

## Email Encryption and Digital Signature w/X.509 certificates CrypToken® as secure and portable container for Certificates



**Described Version:** Microsoft Outlook 2003

**Also applicable for:** Microsoft Outlook 2002, XP

**Target platforms:** Windows Vista/XP/2000

**MARX hardware:** CrypToken M2048 / MX2048 JCOP



### Private Communication in a Public World!

Emails are like post cards. Everybody can read through them and change something on the way between sender and receiver. Encryption and digital signing creates a secure envelope around your emails. With traditional email encryption solutions, the certificate is stored on your harddisk - a potential target for eavesdroppers and intruders.

The CrypToken is a secure storage device for all your certificates and passwords. Your most confidential information is never exposed to the file system.

- Convenient email encryption and digital signing
- Easy implementation into Microsoft Outlook, Outlook Express, Thunderbird, The BAT!, David, PGP Mail, ...
- Authentication with X.509 certificates (S/MIME) or PGP keys
- Safe against phishing and password theft

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## 1. Requirements

- Microsoft Windows Vista, XP
- Installed Microsoft Outlook 2003
- 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](http://www.cryptoken.com) ⇒ Support ⇒ Download Area.

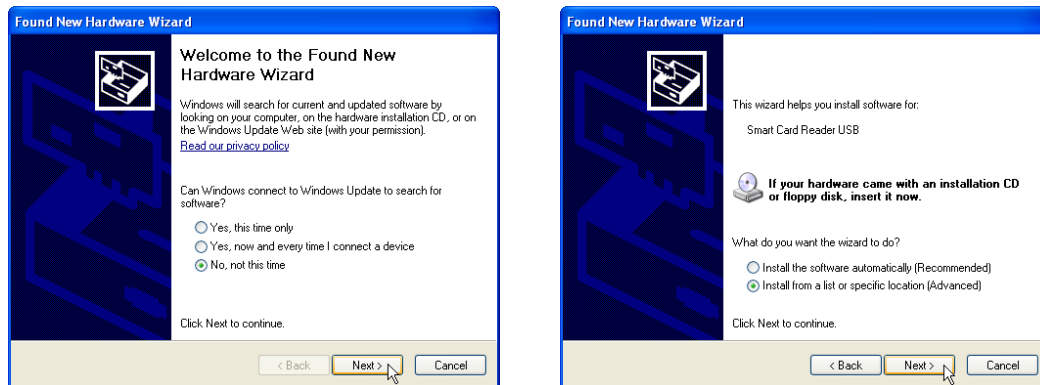


Fig. 2.1: Found New Hardware Wizard (Step 1 and 2 - Windows XP)

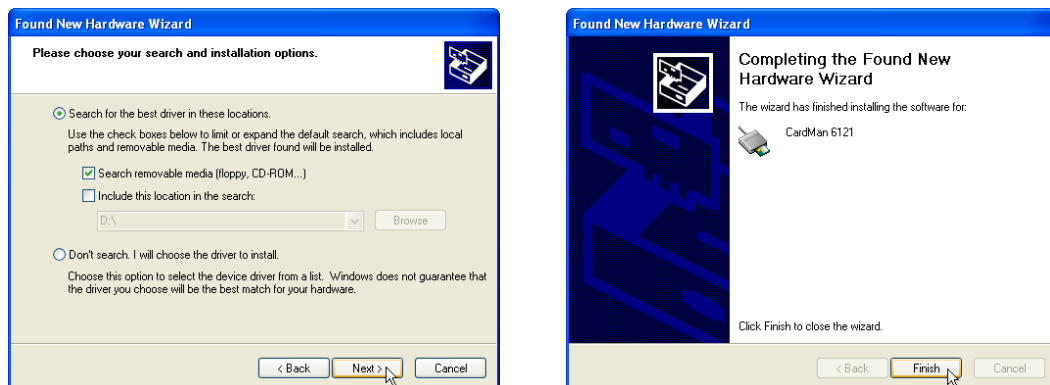


Abb. 2.2: Found New Hardware Wizard (Step 3 and 4 - Windows XP)

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 (Administrator Installation)

**TMU\_Guide\_SafeSign-IC-Standard\_v2.1.pdf** - description of the Token Management Utility (User Installation)

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 integrating the CrypToken under Outlook/Outlook Express and Internet Explorer will be installed automatically. After the installation has completed, click the "Finish" button.

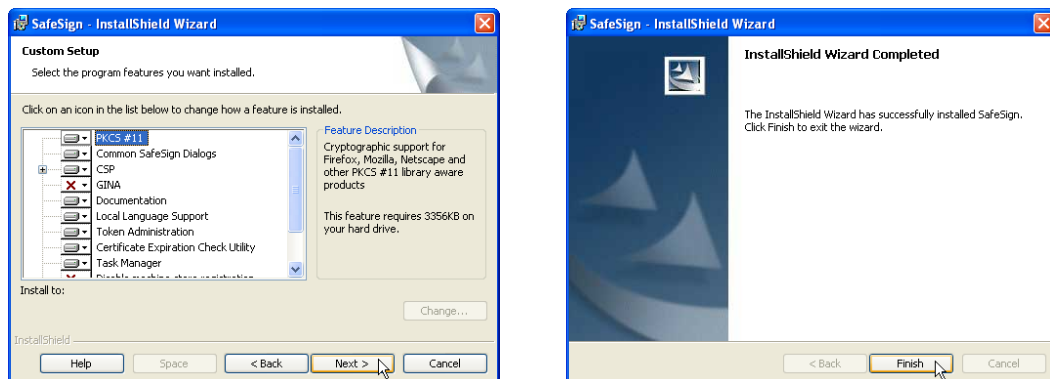


Fig. 2.3: SafeSign installation

## 2.3 Initializing the CryptToken

The CryptToken needs to be initialized prior to use it for storing certificates and keys. To do so, attach the CryptToken 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:

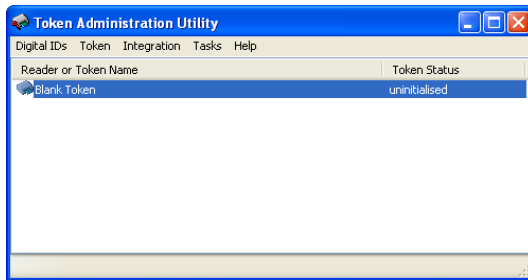


Fig. 2.4: Token Management: uninitialized CryptToken

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

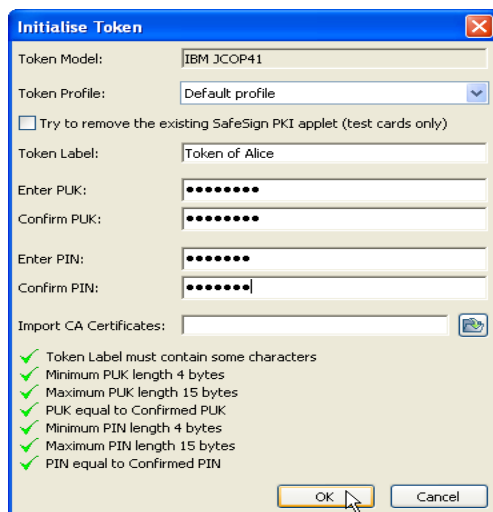


Abb. 2.5: Initializing the CryptToken

Wait until you received the message that the initialization was successful and click "OK" to finish. The CryptToken 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](http://www.cacert.org)  
[www.comodo.com/products/certificate\\_services/email\\_certificate.html](http://www.comodo.com/products/certificate_services/email_certificate.html)  
[www.verisign.com](http://www.verisign.com)  
 For testing purposes, you may also obtain Demo certificates from our webpage:  
[www.cryptoken.com/ctwebutils/phpki/](http://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.

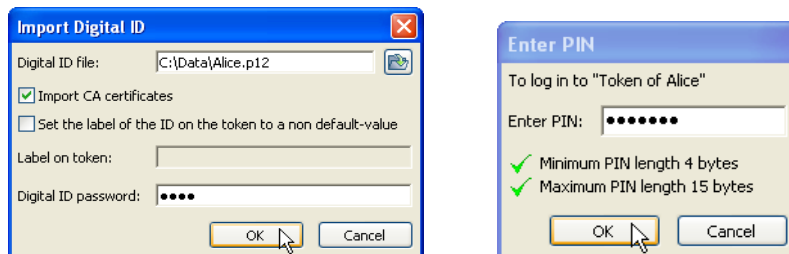


Fig. 3.1: Import Digital ID

### 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. Encrypting and Signing Emails

Attach the CrypToken to your computer and start Outlook 2003. Click on "New" to write a new email. To sign and/or encrypt click on "Options" (Fig. 4.1).

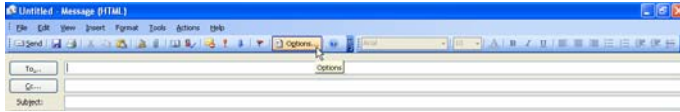


Fig. 4.1: Change message options

Within the message options select "Security Settings..." (Fig. 4.2).

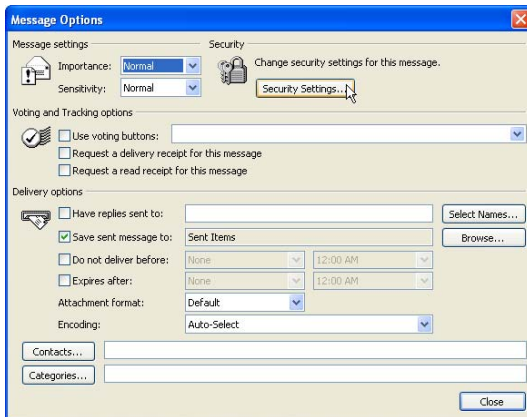


Fig. 4.2: Security Settings...

On the following screen enable signing and/or encryption (Fig. 4.3).

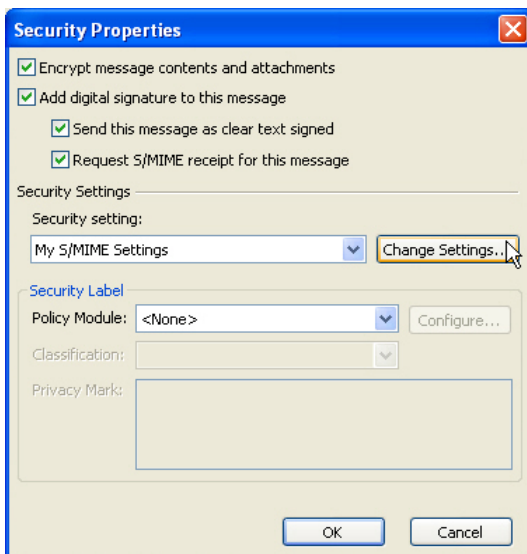


Fig. 4.3: Enable signing and/or encryption

Outlook will automatically select the proper certificate from the certificate database. To send encrypted emails you will need the public key of the receiver. This key is included in signed emails. If not, go to "Change Settings..." and select the proper certificate.

## 5. Receiving Encrypted and Signed Emails

Attach the CrypToken to your computer and start Outlook 2003. If you received a signed or encrypted email Outlook 2003 will show a symbol within the email header (Fig. 5.1).

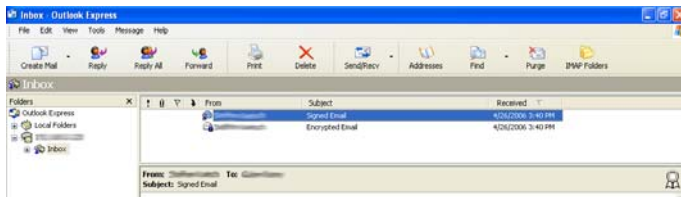


Fig. 5.1: Receiving a signed message

Following symbols are used to show the email status:



Fig. 5.2: Symbol for signed messages with trusted CA



Fig. 5.3: Symbol for signed messages with untrusted CA



Fig. 5.4: Symbol for encrypted messages

To add a trusted CA (e.g. CAcert) go to the homepage of the CA and download the root certificate. Afterwards go to "Tools ⇒ Options ⇒ Security" and click on "View Certificates". Then select "Authorities" and "Import". Browse to the certificate and install it.

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](http://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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