



User Documentation for EIDVirtual

Version 1.3

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Revision History

This section records the change history of this document.

Name	Date	Reason For Changes	Version
Vincent Le Toux	21/02/2013	Creation	1.0
Thierry Martin	28/03/2013	Update	1.1
Vincent Le Toux	26/04/2013	Update to 1.0.1.0	1.2
Vincent Le Toux	22/07/2013	Improved the troubleshooting paragraph	1.3
Daniel Bhatoa	24/09/2015	Minor adjustments to troubleshooting	1.4

System Specifications

Operating system supported are:

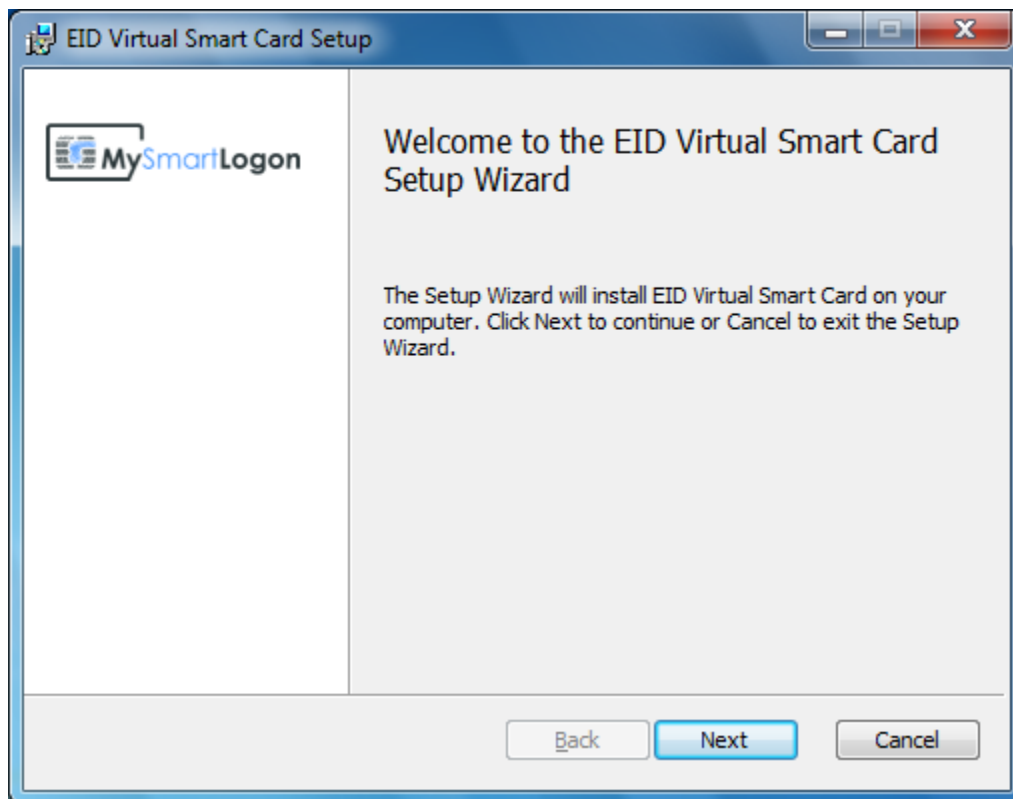
- Windows XP, 2003, 8
- Windows Vista, Seven, 2008, 2012

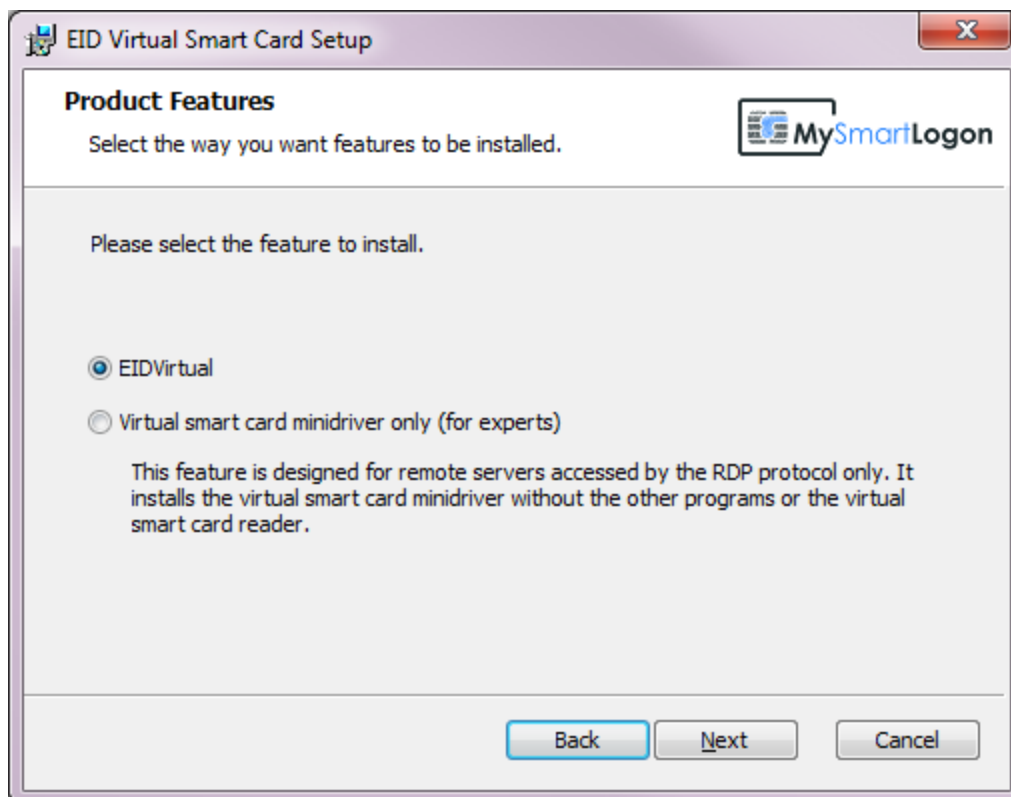
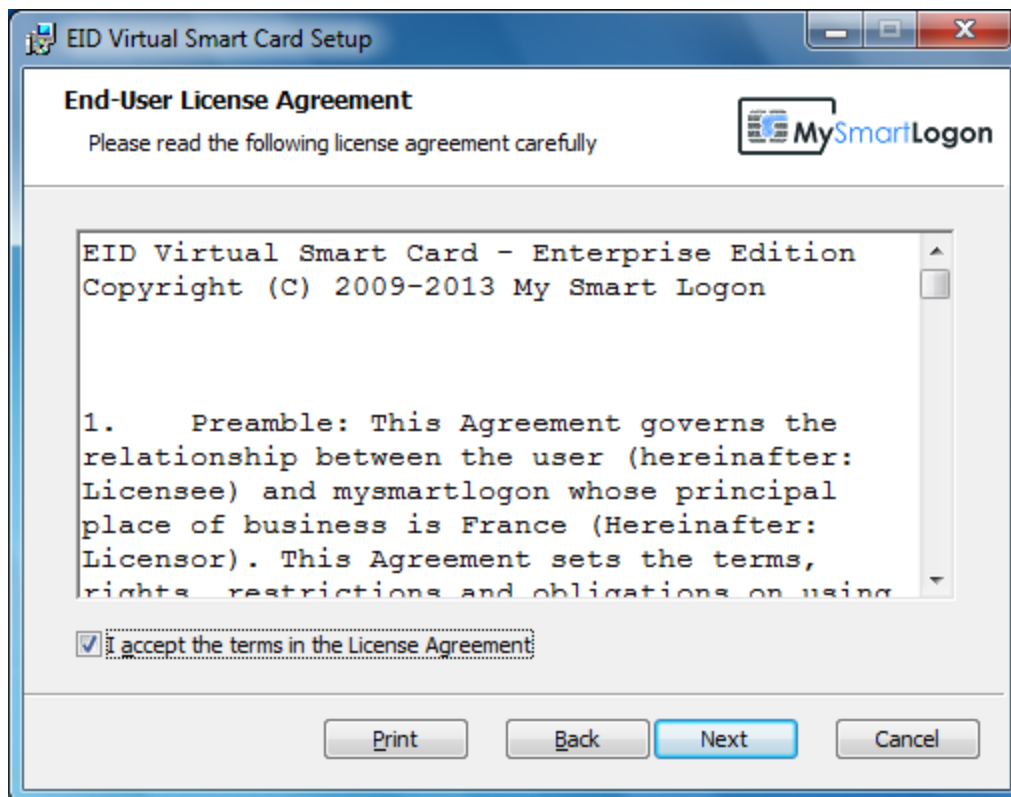
On Windows XP and Windows 2003, the "Microsoft Base Smart Card Cryptographic Service Provider Package" must be installed before. It can be downloaded here:

<http://www.microsoft.com/en-us/download/details.aspx?id=4670>

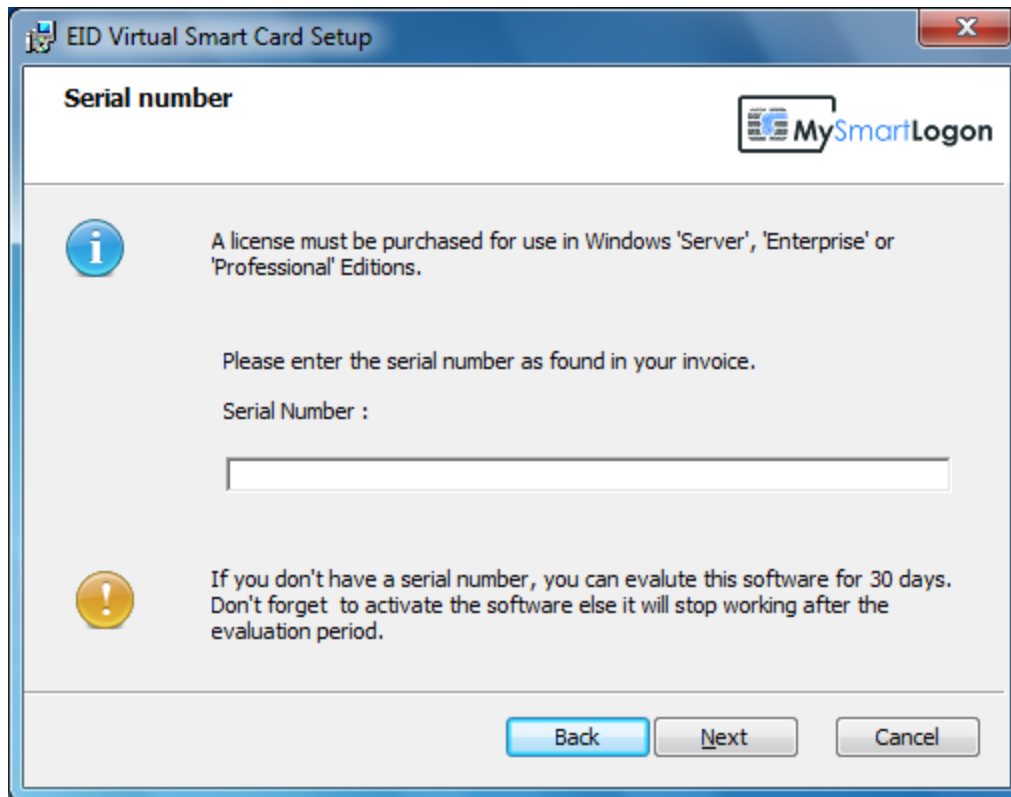
Installing

Run the installer. The user performing the installation must have administrator privileges.







Note: the following dialog is not showed on Windows Home Editions or if the minidriver only is installed



EID Virtual Smart Card Setup


Serial number



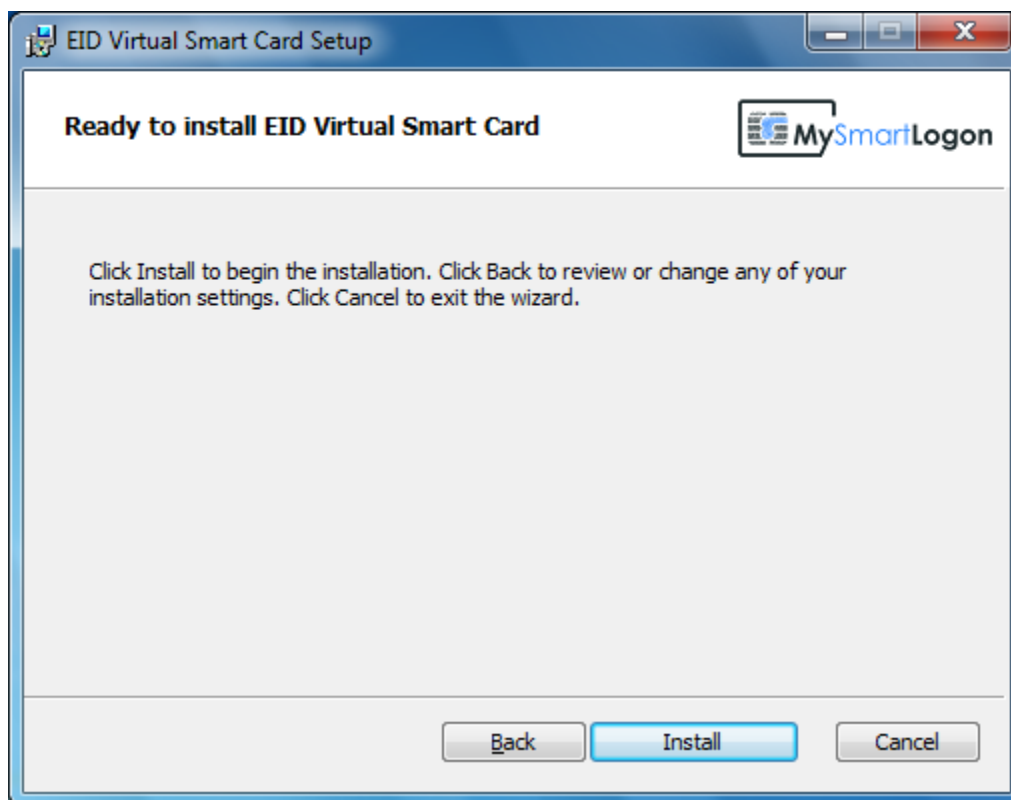
 A license must be purchased for use in Windows 'Server', 'Enterprise' or 'Professional' Editions.

Please enter the serial number as found in your invoice.

Serial Number :


 If you don't have a serial number, you can evaluate this software for 30 days. Don't forget to activate the software else it will stop working after the evaluation period.

Back **Next** **Cancel**



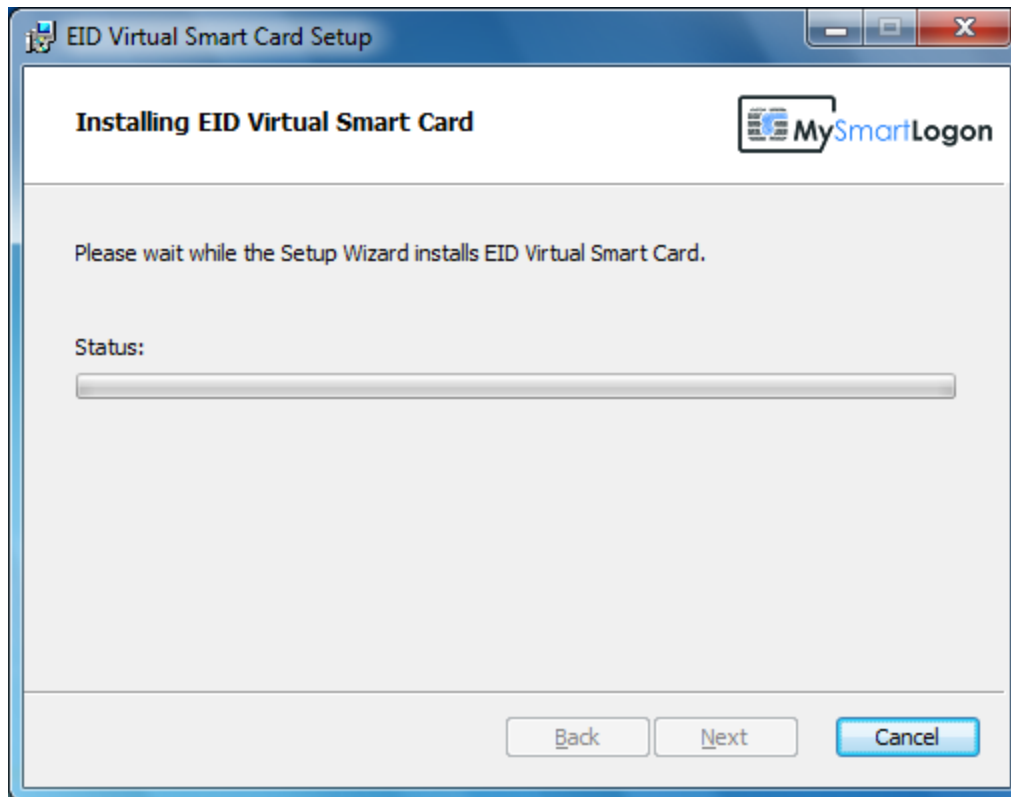
EID Virtual Smart Card Setup

Ready to install EID Virtual Smart Card



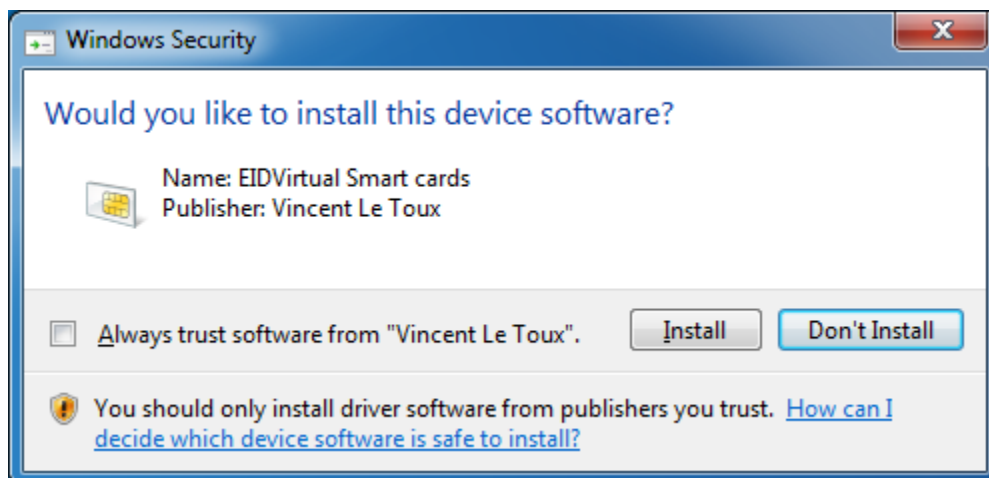
Click Install to begin the installation. Click Back to review or change any of your installation settings. Click Cancel to exit the wizard.

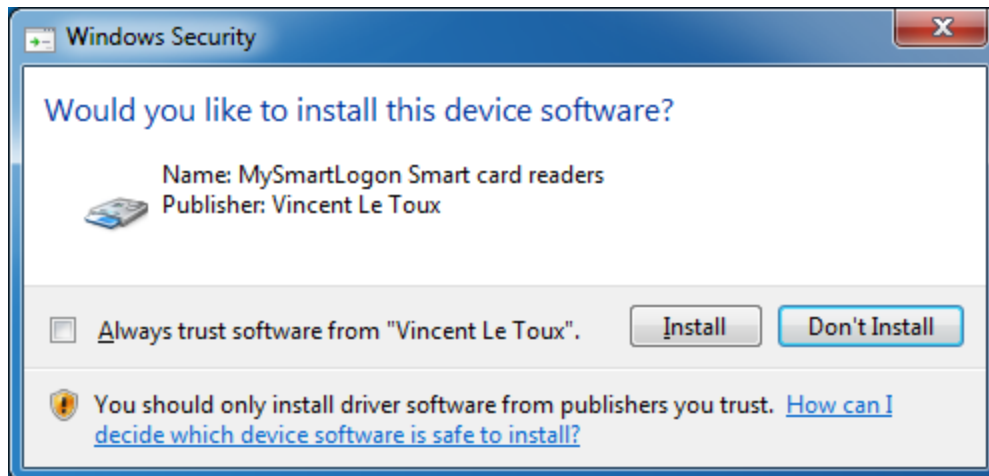
Back **Install** **Cancel**



During the installation, 2 device drivers must be installed.

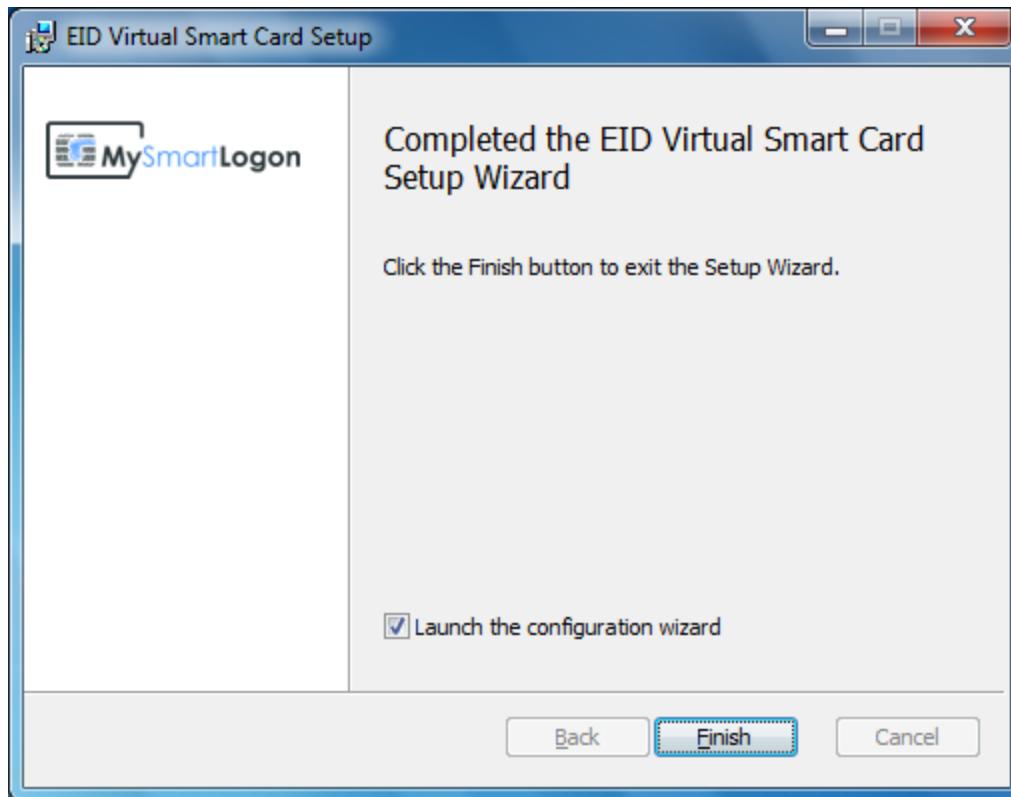
You must click on Install.





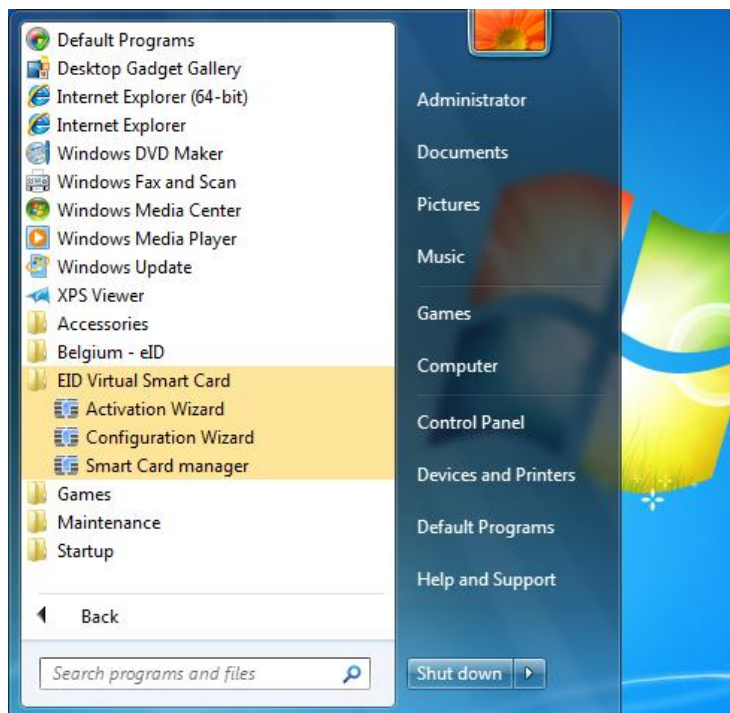
On Windows XP, if the driver signing is activated (not by default) the following warning could be shown. You must click on "Continue Anyway".



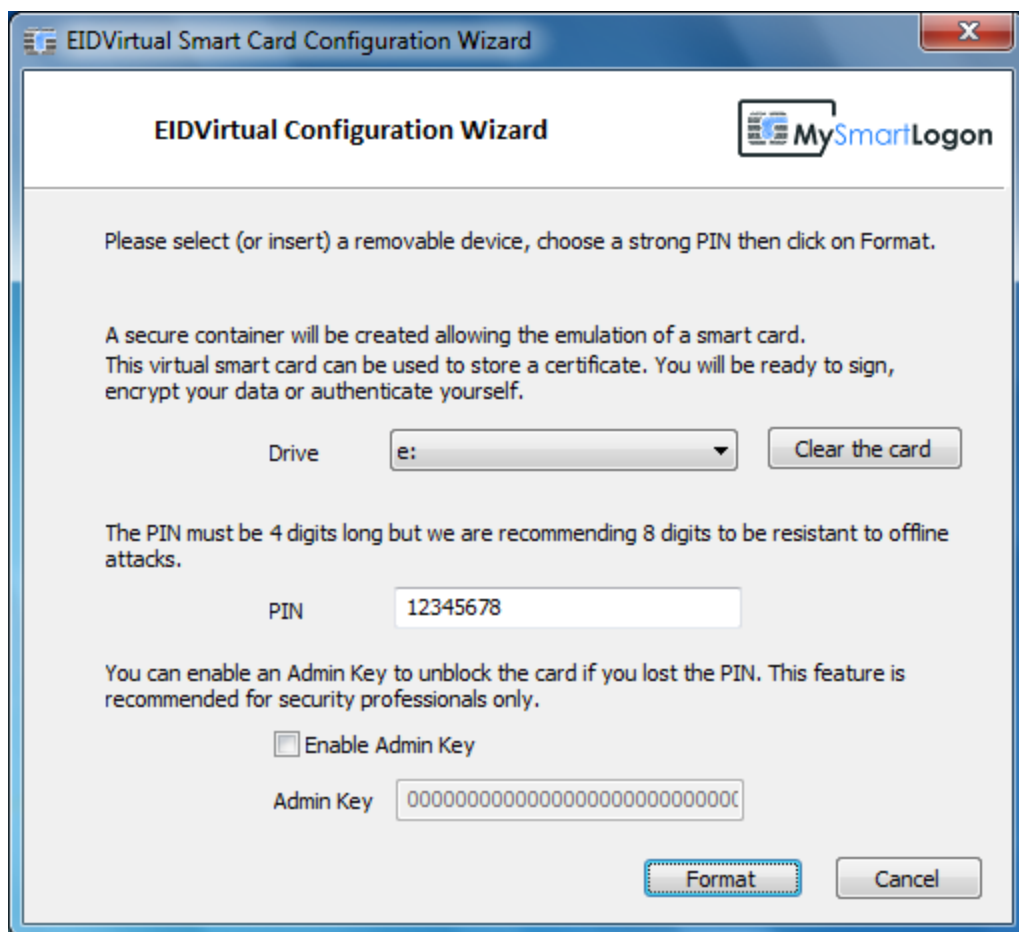


Create a virtual smart card

Entries has been added by the installer to the start menu:



You can launch the "Configuration Wizard" to create a new Virtual Smart card.



EIDVirtual Smart Card Configuration Wizard

EIDVirtual Configuration Wizard

Please select (or insert) a removable device, choose a strong PIN then click on Format.

A secure container will be created allowing the emulation of a smart card.
This virtual smart card can be used to store a certificate. You will be ready to sign, encrypt your data or authenticate yourself.

Drive

The PIN must be 4 digits long but we are recommending 8 digits to be resistant to offline attacks.

PIN

You can enable an Admin Key to unblock the card if you lost the PIN. This feature is recommended for security professionals only.

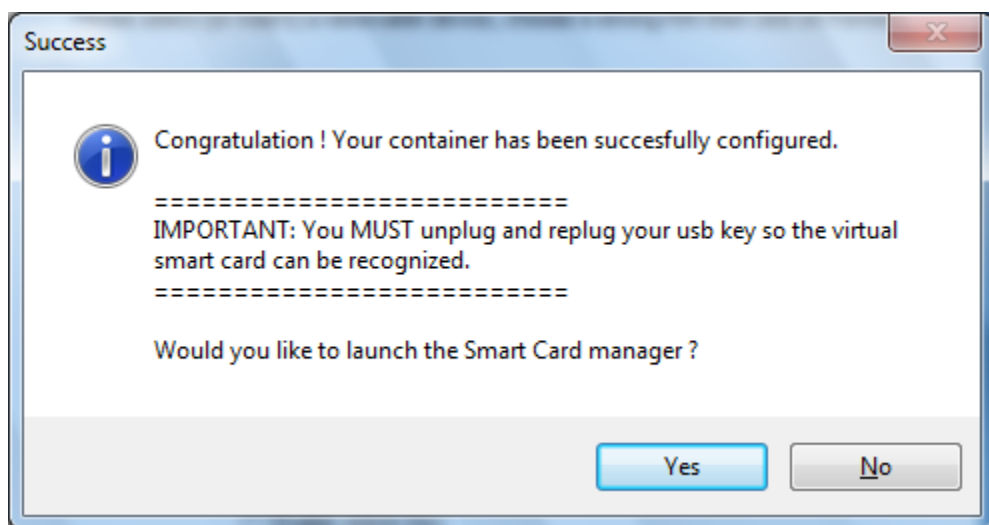
☐ Enable Admin Key

Admin Key


Insert a removable device and the letter associated to this device will be refreshed instantly.

Note: The "Drive" list is automatically updated when a new removable device is inserted.

Choose a PIN and click on Format.



Success

 **Congratulation ! Your container has been succesfully configured.**

=====

IMPORTANT: You MUST unplug and replug your usb key so the virtual smart card can be recognized.

=====

Would you like to launch the Smart Card manager ?

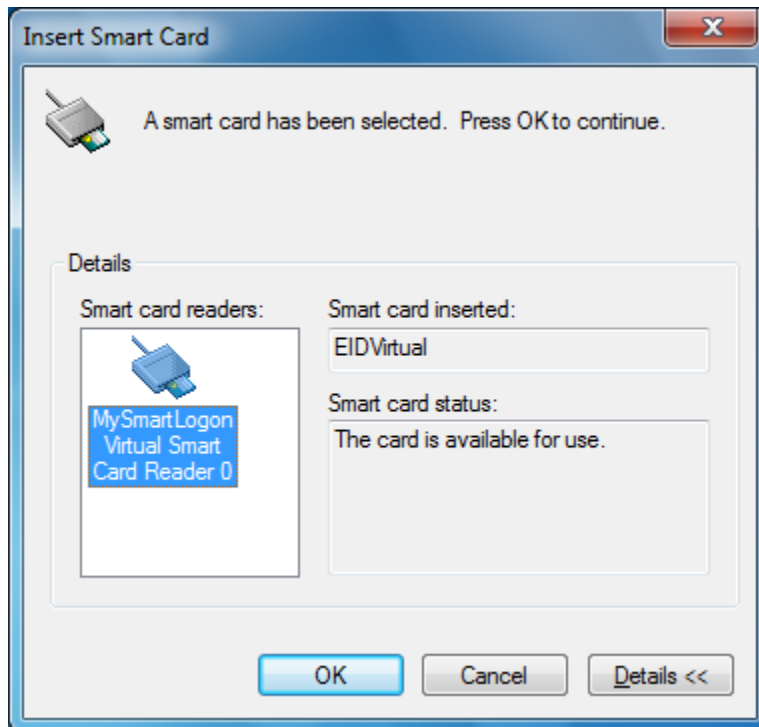
Remove and insert the device again to trigger the container load.

Congratulation ! Your virtual smart card has been created.

Manage Virtual Smart Card

You can launch the "Smart Card Manager" to edit the content of your smart card or any CAPI compliant tool, like Internet Explorer or the mmc certificate snap-in. In this documentation, only the "Smart Card Manager" will be described.

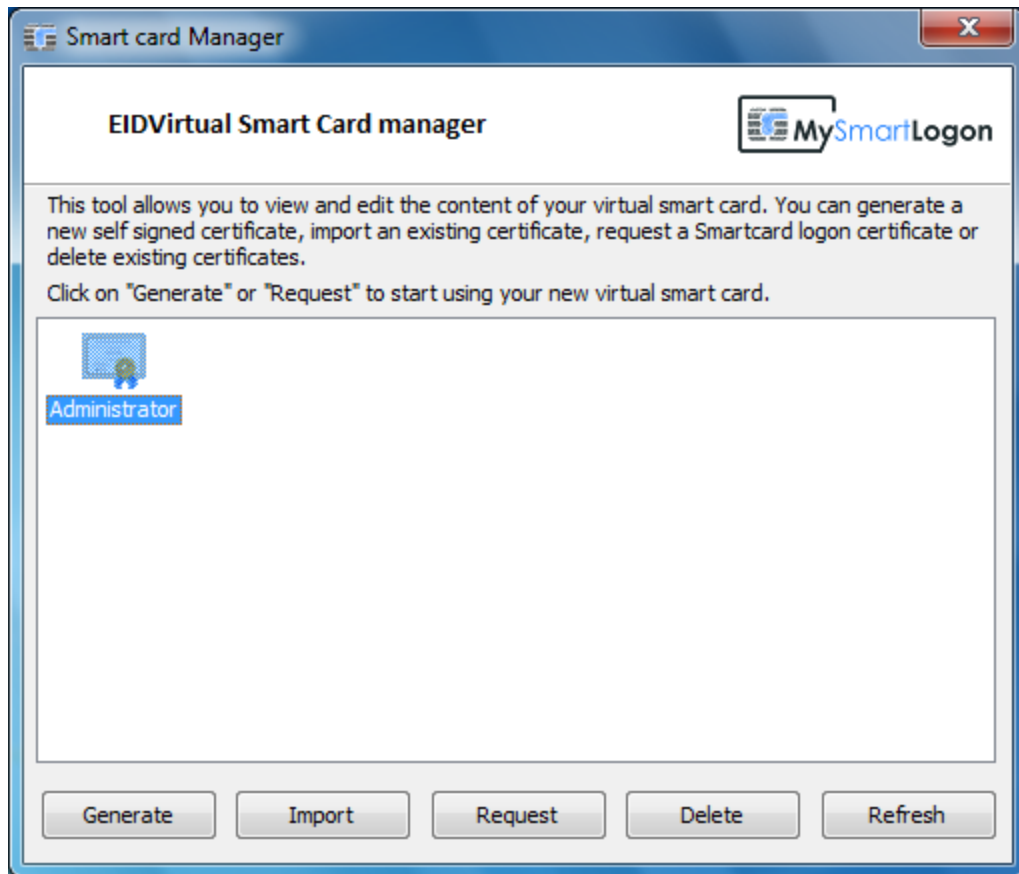
Run the "Smart Card manager" using its shortcut in the start menu. When launched, the manager will try to read a virtual smart card. The following dialog can be showed if there are no virtual smart card present.



Important: if you see "*Smart card inserted: Unknown*", look at our *troubleshooting section*.

To continue further, you must insert a token previously formatted by the "Configuration Wizard".

Note: if no virtual smart card reader is present, you can restart the "Smart Card" service.



Note: by default, no certificate is present and the following icon is showed:



Generate

This button will create a self signed certificate. The key length is 2048 bits.

Import

This button will import a p12 or pfx file. A p12 file includes a set of one certificate and the associated public / private key pair. This file is protected by a password.



Important: by default importing a certificate is prohibited by the Windows default Policy. Don't forget to run the tool as administrator to import a file.

Request

This button will request a smart card logon certificate on behalf of the current user from the certificate authority installed on the active directory if it has been installed. The key length is 2048 bits.

Note: The *Enterprise PKI* component must be installed and the user **MUST** have the right to request a certificate using the template *Smart Card Logon* (the default template must be loaded, using a custom or duplicated template will not work).

In addition, each domain controller must have a valid "Domain Controller" certificate and a valid "Domain Controller Authentication" certificate.

Delete

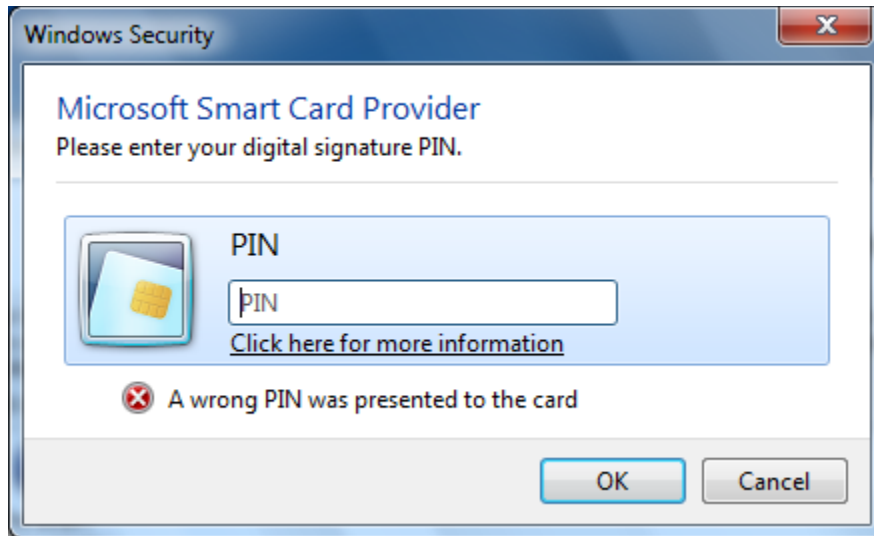
This button will delete the selected certificates and their associated private keys. This operation can't be cancelled.

Refresh

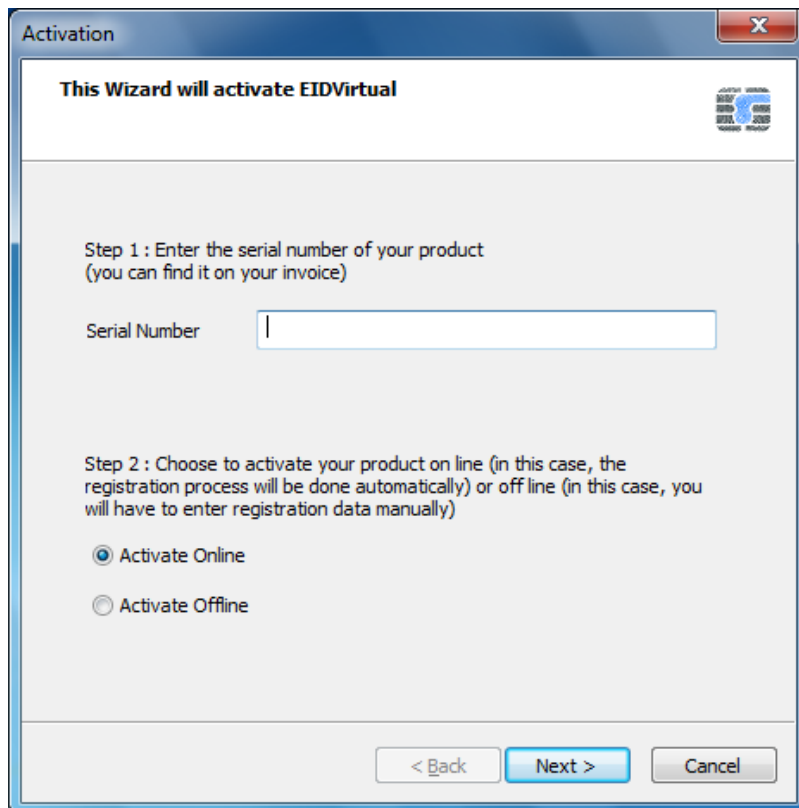
This button will refresh the screen if modifications outside of this tool has been done.

Activation

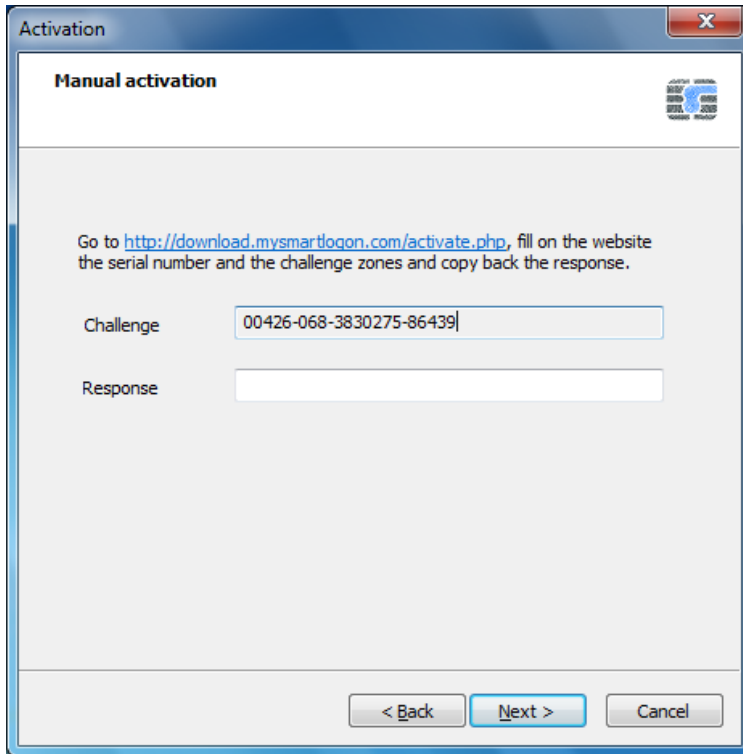
If EIDVirtual is free on Windows Home Editions, a license must be purchased on other Editions of Windows. EIDVirtual can be used as a trial for 30 days. **After this period, all authentication attempts will be blocked.**



You must activate EIDVirtual using the "Activation Wizard" and can launch this tool by its shortcut in the Start Menu:



You can activate the software Online or Offline.



Activation

Manual activation

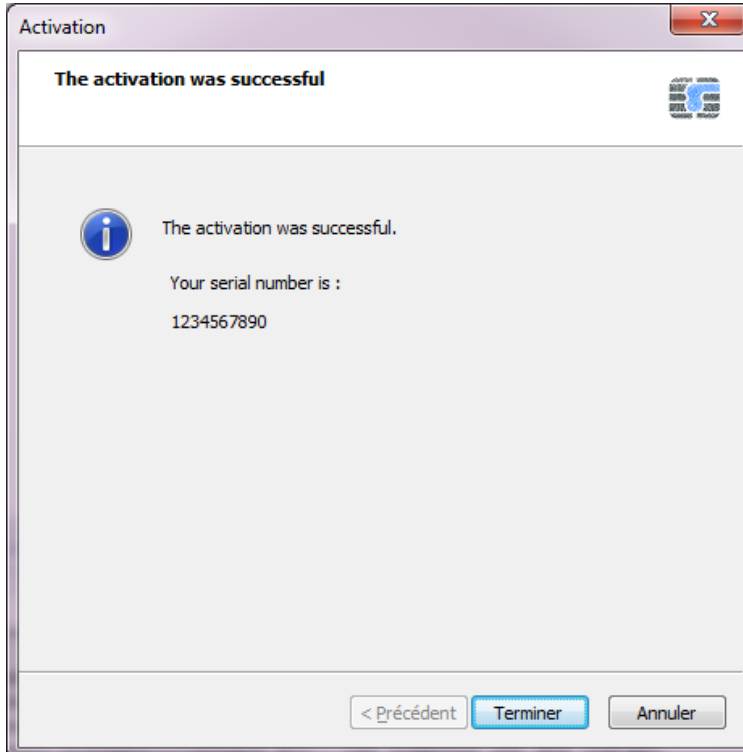
Go to <http://download.mysmartlogon.com/activate.php>, fill on the website the serial number and the challenge zones and copy back the response.

Challenge

Response


< Back Next > Cancel

The following screen is shown if the activation is successful.



Activation

The activation was successful

 The activation was successful.

Your serial number is :

1234567890

< Précédent Terminer Annuler

This screen is also shown directly if the software has been previously activated.

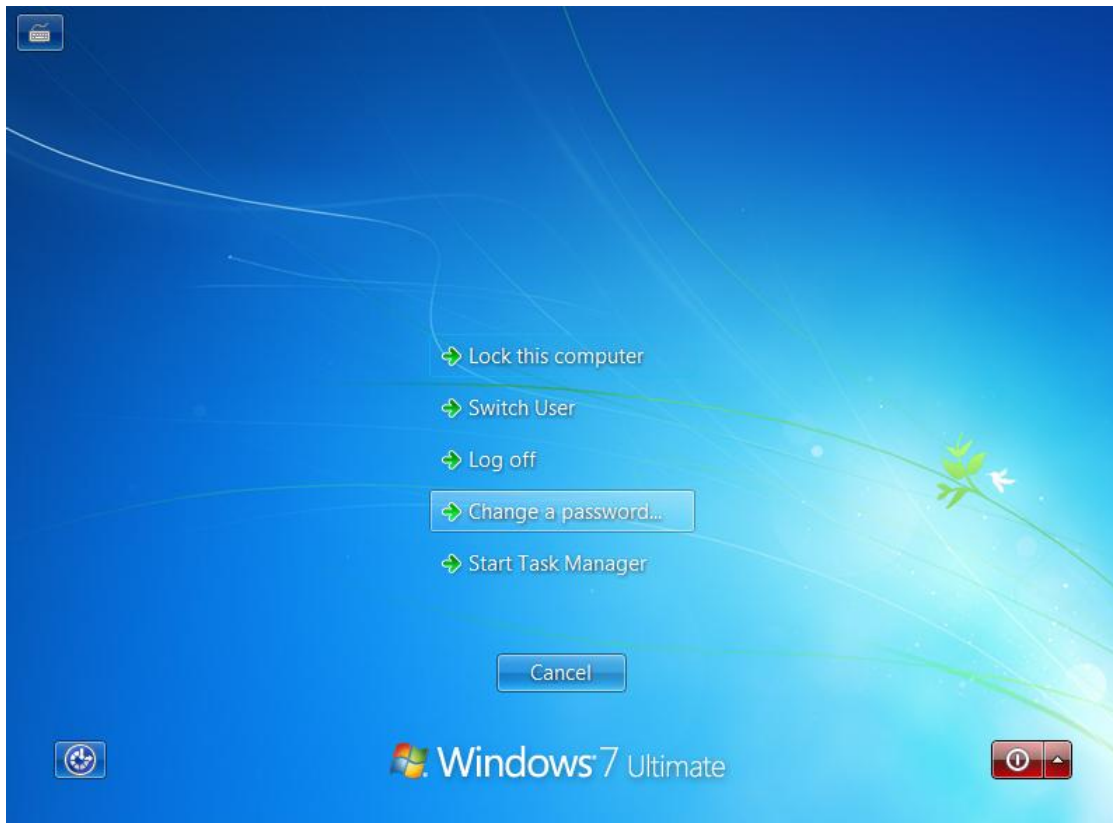
Note: The activation wizard can also be run from the command line.

PIN Change

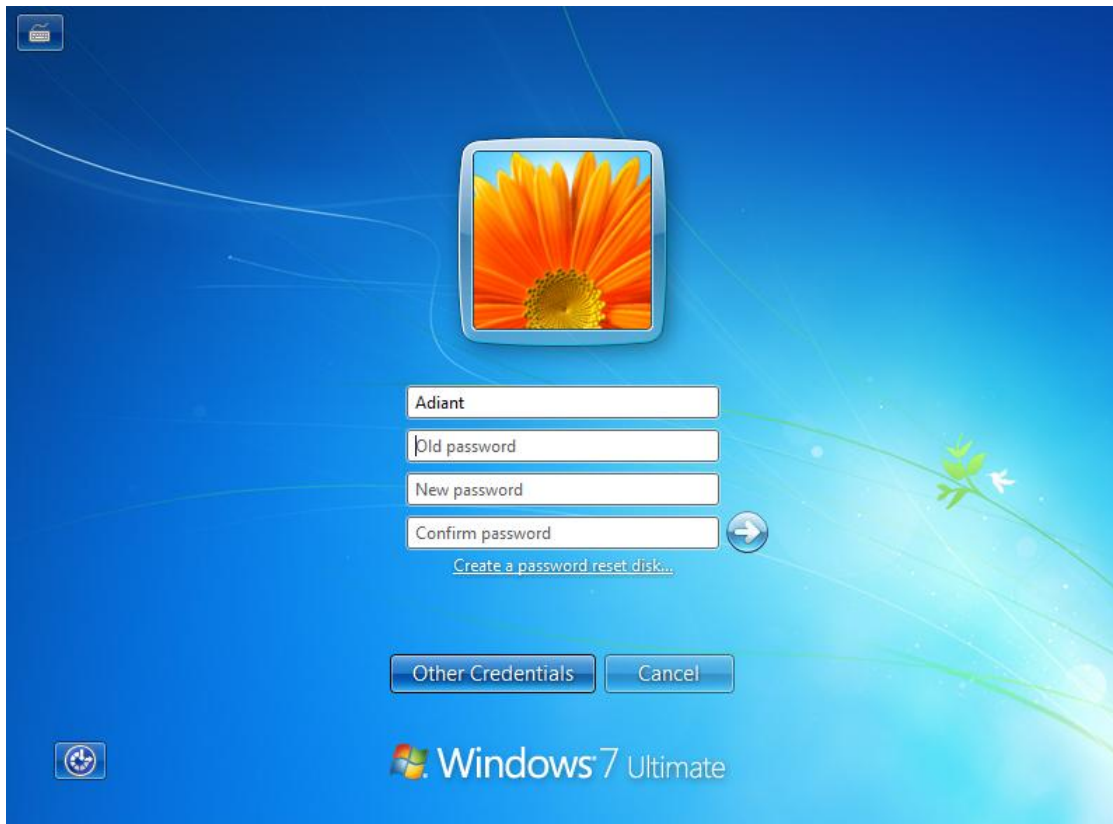
This procedure describes how to change the user PIN (not the admin PIN) of a smart card using the Microsoft Base Smart Card Cryptographic Provider.

On Windows Vista / Seven / Windows Server 2008 and Windows Server 2008 R2

Press Ctrl+Alt+Del and choose "Change a password"



Click on "Other credentials"



Click on the icon which represents your smart card reader



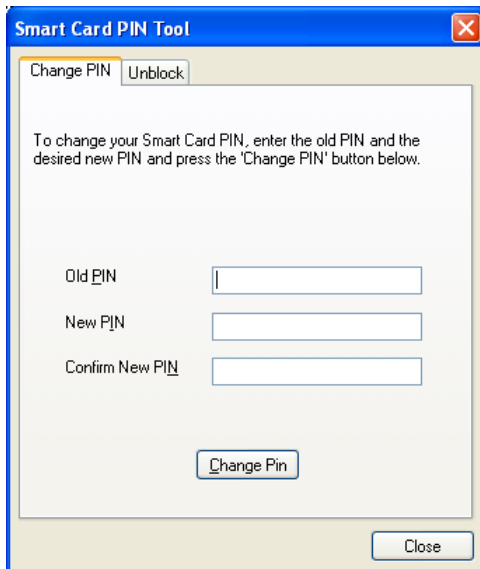
Enter the old PIN, the new PIN and press Enter.



Reference: <http://msdn.microsoft.com/en-us/library/bb905527.aspx>

On Windows XP / Windows 2003

Clic on start -> run then enter "pintool"



Reference: <http://download.microsoft.com/download/f/4/f/f4f3c957-057c-4acb-b10c-bb6087045025/WSCFDdepl.doc>

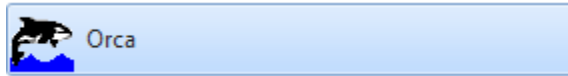
Deployment on Active Directory

Creation of a MST file

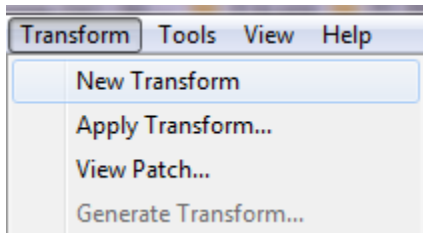
Creation of a transformation

Download and install Orca. The installer, Orca.msi, can be found in the Windows SDK.

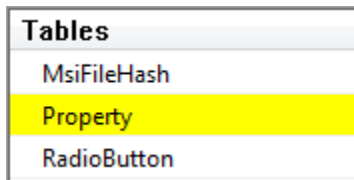
Launch Orca and open the MSI file of EIDVirtual.



Select *Transform, New Transform*.

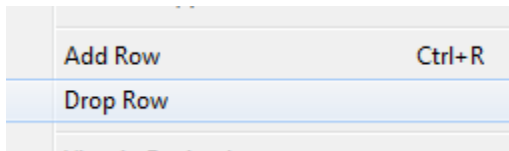


Open the tables *Property*.



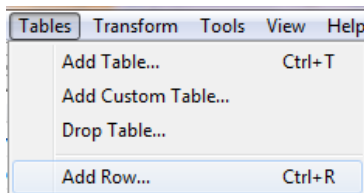
Disable the launch of the configuration wizard after the installation

Disable the autorun by selecting the property *WIXUI_EXITDIALOGOPTIONALCHECKBOX* then right click, then *drop row*.

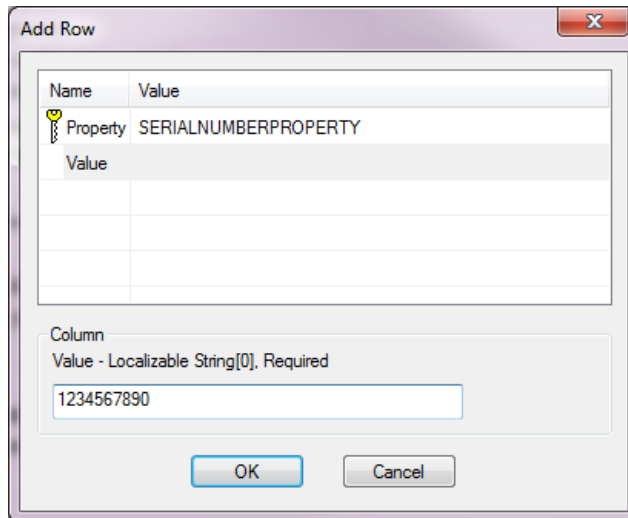


Insert the serial number

Enter the license by add a new property named *SERIALNUMBERPROPERTY* (tables -> Add Row).



Enter the serial number as *Value*.



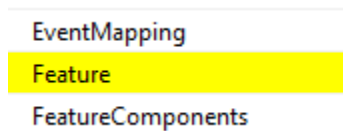
The 'Add Row' dialog box contains a table with two columns: 'Name' and 'Value'. The 'Name' column has a yellow key icon and the text 'Property SERIALNUMBERPROPERTY'. The 'Value' column is empty. Below the table, there is a 'Column' label and a text box containing 'Value - Localizable String[0]. Required' and the value '1234567890'. At the bottom are 'OK' and 'Cancel' buttons.

Activate automatically

Create a new property named *ACTIVATEPROPERTY* (tables -> Add Row) and set its value to *1*.

Optionally install only the minidriver

Open the table *Feature*.



A list of table names: 'EventMapping', 'Feature' (highlighted in yellow), and 'FeatureComponents'.

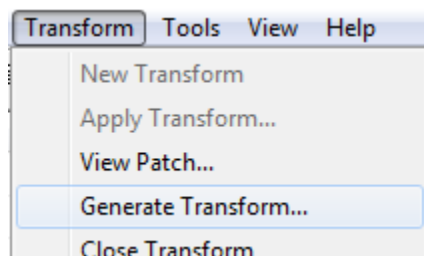
Feature	Feature...	Title	Description	Display	Level	Directo...	Attribu...
VirtualReader	DefaultFeat...	Virtual smart card reader	This feature install the...	2	2		0
Wizard	DefaultFeat...	Configuration Wizard	This feature contains ...	8	2		0
Manager	DefaultFeat...	Smart Card Manager	This feature contains ...	10	2		0
Activation	DefaultFeat...	Activation Wizard	This feature contains ...	12	2		0
Shortcuts	DefaultFeat...	Programs' shortcuts	This feature contains ...	14	2		0
DefaultFeature		EIDVirtual	This feature contains ...	1	1		16
MiniDriver	DefaultFeat...	smart card minidriver	This features install th...	4	1		0
Tracing	DefaultFeat...	Tracing tools	This feature contains ...	6	1		0

Change the *Level* of all features except *DefaultFeature*, *MiniDriver* and *Tracing* from *1* to *2*.

Note: Changing the *Level* disable the installation of these features if the *INSTALLLEVEL* property is not changed.

Save the MST file

Save the changes as *Transform* -> *Generate Transform* and save the MST file.



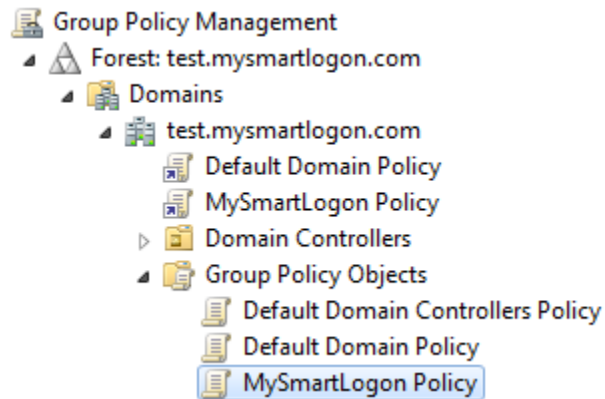
A menu with the following options: 'New Transform', 'Apply Transform...', 'View Patch...', 'Generate Transform...' (highlighted), and 'Close Transform'.

Deployment of the MSI

Edit a group policy

Select *administrative tool* then *Group Policy management*.

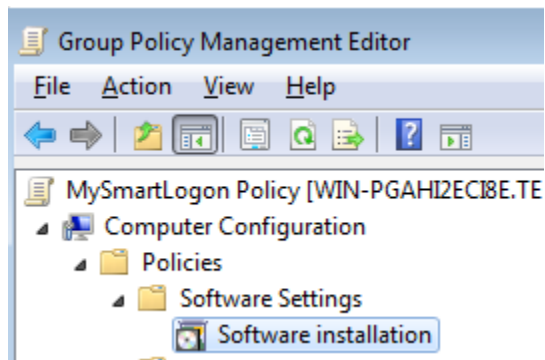
Choose the group policy which control the computers were you want to deploy the package.



Edit the policy by right clicking on the policy then choose *edit*.

Create a new package.

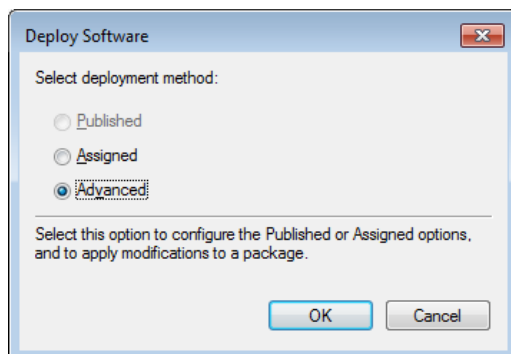
Select *Computer Configuration, Policies, Software Settings, Software installation*.



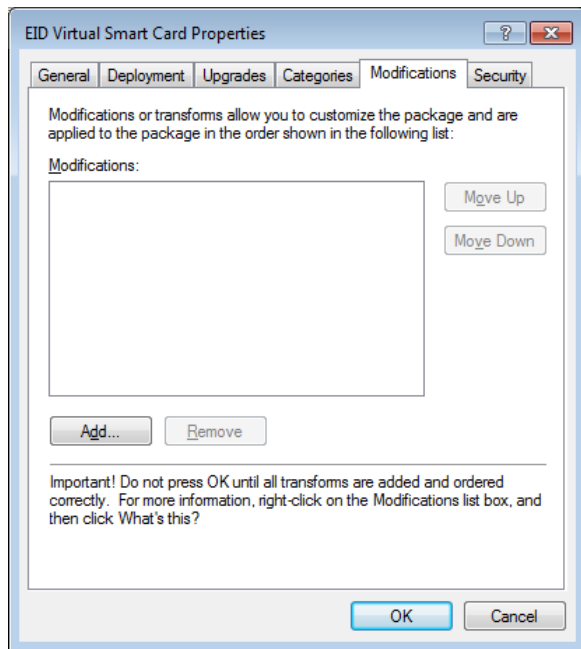
Choose the msi file of EIDVirtual.

Note: Don't forget that there are one msi per processor architecture.

Choose the advanced deployment method to configure the license.



Select *Modifications* and add the MST file to customize the setup.



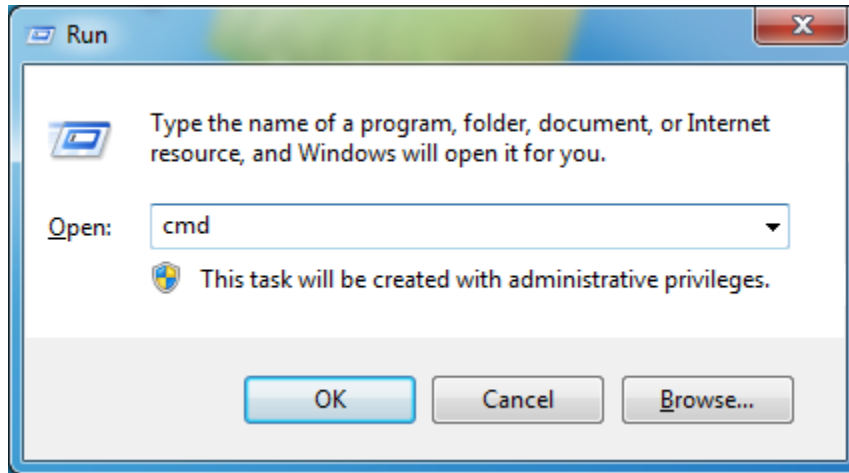
Troubleshooting

Using certutil

Certutil is a troubleshooting tool edited by Microsoft.

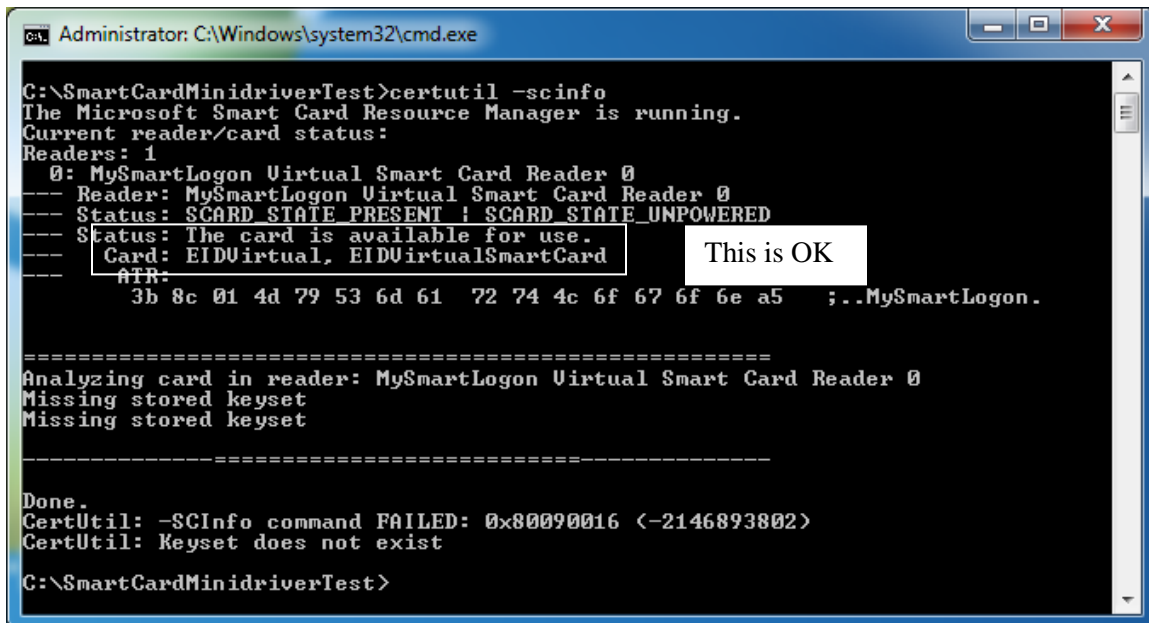
Note: certutil.exe is installed by default starting Windows Vista and Windows 2008. Certutil can be installed on Windows XP by the package "WindowsServer2003-KB304718-AdministrationToolsPack"

You can run certutil by typing Windows +R



Then "cmd" then "certutil -scinfo"

Expected diagnostic of a healthy virtual smart card



```
C:\SmartCardMinidriverTest>certutil -scinfo
The Microsoft Smart Card Resource Manager is running.
Current reader/card status:
Readers: 1
  0: MySmartLogon Virtual Smart Card Reader 0
    --- Reader: MySmartLogon Virtual Smart Card Reader 0
    --- Status: SCARD_STATE_PRESENT ! SCARD_STATE_UNPOWERED
    --- Status: The card is available for use.
    --- Card: EIDVirtual, EIDVirtualSmartCard
    --- ATR:
           3b 8c 01 4d 79 53 6d 61 72 74 4c 6f 67 6f 6e a5 ;..MySmartLogon.

=====
Analyzing card in reader: MySmartLogon Virtual Smart Card Reader 0
Missing stored keyset
Missing stored keyset

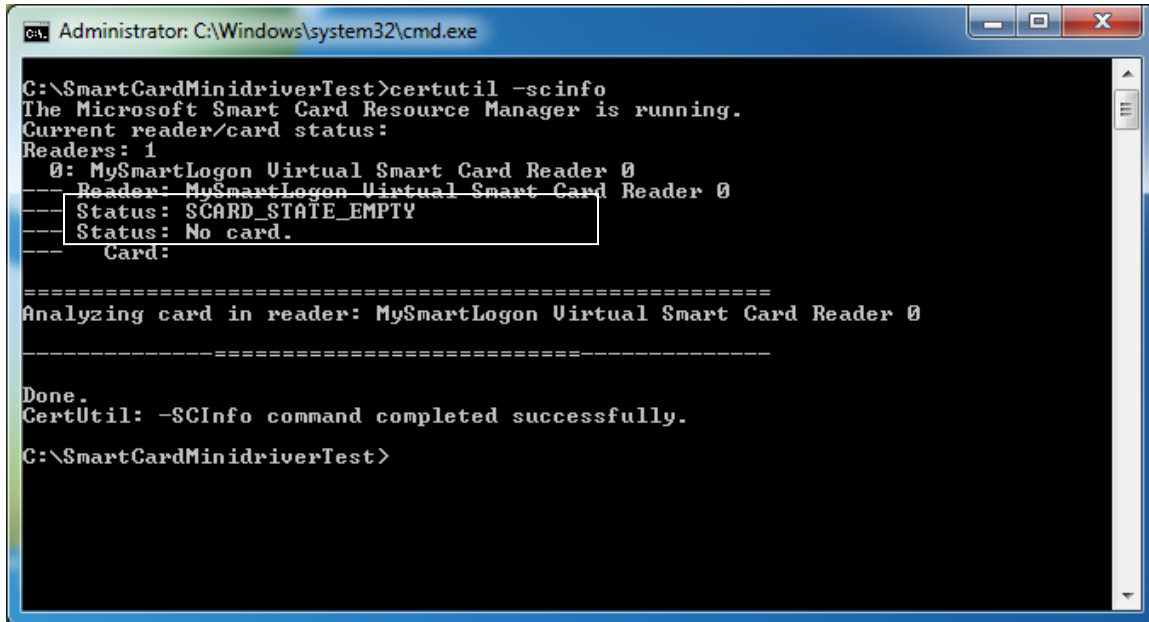
-----
Done.
CertUtil: -SCInfo command FAILED: 0x80090016 (-2146893802)
CertUtil: Keyset does not exist
C:\SmartCardMinidriverTest>
```

The previous screenshot shows an empty smart card, without any certificate or private key stored (the KeySet does not exist)

(Look at the ATR and the mention "SCARD_STATE_PRESENT")

Virtual smart card not formatted or corrupted

A container not loaded will produce the following output:



```
Administrator: C:\Windows\system32\cmd.exe

C:\SmartCardMinidriverTest>certutil -scinfo
The Microsoft Smart Card Resource Manager is running.
Current reader/card status:
Readers: 1
  0: MySmartLogon Virtual Smart Card Reader 0
    Reader: MySmartLogon Virtual Smart Card Reader 0
    Status: SCARD_STATE_EMPTY
    Status: No card.
    Card:

=====
Analyzing card in reader: MySmartLogon Virtual Smart Card Reader 0
=====

Done.
CertUtil: -SCInfo command completed successfully.
C:\SmartCardMinidriverTest>
```

(Look at the mention “SCARD_STATE_EMPTY”)

In this case, the program has not found an USB having a secure container.

Causes:

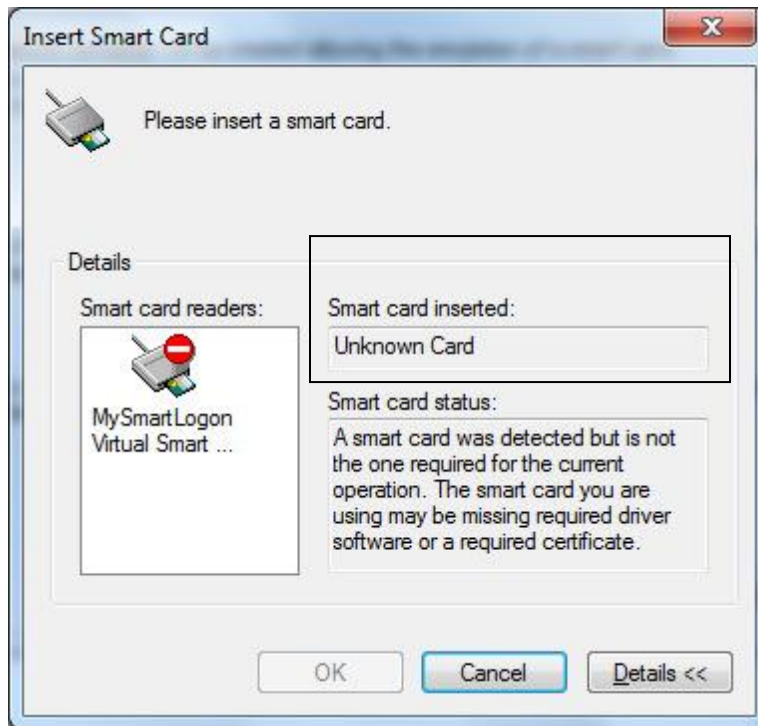
- USB key not formatted
- Secure container copies from one USB key to another
- Secure container corrupted (probable cause: usb key removed without having warned the system)

Solutions:

- Run the configuration wizard to create a new container
- Run the log tool and check for errors related to corrupted container

The minidriver has not been installed

A minidriver (the driver of the smart card and not for the reader) not installed BUT with a container recognized will produce the following results:



```

C:\Windows\system32\cmd.exe
Current reader/card status:
Readers: 1
  0: MySmartLogon Virtual Smart Card Reader 0
  --- Reader: MySmartLogon Virtual Smart Card Reader 0
  --- Status: SCARD_STATE_PRESENT
  --- Status: The card is available for use.
  --- Card:
  --- ATR:
      3b 8c 01 4d 79 53 6d 61 72 74 4c 6f 67 6f 6e a5 ...MySmartLogon.

=====
Analyzing card in reader: MySmartLogon Virtual Smart Card Reader 0
SCardGetCardTypeProviderName: The system cannot find the file specified. 0x2 (WIN32: 2)
Cannot retrieve Provider Name for SCardGetCardTypeProviderName: The system cannot find the file specified. 0x2 (WIN32: 2)
Cannot retrieve Provider Name for
=====
Done.
CertUtil: -SCInfo command FAILED: 0x2 (WIN32: 2)
CertUtil: The system cannot find the file specified.
G:\Users\Rudolf LEYBAERT>
  
```

An ATR entry, here present, means that a smart card (aka an USB key) has been inserted. However the empty line for “Card” means that the system couldn’t find a driver.

Also the “CALAIS” database in the registry won’t show an entry for the virtual smart card.



Causes:

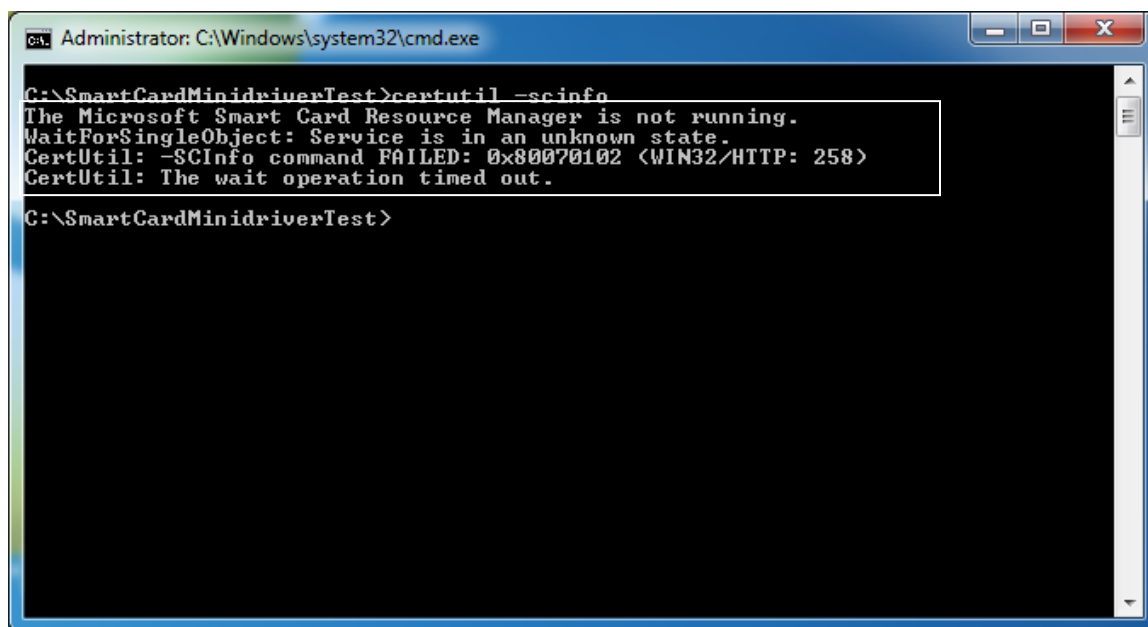
- The Plug&play manager didn’t launch the installation of the driver at the installation

Solutions:

1. Open the program files folder and look for the EIDVirtual installation.
2. Search for .inf files
3. Right click on the inf file which name contains “minidriver” and select “install”

The smart card resource manager is not running

If the Virtual Smart Card reader is not loaded or if the smart card service is not running, the following error will be shown:



Causes:

- The “Smart card” service has been disabled
- The virtual smart card reader has been installed

Solutions

- Go to “service” (administrative tools), find the service and start it
- Reinstall the program

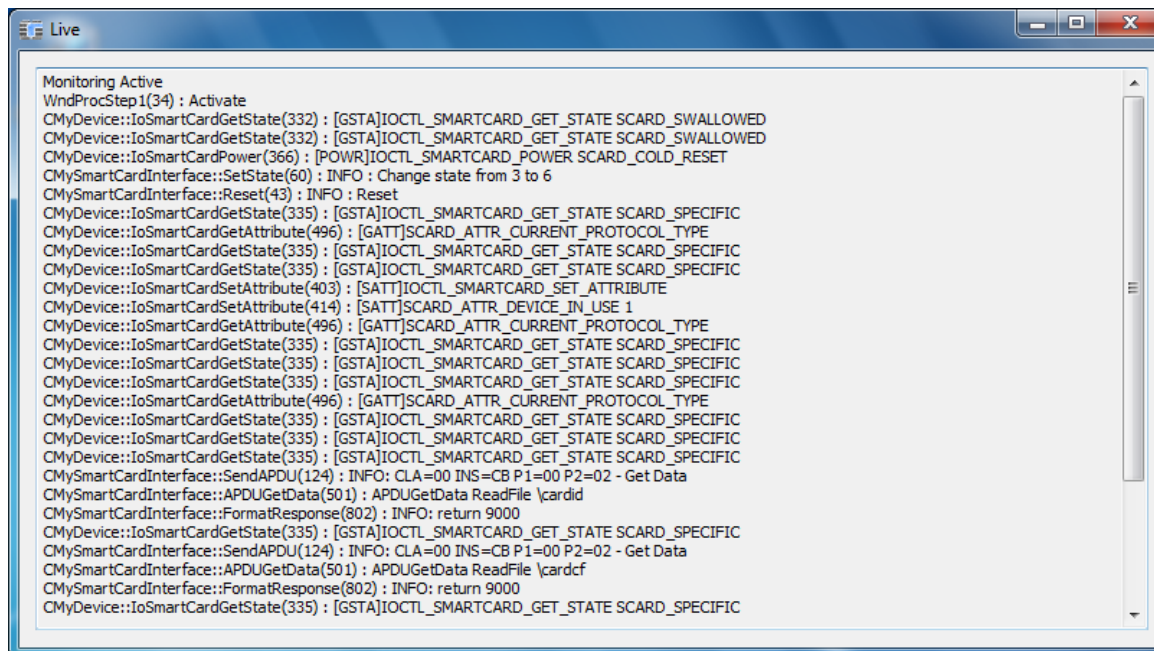
Using EIDVirtual Trace

By default the Tracing tool named "EIDVirtualTrace" is installed in "C:\Program Files\EID Virtual Smart Card"



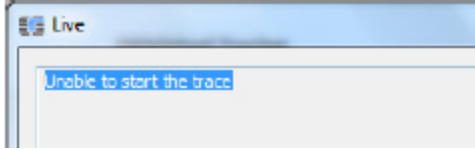
You can record a trace by clicking on "Enable", doing some actions, then click on "Save the log".

Or you can view live tracing.



A recorded trace is the preferred way when contacting the support.

If the live trace can't start, you may have not the permission to run ETW (event tracing). This happens in large organization where permissions are restricted. You can run [Process Monitor](#) on the tracing process to look for errors.



Troubleshooting the setup

You can run the msi tracing procedure:

```
msiexec /i EIDVirtualpackage.msi /L*v log.txt
```