

Document Protection

Certificate Management with CAcert



Described Version: CAcert

Target platforms: Windows Vista/XP/2000, Linux, MacOS

MARX hardware: CrypToken M2048 / MX2048 JCOP

**Certificate Management!**

CAcert is a community-driven Certificate Authority that issues free public key certificates to the public. CAcert's goal is to promote awareness and education on computer security through the use of encryption, specifically with the X.509 family of standards.

- Free digital certificates
- Get your certificate within minutes
- Web of trust ensures identity of all users
- Over 55,000 assured users
- Over 110,000 certificates used

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1. System Requirements

- Microsoft Windows Vista, XP, 2000
- Installed Sigillum KeySign
- CrypToken MX2048 JCOP / M2048 MULTOS with SafeSign

2. CrypToken Installation

2.1 CrypToken driver installation under Windows XP

Attach the CrypToken to a USB port. Windows will notify a new device and opens the Found New Hardware Wizard. If your computer is connected to the Internet, simply install the driver using Windows Update: select the "Yes, this time only" radio button and click next (see Fig. 2.1). If you want to install the driver manually, put the "CrypToken Kit" CD in your CDROM drive and follow the instructions as described in Fig. 2.1 and 2.2. You may also download the latest CrypToken drivers at www.cryptoken.com ⇒ Support ⇒ Download Area.

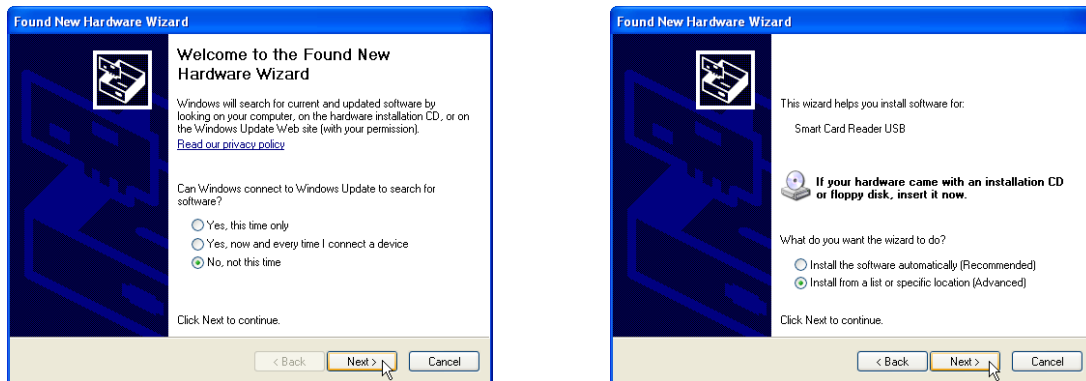


Fig. 2.1: Found New Hardware Wizard (Step 1 and 2 - Windows XP)

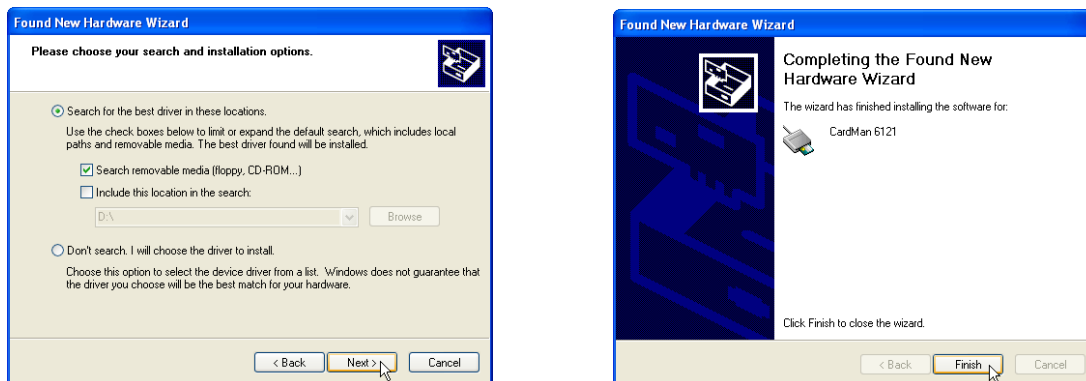


Fig. 2.2: Found New Hardware Wizard (Step 3 and 4 - Windows XP)

After the wizard has finished you will get a notification that the driver was installed successfully.

2.2 SafeSign Installation

To install SafeSign open the folder \SafeSign\Windows on the "CrypToken Kit" CD. There are two .exe files:

- SafeSign-Identity-Client-admin-eval.exe** - Administrator Installation (for System Administrators)
SafeSign-Identity-Client-user-eval.exe - User Installation (for normal Users)

The difference between these two versions: the Administrator Installation installs an extended Token Administration Utility (TAU) which does not only allow to configure the CrypToken, it also provides administrative tasks which will be performed automatically when the CrypToken is inserted (e.g. checking the validity of installed certificates). A detailed description can be found on the "CrypToken Kit" CDROM at folder \Documentation\Application Notes (AET):

- TAU_Guide_SafeSign-IC-Standard_v2.1.pdf** - description of the Token Administration Utility
TMU_Guide_SafeSign-IC-Standard_v2.1.pdf - description of the Token Management Utility (User)

Start the SafeSign installation by double-clicking the suitable .exe file. On the Welcome screen, click "Next", then confirm the License Agreement and select the installation folder. At the next screen the desired program features can be selected (see Fig. 2.3). There is no need to change anything here: If you leave the default settings, all necessary components for accessing the CrypToken on your PC will be installed automatically. If you have installed Mozilla Firefox on your PC, you will be asked if you want the SafeSign PKCS#11 Module to be installed for accessing the CrypToken within Firefox (see Fig. 2.4). If you want to do that, click the "Install" button. Firefox will be opened, and you need to confirm the installation of the PKCS#11 module with "OK". You will receive a message that the installation was done. Click "OK" and close Firefox to continue with the SafeSign installation.



In contrast to Firefox the SafeSign installation routine will not install the PKCS#11 Module for the CrypToken automatically in Thunderbird! Read more in chapter 4.1.

After the SafeSign installation was completed successfully, click the "Finish" button.

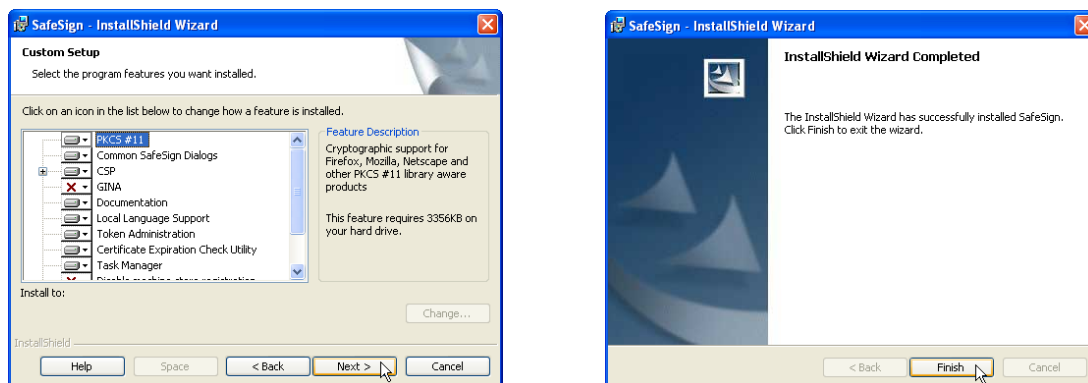
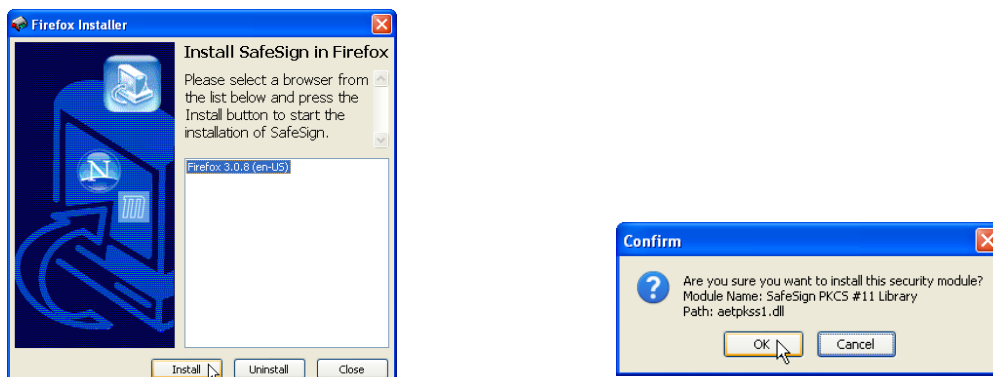


Fig. 2.3: SafeSign installation



2.4: Installing PKCS#11 Module in Firefox

2.3 Initializing the CrypToken

The CrypToken needs to be initialized prior to use it for storing certificates and keys. To do so, attach the CrypToken to the USB port and start the Token Administration Tool under:

Start - Programs - SafeSign Standard - Token Administration (Administrator Installation, see 2.2)

OR

Start - Programs - SafeSign Standard - Token Management (User Installation, see 2.2)

The following information will be displayed:

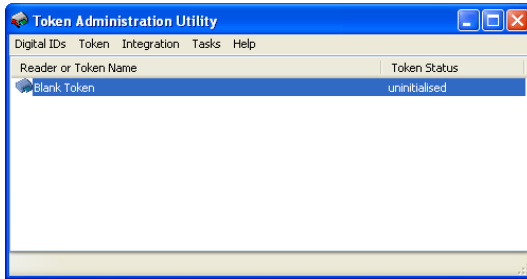


Fig. 2.4: Token Management: uninitialized CrypToken

Select the menu point "Token" and "Initialise Token". Choose a Token label, specify PIN and PUK for the attached CrypToken and confirm them. Then click "OK".

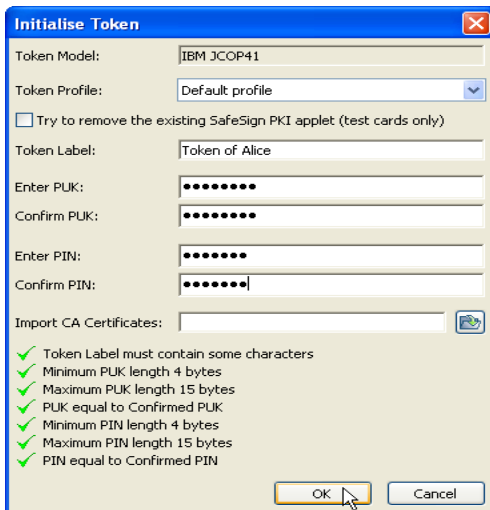


Abb. 2.5: Initializing the CrypToken

Wait until you received the message that the initialization was successful and click "OK" to finish. The CrypToken is now operable.

3. Managing Certificates

3.1 Storing Certificates on the CrypToken

Attach the CrypToken to the USB port of the computer and start the Token Administration Tool under:
Start - Programs - SafeSign Standard - Token Administration (Administrator Installation, see 2.2)
 or

Start - Programs - SafeSign Standard - Token Management (User Installation, see 2.2)

Select the menu point "Digital IDs", then "Import Digital ID" or "Import Certificate", depending on the type of your existing certificate:

Choose "Import Digital ID" for the following file types:

- .pfx
- .p12

resp. bzw. "Import Certificate" for the file types:

- .cer
- .der

Browse for the ID/certificate you want to install on the CrypToken.



Digital IDs/Certificates for encryption and signing of Emails can be obtained from different Certificate Authorities (CA), for example:
www.cacert.org
www.comodo.com/products/certificate_services/email_certificate.html
www.verisign.com
 For testing purposes, you may also obtain Demo certificates from our webpage:
www.cryptoken.com/ctwebutils/phpki/

Select the certificate on your hard disk you want to import. Enter the password which was used to protect the certificate file. At the next step you will be asked for the PIN of the CrypToken (see Fig. 3.1). Wait until you receive the confirmation that the certificate was imported successfully to the CrypToken.

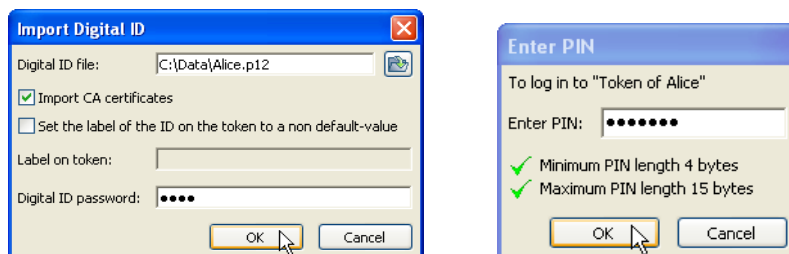


Fig. 3.1: Import Digital ID

3.2 About Certificates

After applying for a certificate (see 3.1) you will receive an encrypted file which contains the all necessary information. Such digital certificate comprises a public part containing a public key signed by the CA which has issued the certificate, and an accompanying private key. The certificate does not work without the private key. That is why it is vital to take good care of the private key.

Certificates stored on the CrypToken cannot be copied back to the hard disk or to another CrypToken anymore. MARX recommends to copy the certificate file to a removable media (CD, USB storage drive etc.) and keep it in a safe location. This allows you to restore the certificate from the backup, should the CrypToken be lost or deleted.

4. Direct Certificate Download with Internet Explorer

Attach the CrypToken (MS-CAPI formatted), open Internet Explorer, go to www.cacert.org and login to your account. To create a new client certificate go to "Client Certificates" ⇒ "New". Afterwards define the settings for your certificate.

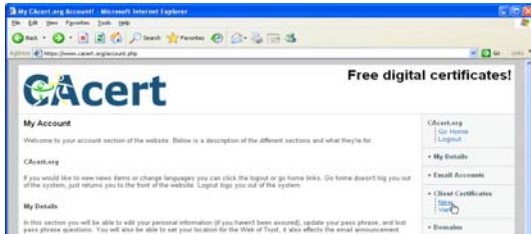


Fig. 4.1: Create new client certificate



Fig. 4.2: Define certificate settings

Within the next step select the certificate storage. For direct download to the CrypToken choose "MARX CSP Provider", attach the CrypToken to your computer and click on "Create Certificate".

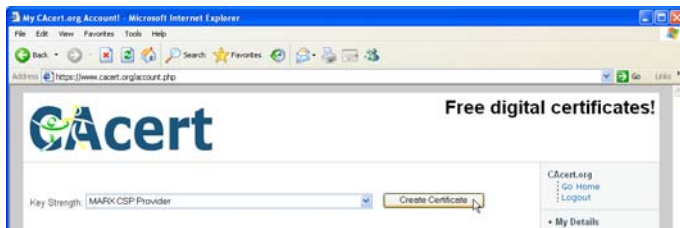


Fig. 4.3: Choose certificate storage

Microsoft Internet Explorer will notify you about a "Potential Script Violation" several times. Click on "Yes" to confirm that you want to install the certificate. Furthermore Internet Explorer will ask you for the CrypToken PIN. For the Evaluation Version of the CrypToken the PIN is "demo". If you already received a customer specific CrypToken you will find the PIN (User Password) on your Production Sheet.

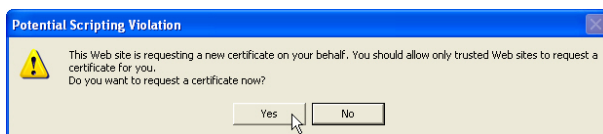


Fig. 4.4: Internet Explorer notification

After the certificate was successfully generated click on "Install Certificate" to store it on the CrypToken.

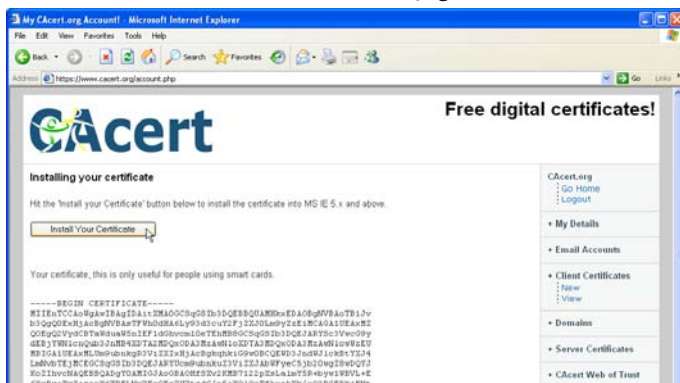


Fig. 4.5: Storing the certificate

To check if the certificate was successfully imported go to Internet Explorer "Tools" ⇒ "Internet Options..." ⇒ "Content" ⇒ "Certificates...".

It's our business to protect yours

The CrypToken is ideal for...

- Online Banking: Secure Internet banking and financial transactions.
- VPN: Virtual Private Network control from remote locations.
- eGovernment: Access control to confidential information.
- Email: Encryption and digital signature of confidential emails.
- eCommerce: Secure B2B/B2C authentication.
- RAS and network logon: Access for authorized users only.
- WebSecurity: Secure web portal and internet and intranet identification.
- DataSecurity: Encryption of sensitive information.



Get your CrypToken Evaluation Kit:

www.cryptoken.com/eval
0049(0)8403 9295-14

Comparison table CrypToken M2048 and CrypToken MX2048

Features	M2048	MX2048
Token operating system	MULTOS	JavaCard
Operation	Driverless, if CCID OS used	
Certification smart card chip	EAL 5+ EMV, ISO7816	EAL 4+, EMV, ISO7816, JavaCard 2.3.1, GlobalPlatform 2.1.1
Controller chip certification	WHQL (Microsoft), HBCI (Home Banking Computer Interface), EMV, ISO7816	
Smart card chip	Infineon SLE66xx series	SmartMX/JCOP21
Cryptographic standards supported	PKCS#11v2.01, MS-CAPI	
Operating systems supported	Windows Vista/XP/2000, Linux, MacOS X	Windows Vista/XP/2000, Linux, MacOS X
Memory (total)	64 KByte	72 KByte
Casing & LED	Metal Designer Case, LED (duo color green/red, for „stand by/activity“), eye for key ring/lanyard	
Electrical certifications	FCC, CE, RWTUEV	FCC, CE, RWTUEV
Dimensions	0.51" x 0.32" x 1.38" (13 x 8 x 35 mm)	0.51" x 0.32" x 1.38" (13 x 8 x 35 mm)
Weight	0.326 oz (9,25g)	0.326 oz (9,25g)

CrypToken certifications



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