client Settings* on page 66).
3. Select the **Advanced** tab.
4. Do one of the following:
   - To enable configuration by administrator, check *Allow only an administrator to configure password quality on token.*
   - To enable configuration by user, uncheck *Allow only an administrator to configure password quality on token.*
5. Do one of the following:
   - To save your changes click **Save**.
   - To ignore your changes click **Discard**.