



SafeSign Identity Client Minidriver Version 3.5

Release Document for Windows



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Credit Information:

"This product includes cryptographic software written by Eric A. Young (eay@cryptsoft.com)."

"This product includes software written by Tim J. Hudson (tjh@cryptsoft.com)."



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About the Product

This competent all-rounder in terms of strong authentication, integration and compatibility gives you complete freedom and flexibility. Once rolled out, SafeSign Identity Client (IC) serves as the perfect guard for IT security and enables unlimited possibilities for securing your IT infrastructure.

SafeSign IC offers the most comprehensive support available on the market for (card) operating systems, smart cards, USB tokens, languages and functions. This means you have sustainable and permanent freedom of choice when it comes to manufacturer independence.

SafeSign IC enforces two- or multi factor authentication/logon to the network, client PC or application, requiring the end user to have both the USB token or smart card (something you have) and a Personal Identity Number (something you know). USB tokens and smart cards are physically and logically tamper-resistant, ensuring that the end user's digital credentials can not be copied, modified or shared. Authentication based on smart cards or USB tokens provides the highest degree of security.

SafeSign IC is available for both fixed and mobile devices like desktops, servers, laptops, tablets and smart phones. SafeSign IC is also found in Thin Clients, printers or any other devices requiring authentication.



1 About this Document

The aim of this document is to document the status of the release of SafeSign Identity Client (IC) Minidriver version 3.5 for Windows.

This document is part of the release documentation of SafeSign IC and is intended to be a reference to both end users and administrators.



2 Release Information

2.1 Deliverables

SafeSign IC Minidriver Version 3.5 for Windows is provided as an .msi installation file.

The InstallShield Wizard will guide you through the installation of SafeSign IC Minidriver for Windows.

Alternatively, the .msi installation package can be used for centralised distribution and installation within an enterprise context.

SafeSign IC Minidriver Version 3.5 for Windows includes the Token Administration Utility user interface for local smart card operations, such as Change PIN.

2.2 Date of Release

The date of the release is 14 April 2020.

2.3 Release Details

SafeSign IC Minidriver Version 3.5 for Windows reflects the new SafeSign IC version 3.5 product version numbering scheme, i.e. version number, build number and distribution number, which is reflected in the Version Information dialog of the Token Administration Utility and which now includes the version number for all components delivered with the release of SafeSign IC version 3.5 for Windows.

Release version: Minidriver Release 3.5.6.1-AET.000		
Description	File Name	File Version
Certificate Expiration Check Utility	aetcrss1.exe	3.5.0.4040
Common Dialogs	aetdlss1.dll	3.5.0.4315
Java Card Handling Library	aetjcss1.dll	3.5.0.4381
PKCS #11 Cryptoki Library	aetpkss1.dll	3.5.0.4358
PKCS #11 Library Wrapper with automatic login	aetpkssw.dll	3.5.0.4045
Task Manager	aettask.dll	3.5.0.4042
Secure Messaging Library	aetsm1.dll	3.5.0.4111
Kit Library	aetkit1.dll	3.5.0.4131
Read-write card-module	aetrwcm1x.dll (64-bit) aetrwcm1.dll (32-bit)	3.5.0.4238
Token Administration Utility	tokenadmin.exe	3.5.0.4401

- Note that in the distribution number (AET.000), the prefix AET is unique and reserved for AET general releases only.



- Note that when saving the version information to a file, there may be components listed that are not available in the SafeSign IC version installed. For example, in SafeSign IC Minidriver Version 3.5, the Credential Provider 'aetcpss1.dll' is listed, but as 'not installed'.

2.4 Windows 32-bit and 64-bit

SafeSign IC Minidriver Version 3.5 for Windows comes in a 32-bit version and a 64-bit version.

2.4.1 32-bit

The 32-bit version of SafeSign IC Minidriver is for 32-bit Windows Operating Systems only and does not install on 64-bit Windows.

- Note that the SafeSign IC Firefox Installer file (ssicfirefox.exe), which is present on 64-bit Operating Systems, is not available on 32-bit Operating Systems, but that installing SafeSign in Firefox either during installation or by means of the Token Utility works nevertheless.

2.4.2 64-bit

For use on 64-bit Windows Operating Systems, a SafeSign IC Minidriver 64-bit version is available (which does not install on 32-bit Windows Operating Systems) that will work with both 32-bit and 64-bit applications.

- Note that there are two system directories on Windows 64-bit Operating Systems: System32, which is reserved for 64-bit applications and SysWOW64, which is reserved for 32-bit applications.

SafeSign IC Minidriver Version 3.5 system files will install in both directories (to ensure that both 32-bit and 64-bit applications can work with SafeSign IC), with the following exceptions, which are installed in the System32 directory only:

- The Certificate Expiration Check Utility (aetcrss1.exe);
- The Task Manager (aettask.dll).

The Token Administration Utility's Version Information dialog will indicate which installed files have a 32-bit and/or a 64-bit file version.

2.5 Release Documents

SafeSign IC Minidriver Version 3.5 for Windows provides at least the following release documentation:

Document Name	Version
SafeSign IC Minidriver Version 3.5 Release Document for Windows	4.1



3 Features

The following features are supported by SafeSign IC Minidriver version 3.5 for Windows:

- 1 Multiple Token Support
- 2 Multiple Smart Card Reader Support
- 3 Multiple Application Support
- 4 Multiple Language Support
- 5 Attribute Certificate Support (\geq release 3.5.2.0)
- 6 Activate QSCD Card Support (\geq release 3.5.4.0)

These features are described in the following paragraphs.

3.1 Multiple Token Support

SafeSign IC Minidriver for Windows supports a large number of smart cards and tokens, as listed in section 7.

Newly supported smart card and tokens in SafeSign IC Minidriver version 3.5 for Windows are:

- Giesecke & Devrient StarSign Crypto USB-Token S
- Infineon Oracle JCOS Ed.1
- Morpho IDealCitiz v2.1
- NXP JCOP 3 SecID P60

3.2 Multiple Smart Card Reader Support

SafeSign IC Minidriver for Windows supports the use of PCSC 2.0 Class 1 smart card readers.

Note that a correct operation of a smart card reader depends on correctly working reader drivers.

SafeSign IC for Windows has been tested to support a number of smart card readers, as listed in section 8.

3.3 Multiple Application Support

SafeSign IC Minidriver for Windows supports applications on Windows that work through PKCS #11 or Microsoft CryptoAPI (NG).

SafeSign IC Minidriver for Windows supports a number of applications, that provide the following functionality:

- Web authentication
- Email signing and encryption
- Document signing
- Smart card logon
- Terminal Server logon



SafeSign IC Minidriver version 3.5 for Windows has been tested to support a number of applications, as listed in section 9.

3.4 Multiple Languages Support

SafeSign IC Minidriver version 3.5 for Windows supports a number of different languages.

When installing the SafeSign IC Minidriver .msi package, the default language of the installation program will be English. In order to install the .msi in a particular language, you will need to install the .msi with specific parameters, to apply a transform.


Section 10.1 lists the Windows language code identifiers and transform files to do so.

3.5 Attribute Certificate Support

SafeSign IC Minidriver Version 3.5.2.0 (and higher) allows you to view (information on) Attribute Certificates on the token and to import / export Attribute certificates through the Token Administration Utility.

An attribute certificate (AC) is a structure similar to a Public Key certificate (PKC); the main difference being that the AC contains no public key. An AC may contain attributes that specify group membership, role, security clearance, or other authorization information associated with the AC holder (from: <https://tools.ietf.org/html/rfc5755>).

The Token Administration Utility (TAU) now includes the following information on ACs:

- *PKCS #11 objects* dialog (Show Token Objects): the column 'Type' indicates whether the certificate is a (PKC) 'Certificate' or an 'Attribute Certificate'.
 - *Certificate* dialog (View certificate): the *Certificate* dialog includes information on 'Certificate Attributes' for an Attribute Certificate.
 - *Certificate analysis* dialog (Analyse certificate quality): the (new) column 'Type' now indicates whether the certificate is a (PKC) 'Certificate' or an 'Attribute Certificate'.
 - It is possible to import Attribute Certificates through the Import Certificate feature.
 - It is possible to export Attribute Certificates through Save Object / Save to file.
 - When making a dump file (Dump Token Contents), the resulting .tkn will include information on the certificate type; an Attribute Certificate will contain 'CKA_CERTIFICATE_TYPE: CKC_X_509_ATTR_CERT'.
-  Note that translations for Attribute Certificates and their attributes / extensions are only available in Dutch, Portuguese and Brazilian Portuguese.



3.6 Activate QSCD Card Support

In accordance with the (European) eIDAS Regulation and related standards for cryptographic modules, the legitimate user / signatory of a Qualified Signature Creation Device (QSCD) is responsible for activating the card (keys), i.e. to change the state of the card (keys) from non-operational to operational.

From SafeSign IC Minidriver Version 3.5.4.0 onwards, the SafeSign IC Token Administration Utility offers users of a QSCD to activate their card.

When a QSCD is inserted in the smart card reader, the SafeSign IC middleware will enable the user to activate the card, based on the presence of the Common Criteria (CC) certified SafeSign IC applet and the card specific ATR. If these conditions are met, the Token menu of the SafeSign IC Token Administration Utility will display the option 'Activate Card'.

- Note that the activation process for a particular card may require the user to authenticate to the card by entering the PIN or it may require the user to change the Transport PIN set for the card.

SafeSign IC Minidriver version 3.5 for Windows supports the following QSCD cards:

- Defensiepas 3 (≥ SafeSign IC Minidriver version 3.5.4.0)
- UZI-pas 3 (≥ SafeSign IC Minidriver version 3.5.6.0)



4 New Features and Fixes

SafeSign IC Minidriver version 3.5 for Windows has a number of new features and fixes / changes.

Section 4.1 will describe the new features and functionality.

Section 4.2 will describe the improved and fixed features and functionality.

4.1 New

- Added support for Infineon Oracle JCOS Ed.1
- Added support for Morpho IDDealCitiz 2.1
- Added support for StarSign Crypto USB-Token S
- Added support for NXP JCOP 3 SecID P60
- Added a number of new ATRs for supported cards.
- The Token Administration Utility reflects the new SafeSign IC version 3.5 product version numbering scheme and now includes the version number for all components included.
- In the Token Information dialog, the field 'Last Update of PIN' now includes the exact date of the last PIN change in the format YYYY-MM-DD (in accordance with the extended date representation of the ISO 8601 standard). When the last update of the PIN is the same day /today, the field includes the text 'today' (not the date in YYYY-MM-DD format).
- As users may want to be able to see the number of PUK retries left when entering the PUK (to prevent the PUK from getting blocked), a PUK retry counter has been implemented. This should be enabled by the registry setting 'ShowPUKRetryCounter'. When enabled, any dialog that includes PUK entry (such as Change PUK or Unlock PIN) will display not only that the PUK inserted was wrong (which is existing functionality), but also the remaining tries before the PUK will be blocked.
- A PIN retry counter has been added to the Change PIN dialog of the Token Administration Utility as well.
- Support for secure web authentication in Microsoft Edge on Windows 10.
- SafeSign IC Minidriver version 3.5 now supports secure messaging, by the use of two new libraries, i.e. the Secure Messaging Library and the Kit Library. This means that users of a certified Brazilian card can have secure messaging for Windows applications that use the SafeSign IC Minidriver through the Microsoft Base Smart Card CSP.

4.1.1 Version 3.5.1.0

- Support for G&D Sm@rtCafe Expert 7.0 on NXP (P60CD081) chip (ATR).

4.1.2 Version 3.5.1.1

- Added support for Oberthur IDone Cosmo v7.0.2 (ATR).



4.1.3 Version 3.5.2.0

- Support for G&D Sm@rtCafe Expert 7.0 on NXP (P60CD081) chip (contactless ATR).
- SafeSign IC Minidriver Version 3.5.2.0 allows you to view (information on) Attribute Certificates on the token and to import / export Attribute Certificates through the Token Administration Utility.
- A workaround for an issue with Citrix has been implemented, in the form of a registry entry that can be enabled. The issue occurred in a very specific use case, which involves the insertion and removal of different cards during logon and has to do with cached card states. The registry entry is is: HKEY_LOCAL_MACHINE\SOFTWARE\{WOW6432Node}\A.E.T. Europe B.V.\SafeSign\2.0\Card Module\VerifyCachedCardGuid. For more information, please contact safesignsupport@aeteurope.com.

4.1.4 Version 3.5.4.0

- Support for Defensiepas 3 (ATR) on NXP JCOP 3 SecID P60.

4.1.5 Version 3.5.6.0

- Support for UZI-pas 3 (ATR) on NXP JCOP 3 SecID P60.

4.1.6 Version 3.5.6.1

- Some features of the Token Administration Utility, which were enabled by default, have now been disabled by default:
 - Delete Digital ID (button in *Digital IDs* dialog)
 - Transfer ID to token (button in *Digital IDs* dialog)
 - Import Digital ID (option in **Digital IDs** menu)

4.2 Fixed

- In SafeSign IC Minidriver Version 3.5, a number of cards (and related data, including ATRs and CPLC data) have been removed. Basically, SafeSign IC will only support Java Card v2.2.2 and higher cards. See section 6 for more details.
- Applet loading functionality has been disabled. This functionality was included for evaluation and demonstration purposes only (working only for cards with a default Global Platform keyset) and use of the included applet has been deprecated.
- As a consequence of the above, the Token Administration Utility option 'QueryUnknownToken' has been removed.
- Applied a consistent name convention for Giesecke & Devrient cards, i.e. 'G&D Sm@rtCafe Expert'.
- The Firefox Installer has been renamed to 'SafeSign IC for Firefox Installer'.
- Solved an issue where the Token Administration Utility would crash when importing a Digital ID file containing Cyrillic characters.



- In SafeSign IC Minidriver Version 3.5, a better selection is made regarding the default (key) container, to ensure that keys without a certificate are not set as the default container.
- There was an issue in SafeSign IC Minidriver Version 3.0.113, where Outlook would crash when selecting an encrypted mail and entering the PIN. This has been fixed in SafeSign IC Minidriver Version 3.5.
- In the Unknown ATR message (displayed in the Token Utility when the ATR of a card is not known in SafeSign IC) , the e-mail address for SafeSign Support has been updated (safesignsupport@aeteurope.com).
- There was an issue in SafeSign IC Minidriver Version 3.0.113 when installing the SafeSign IC PKCS #11 Library through the Firefox Installer in Firefox 58.0, due to changes Firefox made in the method for registering a PKCS #11 Library. This has been fixed in SafeSign IC Minidriver Version 3.5.
- There was an issue in SafeSign IC Minidriver Version 3.0.113, where applications would not work anymore when a card contained more than 10 certificates (“the smart card cannot perform the requested operation”). This has been fixed in SafeSign IC Minidriver Version 3.5.

4.2.1 Version 3.5.1.0

- The registry now includes the ATR for the ‘G&D Sm@rtCafe Expert 3.2 72K’ and the ‘G&D Sm@rtCafe Expert 3.2 80K’ card.
- There was an issue with certificate enrolment using a Rijkspas, which resulted in an error when the certificates were written on the Rijkspas. This only occurred when the Rijkspas had been wiped or Digital IDs had been removed. This issue has been fixed.

4.2.2 Version 3.5.2.0

- With the Token Administration open, entering an incorrect PIN in another (external) application (e.g. when doing secure web authentication) will not update the PIN retry counter. This issue has been fixed.
- There was an error opening the SafeSign License Agreement files installed with SafeSign IC Minidriver Version 3.5.0.0. This issue has been fixed.
- There was an issue in SafeSign IC Minidriver Version 3.5.0.0 on Windows 32-bit, where the uninstallation would not uninstall ‘aetpkssw.dll’ from the system directory. This issue has been fixed.
- There was an issue in SafeSign IC Minidriver Version 3.5.0.0 that some characters in Serbian Latin (ć, č and đ) would be incorrectly displayed (e.g. the č character would be displayed as è). This issue has been fixed.
- Although it is not possible to upgrade an existing installation of SafeSign IC Minidriver (version 3.0.112 or lower) to SafeSign IC Minidriver Version 3.5, it is now possible to upgrade from SafeSign IC Minidriver Version 3.5.0.0 to SafeSign IC Minidriver Version 3.5.2.0. Please refer to the Installation Guide for more details.
- In SafeSign IC Minidriver Version 3.0.113 and 3.5.0.0, you could resize the Token Administration Utility window to a very small size. The resize has been limited, to a size where the text of the menu items remains visible.



4.2.3 Version 3.5.3.0

- There was an issue identified in SafeSign IC Minidriver (from version 3.0.113 and higher) with Citrix XenApp 7.17 / Citrix Virtual Apps 1811, where after the reconnect of a disconnected Citrix ICA session, open applications would no longer interact with the token or detect card insertion / removal. This has been fixed in SafeSign IC Minidriver Version 3.5.3.0.

4.2.4 Version 3.5.6.1

- There was an issue in the SafeSign IC for Firefox Installer, which did not install the PKCS #11 Library as a security module in Firefox 68 or higher, although it reports that it is successful. This was caused by the fact that Mozilla Firefox moved to a “profile per install architecture”. This has been fixed in SafeSign IC Minidriver version 3.5.6.1. SafeSign IC will now be installed in each Firefox profile available at the time of installation.



5 Known Issues

5.1 General

- When installing the SafeSign IC Minidriver .msi package, the default language of the installation program will be English. In order to install the .msi in a particular language, you will need to install the .msi with specific parameters, to apply a transform.
- Firefox cannot handle a certificate that does not have a label. As a workaround, you can set a label on the keys and certificate in the Token Administration Utility's Show Token Objects dialog.

5.2 SafeSign IC

- When you minimize the SafeSign IC installer during installation (including a Modify, Repair and Remove of the installation), the window moves for 90% out of screen.
- When initialising or wiping a smart card, the message "Token label must contain some characters" is also displayed (it does not change) when the label is too long. Nevertheless, when the maximum length for the label is exceeded, a red cross will appear instead of the green OK icon.
- When generating / importing a Digital ID file or certificate and the message that the token is full (out of memory: 0x80090023) is displayed, it may be that the whole or parts of the Digital ID file (and certificate chain) or the certificate have been placed on the smart card nevertheless. This will be clearly visible in the Token Administration Utility (Show Token Objects).
- When initialising or wiping a token with Root CA certificates, you can only select a particular directory. It is not possible to select a particular file.
- When importing a CA certificate file (either during initialisation or by the function Import Certificate), *.crt files are not selected by the default file extensions (*.cer, *.der), although the import does work.
- On Windows 7, the locale setting for displaying SafeSign IC in Serbian Cyrillic and Serbian Latin is "Serbian (Cyrillic, Serbia and Montenegro (Former))" and "Serbian (Latin, Serbia and Montenegro (Former))" respectively.
- Cards that do not support logical channels do not support challenge response authentication (unlock).
- It is not possible to set up a Microsoft VPN connection on Windows 8.1 with a card without logical channels enabled (or only one logical channel enabled).
- It is not possible to set up a VPN connection on Windows 10 (with any card).
- When creating a data object containing no data (done by using an empty CKA_VALUE), an error occurs (CKR_DEVICE_ERROR). According to the PKCS #11 standard, it is allowed to leave the CKA_VALUE empty. Although the SafeSign PKCS #11 implementation correctly handles the empty CKA_VALUE, the command to create the file fails. As a workaround, a null-byte should be used instead of an empty byte.



- There is no message when entering the wrong PUK during off-line PIN unlock (by means of the PUK) at smart card logon.
- It is not possible to set a PIN Timeout for the RIC Card, as this is not supported by the applet for the RIC Card.
- It is not possible to enrol a 1024 bits key pair on a RIC Card, as this is not supported (it is possible to generate a 2048 bits key pair).
- When you export a certificate from the token in the Token Administration Utility and then import it again to the same token, SafeSign IC will not recognise that the certificate already exists on the card, resulting in a duplicate certificate (with maybe a different name).
- The Token Utility will only display and register Digital IDs that have a private key. When requesting a new Digital ID, the Token Utility will not display the new Digital ID with the green card icon. This is caused by the fact that the Minidriver does not update the token cache. This is a display issue only (the keys and certificates are stored on the token) and it does not affect the functionality of the SafeSign IC Minidriver / the Digital ID in any way.
- When generating keys, the Key Generation Notification does not appear.
- When requesting a keypair and certificate through Microsoft AD Certificate Services in Internet Explorer, selecting SHA256 or higher as the signing algorithm, you will be asked for your PIN twice. This is caused by both the Microsoft Base Smart Card CSP and KSP being used by Microsoft and requesting the PIN.
- Starting from Windows 8, the way smart cards are handled, has changed. Most notably, if a transaction is started and no activity happens for 5 seconds, the transaction (and card) are automatically reset. This has consequences for enrolling a certificate with Microsoft FIM / MIM using the Microsoft Base Smart Card CSP (see the SafeSign IC Administrator's Guide) and and for T=0 cards (see known issue below).
- The support for the non-standard <keygen> HTML element and HTMLKeygenElement DOM interface has been removed with Firefox 69. This means that any enrolment that uses the browser to generate the key pair will cease to work with Firefox 69 onwards. Please refer to: <https://developer.mozilla.org/en-US/docs/Web/HTML/Element/keygen>.

5.2.1 Version 3.5.0.0

- On Windows 10, the locale settings "Serbian (Cyrillic, Serbia)" and "Serbian (Latin, Serbia)" are not working. Microsoft changed handling of the Serbian language on Windows 10, which causes wxwidgets to not recognize the language (language unknown).
- On Windows 8 and higher, when enrolling for a key pair and certificate through the Microsoft AD Certificate Services in Internet Explorer, the Certificate Enrollment Control (certenrollctrl.exe) is not unloaded / terminated when Internet Explorer is closed (and the context is kept open). This results in a situation that when the token is wiped in between enrollments, the token contains both the previous Digital ID (before the wipe) and the new Digital ID (requested after the wipe). However, you will not be able to use the previous Digital ID.



- On Windows 8 and higher, when using a T=0 card, entering an incorrect PIN code in Internet Explorer secure web authentication, gives an error: “The smart card does not support this operation”. This is caused by the card being reset (as a result of changes from Windows 8 in the way smart cards are handled). Though this happens with T=1 cards as well, it seems that Microsoft has bad recovery for T=0 cards in this case. As a workaround, you can enable the ‘KeepAlive’ registry setting (to prevent the transaction from timing out) or to remove and re-insert the card when it happens.
- In languages other than English, some items in the Version Information dialog are not translated (e.g. Build number, Distribution number and the names of the Secure Messaging libraries).

5.2.2 Version 3.5.2.0

- In Firefox version 65.0 and higher, the reader name is displayed in the Security Devices column, not the token label.



6 Supported Operating Systems

SafeSign IC Minidriver for Windows has been tested to support the following Windows Operating System(s):

Operating System	Version 3.5.0.0 – 3.5.6.1
Windows 7 SP1 (Enterprise)	√
Windows 8.1 (Enterprise)	√
Windows 10 (Professional, Enterprise)	√
Windows Server 2008 R2 SP1 Enterprise	√
Windows Server 2012 R2 Datacenter	√
Windows Server 2016	√
Windows Server 2019	√

Like every SafeSign IC release, SafeSign IC Minidriver Version 3.5 for Windows was tested on the abovementioned Windows Operating Systems with the (latest) Service Pack and Updates available at that time. Though SafeSign IC Minidriver Version 3.5 may work on older / other versions of these Operating Systems, only support requests for issues reproduced on the supported Windows Operating Systems listed above (up-to-date with the latest Windows Updates) will be taken into consideration.

- ⚡ Note that Windows Server 2012 (R2) and higher only run on x64 processors, so you should install the 64-bit version of SafeSign IC.
- ⚡ Note that in order to use SafeSign IC Minidriver Version 3.5 on Windows 10, we recommend to install the latest version of Windows 10 (Professional or Enterprise), which is currently 1909, OS Build 18363.592.
- ⚡ Note that Microsoft ended support for Windows 7 on 14 January 2020 and will no longer provide technical support for any issues, software updates and security updates or fixes. We strongly recommend to upgrade to Windows 10, as future versions of SafeSign IC will no longer support Windows 7.



7 Supported Tokens

SafeSign IC for Windows supports a number of smart cards and tokens, as listed below.

These tokens have been tested to work as part of the release testing for SafeSign IC version 3.5 for Windows.

The number of cards supported in SafeSign IC for Windows has been decreased, to support only those cards that are non-proprietary and compliant with at least Java Card 2.2.2 and higher.

The SafeSign IC PKI applet enables end users to utilise Java Card 2.2.2 and higher compliant cards with the SafeSign IC middleware. A Java card or token must contain an installed SafeSign IC applet before it can be used with SafeSign IC.

From SafeSign IC version 3.5, applet loading functionality has been disabled. In previous versions, an old and deprecated version of the SafeSign IC applet was included, which could be installed on Java cards (during initialisation through the Token Utility) for demonstration and evaluation purposes, if such a card contained a default GlobalPlatform keyset. Obviously, this is not desirable in production (use), where the proper applet should not only be pre-installed, but the default keyset changed to a custom(er) keyset, in a secure production facility / environment.

As the correct functioning of SafeSign IC is depending on a properly produced smart card or USB Token, AET requires that smart cards and / or USB tokens are produced for use with SafeSign IC in accordance with our QA policies (which require i.a. the correct applet to be pre-installed in a secure environment and a custom keyset). This is a condition to be eligible for support by AET in case of problems, in addition to the purchase / existence of a valid SafeSign IC Maintenance and Support Agreement.

Card Type
Defensiepas
Defensiepas 2
Defensiepas 3 (QSCD)
G&D Convego Join 4.01 40k/80k
G&D SkySIM Hercules
G&D SkySIM Scorpius
G&D Sm@rtCafé Expert 3.2
G&D Sm@rtCafé Expert 4.0
G&D Sm@rtCafé Expert 5.0
G&D Sm@rtCafé Expert 6.0
G&D Sm@rtCafé Expert 7.0



Gemalto Desineo ICP D72 FXR1 Java
Gemalto IDCore 30
Gemalto MultiApp ID v2.1
Gemalto Optelio D72 FR1
Gemalto TOP DL v2
Infineon Oracle JCOS Ed.1
JCOP21 v2.3
Morpho IDDealCitiz v2.1
Morpho JMV ProCL V3.0
NXP J2A080 / J2A081 (JCOP 2.4.1 R3)
NXP JD081 (JCOP 2.4.1 R3)
NXP J3A080 (JCOP 2.4.1 R3)
NXP JCOP 2.4.2 R3
NXP JCOP 3 SecID P60
Oberthur IDone Cosmo v7.0
RDW ABR kaart
Rijkspas
Rijkspas 2
Sagem YpsID s2
Sagem YpsID s3
StarSign Crypto USB Token S
Swissbit PS-100U SE
UZI-pas
UZI-pas 2
UZI-pas 3 (QSCD)



7.1 Supported ATRs

Below you will find a complete list of the ATRs supported by SafeSign IC Minidriver version 3.5.

Card Name	ATR
Changingtec JCOP J2A80	3b,f8,18,00,ff,81,31,fe,45,00,73,c8,40,00,00,90,00,7f
Defensiepas	3b,f9,18,00,00,81,31,fe,45,39,35,32,38,35,30,31,33,31,da
Defensiepas 2	3b,f9,18,00,00,81,31,fe,45,39,35,32,38,35,30,31,33,32,d9
G&D SkySIM CX Hercules	3b,9f,96,80,3f,c3,a0,80,31,e0,73,f6,21,56,57,4a,4d,02,0b,34,44,00,5f
G&D Sm@rtCafe Expert 3.2 (T=CL) DSV	3b,7a,18,00,00,73,66,74,65,20,63,64,31,34,34
G&D Sm@rtCafe Expert 3.2 FI	3b,fd,18,00,00,80,31,fe,45,73,66,74,65,20,63,64,31,34,34,2d,6e,66,d8
G&D Sm@rtCafe Expert 3.2 FI (T=CL)	3b,8d,80,01,73,66,74,65,20,63,64,31,34,34,2d,6e,66,3b
G&D Sm@rtCafe Expert 4.0 FI	3b,f8,18,00,00,80,31,fe,45,00,73,c8,40,13,00,90,00,92
G&D Sm@rtCafe Expert 4.0 FI (T=CL)	3b,88,80,01,00,73,c8,40,13,00,90,00,71
G&D Sm@rtCafe Expert 5.0 (T=CL)	3b,89,80,01,53,46,2d,34,43,43,2d,30,31,28
G&D Sm@rtCafe Expert 6.0 (USB Token)	3b,fd,18,00,00,81,31,fe,45,53,43,45,36,30,2d,43,43,30,38,31,2d,46,c2
G&D Sm@rtCafe Expert 6.0 FIPS	3b,fd,18,00,00,80,31,fe,45,53,43,45,36,30,2d,43,44,30,38,31,2d,46,c4
G&D Sm@rtCafe Expert 6.0 FIPS (T=CL)	3b,8d,80,01,53,43,45,36,30,2d,43,44,30,38,31,2d,46,27
G&D Sm@rtCafe Expert 6.0 FIPS 144k (T=CL)	3b,8d,80,01,53,43,45,36,30,2d,43,44,31,34,35,2d,46,2e
G&D Sm@rtCafe Expert 6.0 Non FIPS	3b,fe,18,00,00,80,31,fe,45,53,43,45,36,30,2d,43,44,30,38,31,2d,6e,46,a9
G&D Sm@rtCafe Expert 6.0 Non FIPS (T=CL)	3b,8e,80,01,53,43,45,36,30,2d,43,44,30,38,31,2d,6e,46,4a
G&D Sm@rtCafe Expert 6.0 Non FIPS 144k	3b,fe,18,00,00,80,31,fe,45,53,43,45,36,30,2d,43,44,31,34,35,2d,6e,46,a0
G&D Sm@rtCafe Expert 6.0 Non FIPS 144k (T=CL)	3b,8e,80,01,53,43,45,36,30,2d,43,44,31,34,35,2d,6e,46,43
G&D Sm@rtCafe Expert 7.0 CC	3b,f9,96,00,00,80,31,fe,45,53,43,45,37,20,00,00,20,20,27
G&D Sm@rtCafe Expert 7.0 CC (T=CL)	3b,89,80,01,53,43,45,37,20,00,00,20,20,4a
G&D Sm@rtCafe Expert 7.0 FIPS	3b,f9,96,00,00,80,31,fe,45,53,43,45,37,20,03,00,20,46,42
G&D Sm@rtCafe Expert 7.0 FIPS (T=CL)	3b,89,80,01,53,43,45,37,20,03,00,20,46,2f
Gemalto Desineo ICP D72 FXR1 Java	3b,6e,00,00,80,31,80,66,b1,a1,11,01,00,f6,83,00,90,00
Gemalto IDCore 30	3b,7f,96,00,00,80,31,80,65,b0,84,41,3d,f6,12,00,4c,82,90,00
HID Crescendo C700	3b,df,18,ff,81,31,fe,45,80,59,01,80,48,49,44,43,37,30,30,73,00,01,1b,33
Infineon Oracle JCOS Ed.1	3b,fd,96,00,00,80,31,fe,45,53,4c,4a,35,32,47,78,78,79,79,79,7a,52,25
JCOP21 v2.3.1 (Winter AG)	3b,fa,18,00,ff,81,31,fe,45,4a,43,4f,50,32,31,56,32,33,31,65
Morpho IDealCitiz v2.1	3b,fb,96,00,00,81,31,fe,44,81,00,78,05,40,02,21,01,01,90,00,68
Morpho JMV ProCL V3.0	3b,78,96,00,00,00,73,c8,40,00,00,90,00
NXP J2A080 (Winter AG GTN)	3b,fd,18,00,00,81,31,fe,45,06,0b,60,84,10,01,87,6b,01,03,05,04,02,fb
NXP J2A080-J3A080 (TA1=96)	3b,f8,96,00,ff,81,31,fe,45,4a,43,4f,50,76,32,34,31,cd
NXP J2A080-J3A080 (Winter AG)	3b,f8,18,00,ff,81,31,fe,45,4a,43,4f,50,76,32,34,31,43
NXP J2D081	3b,f5,13,00,00,81,31,fe,45,73,74,64,31,30,8f
NXP J3A080	3b,f8,13,00,00,81,31,fe,45,4a,43,4f,50,76,32,34,31,b7
NXP J3D081 (T=CL)	3b,89,80,01,4a,43,4f,50,32,34,32,52,32,4a



Card Name	ATR
NXP JCOP 2.4.2 R3 (Austriacard)	3b,f9,18,00,00,81,31,fe,45,4a,43,4f,50,32,34,32,52,33,a9
NXP JCOP 2.4.2 R3 (exceet Card AG)	3b,f9,18,00,ff,81,31,fe,45,4a,43,4f,50,32,34,32,52,33,56
NXP JCOP 3 SecID P60	3b,dc,18,ff,81,91,fe,1f,c3,80,73,c8,21,13,66,05,03,63,51,00,02,50
RDW ABR kaart	3b,fa,18,00,00,81,31,fe,45,06,08,2a,84,10,01,87,6e,08,08,b1
Rijkspas	3b,fa,18,00,00,81,31,fe,45,06,08,2a,84,10,01,87,6e,08,05,bc
Rijkspas 2	3b,fa,18,00,00,81,31,fe,45,06,08,2a,84,10,01,87,6e,08,07,be
StarSign Crypto USB-Token S	3b,f9,96,00,00,81,31,fe,45,53,43,45,37,20,0e,00,20,20,28
Swissbit PS-100u SE	3b,fe,96,00,00,81,31,fe,45,80,31,80,66,40,90,a5,10,2e,03,83,01,90,00,6e
UZI-pas	3b,fa,18,00,00,81,31,fe,45,06,08,60,84,10,01,87,6f,06,02,fe
UZI-pas 2	3b,fd,18,00,ff,81,31,fe,45,43,49,42,47,55,5a,49,4a,32,41,30,38,31,58

7.1.1 Version 3.5.1.0

Below you will find the ATRs that have been added in SafeSign IC Minidriver version 3.5, release 3.5.1.0.

Card Name	ATR
G&D Sm@rtCafe Expert 3.2 72k	3b,f7,18,00,00,80,31,fe,45,73,66,74,65,2d,6e,66,c4
G&D Sm@rtCafe Expert 3.2 80k	3b,fd,18,00,00,80,31,fe,45,73,66,74,65,2d,63,64,30,38,30,2d,6e,66,dc
G&D Sm@rtCafe Expert 7.0 NXP	3b,f9,96,00,00,80,31,fe,45,53,43,45,37,4e,58,50,20,20,41

7.1.2 Version 3.5.1.1

Below you will find the ATRs that have been added in SafeSign IC Minidriver version 3.5, release 3.5.1.1.

Card Name	ATR
Oberthur IDone Cosmo v7.0.1	3b,db,96,00,80,b1,fe,45,1f,83,00,31,c0,64,1a,18,01,00,07,90,00,5a
Oberthur IDone Comso v7.0.2	3b,db,96,00,80,b1,fe,45,1f,83,00,31,c0,64,1f,18,01,00,01,90,00,59

7.1.3 Version 3.5.2.0

Below you will find the ATRs that have been added in SafeSign IC Minidriver version 3.5, release 3.5.2.0.

Card Name	ATR
G&D Sm@rtCafe Expert 7.0 NXP (T=CL)	3b,89,80,01,53,43,45,37,4e,58,50,20,20,2c



7.1.4 Version 3.5.4.0

Below you will find the ATRs that have been added in SafeSign IC Minidriver version 3.5, release 3.5.4.0.

Card Name	ATR
Defensiepas 3	3b,dc,18,ff,81,91,fe,1f,c3,06,0a,2b,06,01,04,01,e9,10,05,01,03,d2

7.1.5 Version 3.5.6.0

Below you will find the ATRs that have been added in SafeSign IC Minidriver version 3.5, release 3.5.6.0.

Card Name	ATR
UZI-pas 3	3b,dc,18,ff,81,91,fe,1f,c3,06,0a,2b,06,01,04,01,e9,10,05,02,03,d1



8 Supported Smart Card Readers

SafeSign IC Minidriver provides support for PCSC 2.0 Class 1 readers.

In principle, SafeSign IC supports PC/SC v1.0 compliant smart card readers that supply a current of at least 60mA.

We recommend that customers make a careful selection of the smart card reader to use, as there are many smart card readers on the market, with such restrictions as 'buggy' PC/SC drivers (especially older smart card reader models), not enough power supply for cryptographic cards (which require a minimum of 60mA) and faulty T=0 or T=1 protocol implementation. These reader problems are beyond the control of smart cards and SafeSign IC.

The following table lists the specific readers that have been tested with SafeSign IC Minidriver Version 3.5:

Smart Card Reader Manufacturer and Model	Class
HID Global CardMan 3x21	1

Note that smart card readers that have been tested or have been working at a given time with a previous SafeSign IC version for Windows, may not (still) work or be supported in any or all versions of SafeSign IC version 3.5 for Windows.



9 Supported Applications

SafeSign IC Minidriver version 3.5 for Windows has been tested in accordance with AET's Quality Assurance procedures and the SafeSign IC Minidriver for Windows test plan. This includes testing of a number of defined and representative applications to verify a correct functioning of the SafeSign IC components and Libraries.

The following applications have been tested with SafeSign IC for Windows:

Application	Version	Purpose
Token Administration Utility	3.5.0.4401	PKCS #11 token management functions
Mozilla Firefox	74.0	Authentication to a secure web site
Mozilla Thunderbird	68.6.0	Signing and decrypting e-mail messages
Internet Explorer	11	Certificate enrollment with key pair generation; Authentication to a secure web site
Microsoft Edge	80.0.361.109	Authentication to a secure web site
Microsoft Outlook	2016, 2019	Signing and decrypting e-mail messages
Adobe Reader DC	20.006.20042	Digitally signing a document
Microsoft Word	2016, 2019	Digitally signing a document
LibreOffice	6.4.2	
Windows Smart Card Logon	-	Log on to a local Windows client system
Terminal Server Logon	-	Log on to a Windows Terminal Server

- Note that PKCS #11 applications (such as Firefox) need the PKCS #11 Library to be loaded / installed as a security module. The SafeSign IC PKCS #11 Library (called 'aetpkss1.dll') can be found in the system directory.
- Note that (Microsoft) applications do not normally require any configuration, i.e. you do not need to select or install the SafeSign IC card Minidriver.

9.1 Token Administration Utility

With the SafeSign IC Token Administration Utility, you can perform (local) smart card related operations, such as changing the PIN for your smart card or token.

The features available in the Token Administration Utility, can be modified in the Windows registry. The features to be enabled (1) or disabled (0) are located in 'Actions'.

Refer to the Administrator's Guide for more details.



9.2 Mozilla Firefox

With the SafeSign PKCS #11 Library installed as a security module in Firefox, you can perform secure web authentication with a SafeSign IC token.

To verify whether the SafeSign PKCS #11 Library is installed as a security module in Firefox, go to Preferences -> Advanced -> Encryption (tab) -> Security Devices (button).

Refer to the SafeSign Identity Client 'Minidriver Installation Guide' and 'SafeSign Identity Client Token Utility Guide' how to install the SafeSign IC PKCS #11 Library in Firefox during the installation process and by means of the Token Administration Utility.

9.3 Mozilla Thunderbird

With the SafeSign PKCS #11 Library installed as a security module in Thunderbird, you can send and receive signed and/or encrypted message with a SafeSign IC token.

To verify whether the SafeSign PKCS #11 Library is installed as a security module in Thunderbird, go to Preferences -> Advanced -> Certificates (tab) -> Security Devices (button).

9.4 Internet Explorer

With SafeSign IC Minidriver installed, you can perform certificate enrollment (i.e. Certificate Services web enrollment for version 2 templates) and secure web authentication in Internet Explorer.

9.5 Microsoft Edge

With SafeSign IC Minidriver installed, you can perform secure web authentication in Microsoft Edge.

9.6 Microsoft Outlook

With SafeSign IC Minidriver installed, you can send and receive signed and/or encrypted message with a SafeSign IC token.

9.7 Adobe Reader DC

With SafeSign IC Minidriver installed, you can sign documents with a SafeSign IC token.

Adobe Reader DC supports the use of Windows Digital IDs through CryptoAPI, which is the recommended method.

It is also possible to use a PKCS #11 Library, but note that Adobe Reader Protected Mode is not able to interact with your smart card reader or token, so you will not be able to add a PKCS #11 Library, unless you disable Protected Mode, which is not recommended.



To verify whether the SafeSign PKCS #11 Library is installed as a security module in Adobe Reader DC, go to Acrobat Reader -> Preferences -> Signatures -> Identities & Trusted Certificates: More.

- When you want to sign a document, you will first need to login to the PKCS#11 token, before your certificates for signing will be available / displayed.

9.8 Microsoft Word

With SafeSign IC Minidriver installed, you can sign documents with a SafeSign IC token.

9.9 LibreOffice

With SafeSign IC Minidriver installed, you can sign documents with a SafeSign IC token.

9.10 Windows Smart Card Logon

With SafeSign IC Minidriver installed, you can use your SafeSign IC token to log on to a local Windows client machine. This client should be part of a Windows Server domain.

9.11 Terminal Server Logon

With SafeSign IC Minidriver installed, you can use your SafeSign IC token to log on to a remote Windows Terminal Server.



10 Supported Languages

The following languages are supported in SafeSign IC:

- Basque;
- Catalan;
- Chinese (Simplified)
- Chinese (Traditional);
- Croatian;
- Czech;
- Dutch;
- English;
- Finnish;
- French (France);
- German;
- Hungarian;
- Italian;
- Italian (Swiss);
- Japanese;
- Korean;
- Lithuanian;
- Portuguese (Portugal);
- Portuguese (Brazil);
- Russian;
- Serbian (Cyrillic)
- Serbian (Latin);
- Spanish;
- Thai;
- Turkish;
- Ukrainian



10.1 Installation language files and codes

When installing the SafeSign IC Minidriver .msi file, you may apply a transform for the installation language (as described in section 3.4).

For example, to install SafeSign IC Minidriver Version 3.5 in Portuguese (Brazil):
msiexec /I "SafeSign IC MiniDriver x64 3.5.2.0-AET.000.msi" TRANSFORMS=1046.mst.

- Note that InstallShield does not support all languages¹, hence the SafeSign IC InstallShield Wizard is not available in the following languages: Italian (Swiss), Lithuanian, Serbian (Latin) and Ukrainian.

The table below lists the Windows language code identifiers and corresponding transform files:

Language	Code	File
English	1033	1033.mst
Basque	1069	1069.mst
Catalan	1027	1027.mst
Chinese (Simplified)	2052	2052.mst
Chinese (Traditional)	1028	1028.mst
Croatian	1050	1050.mst
Czech	1029	1029.mst
Dutch	1043	1043.mst
Finnish	1035	1035.mst
French (France)	1036	1036.mst
German	1031	1031.mst
Hungarian	1038	1038.mst
Italian	1040	1040.mst
Japanese	1041	1041.mst
Korean	1042	1042.mst
Portuguese (Portugal)	2070	2070.mst
Portuguese (Brazil)	1046	1046.mst
Russian	1049	1049.mst
Serbian (Cyrillic)	3098	3098.mst
Spanish	1034	1034.mst
Thai	1054	1054.mst
Turkish	1055	1055.mst

¹ http://helpnet.flexerasoftware.com/installshield19helplib/helplibrary/HelpGlobLangIdentifiers.htm#CreatingMultilingual_2070637897_1021572