# EVIDEN

cryptovision SCinterface

Integrates smart cards and other security tokens in IT

cryptovision SCinterface integrates credentials from smart cards, tokens, remote tokens and virtual smart cards into common IT environments. Cryptovision SCinterface supports more than 100 different chip types, operating systems and profiles in different form factors. Useful features include configurable PIN caching, biometry, and PACE support.

Powerful middleware

A user who logs on to a computer usually uses a password – this is an insecure method. Alternatively, a two-factor authentication is recommended, for example, a key on smart card or a security token along with a PIN. Smart cards have proven themselves for decades – whether as bank cards or in the form of electronic ID cards, but also through more recent evolutionary steps as virtual or remote credentials stores.

The success of such a system depends largely on the versatiliity of the software used to address the credential – the middleware.
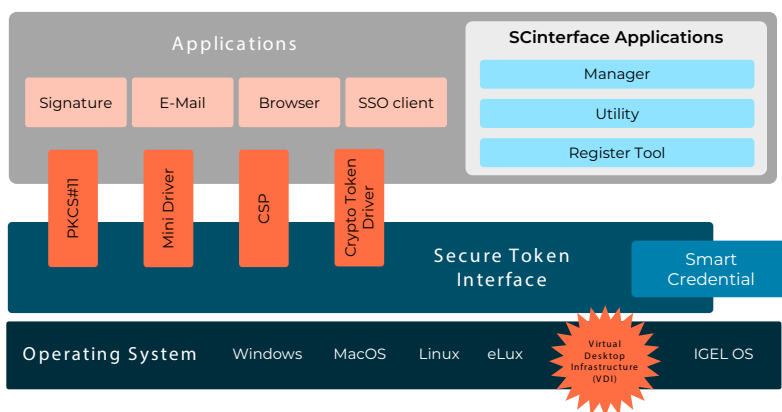
Cryptovision SCinterface consists of several modules. Some of them enable the addressing via crypto interfaces (MS-CAPI, CNG, PKCS#11, CryptoToken-Kit), others are used for administration.

A middleware must not be limited to one chip type or a specific operating system. Instead, it should be platform independent and support as many applications as possible. In addition, standardized protocols and high-quality cryptographic procedures should be used.

Cryptovision SCinterface is a powerful middleware that enables the use of credentials in a wide variety of security devices. It supports all relevant interfaces on all major platforms.

Strong authentication

A smart card or security token is the ideal means to store a cryptographic key in a secure and convenient way. Contrary to a key file on a PC, the user can carry a card or token with them and use it wherever necessary. After the key has been imported to or generated on the card/token chip, only the processer of the chip has access to it, while key export is not supported. In order to use the card or token, a PIN or fingerprint needs to be presented.

A smart card or token bearing a cryptographic key can be used for authentication. It represents a strong alternative to a password. In addition, such a solution is suitable for encryption and digital signing.

Smart cards and security tokens are available in numerous form factors, including contact cards, RFID chips, USB tokens, and µSD cards.

To use a security token on a PC, software (middleware) is necessary that connects a chip with an application. The core of a middleware is a driver that provides a crypto interface to the application and maps this to elementary commands for the security token.

Crypto interfaces

The most important crypto interface is PKCS#11, which is manufacturer independent and supports, among others, Firefox, HCL Notes, and Adobe Reader. Also many providers of thin client operating systems rely on PKCS#11. Microsoft has created its own interfaces for the same purpose: first the Microsoft Cryptographic API (MS-CAPI) and thereafter its successor CNG (Cryptography API Next Generation). CNG provides in particular for so-called Smart Card Minidrivers – modules that enable easy addressing of smart cards through downloadable connectors.

For macOS there is the CryptoTokenKit (CTK) Framework including the corresponding drivers (Crypto Token Driver). Cryptovision SCinterface supports all of these: PKCS#11, MS-CAPI and CNG (along with the Smart Card Minidrivers) s well as the CryptoTokenKit (including the Crypto Token Driver).

Nine reasons for cryptovision SCinterface

eIDAS conformity

Cryptovision SCinterface supports seal tokens and signature cards according to the European signature regulation eIDAS.

Security devices

Cryptovision SCinterface supports over 100 security devices and profiles. These include the MS VSC GIDS profile, the current versions of Java Card as well as cards from Atos, Infineon, NXP, Gemalto, G&D and Austria Card.

Plug-ins

Cryptovision SCinterface can be extended with plug-ins. In this way, cryptovision SCinterface can, for example, inform the user about expiring digital certificates and import root certificates.

PIN cache

This middleware add-on provides highly configurable PIN caching mechanisms. Security is kept as high as possible, while at the same time increasing user acceptance.

Crypto interfaces

Cryptovision SCinterface provides the crypto-interface necessary for virtually any application on the underlying operating system.

eID cards

Cryptovision SCinterface offers, among other things, Password Authenticated Connection Establishment (PACE) to secure and protect contactless data traffic.

Biometrics

Cryptovision SCinterface supports fingerprint authentication with Match-on-Card.

Virtual Smart Cards

Cryptovision SCinterface provides its own virtual smart card and in parallel also supports the deprecated Microsoft Virtual Smart Card (MS VSC), including the associated processes.

Operating systems

Cryptovision SCinterface runs on Windows, Linux and macOS. The same token can be used on all these platforms.

Who uses cryptovision SCinterface?

Cryptovision SCinterface is used by the following customers, among others:

The German insurance company uses cryptovision SCinterface for connecting multi-purpose smart cards.

The German energy provider is active in the consolidating markets of Europe and growing globally. Cryptovision SCinterface is an important component for securing access to company data and is also used for digital signatures.

The European Patent Office chose cryptovision SCinterface for protecting online patent registrations. Cryptovision SCinterface replaced an existing proprietary solution that had led to a vendor lock.

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Standards and technical specifications

Platforms

» Windows 8.1, 10, 11

» Windows Server 2012 R2, 2016, 2019

» Linux: RHEL 7, 8; Ubuntu 20 LTS / 22 LTS;

» SLED/SLES 15

» macOS: Big Sur (11), Monterey (12), Ventura (13)

Readers

All PCSC 2.0 compliant readers (macOS, Unix/Linux needs „pcsclite"), recommended:

» Identiv CLOUD 2700 F (not for macOS)

» Identiv CLOUD 4700 F

» Cherry SmartTerminal ST-2000 (Class2)

» REINER SCT cyberJack® RFID standard

» REINER SCT cyberJack® wave

» Identiv SCR3500

» Identiv SCL3711

Formats

» PKCS#10 for certificate requests

» PKCS#11

» PKCS#12 for key and certificate import

» PKCS#15

» ISO/IEC 7816

» Microsoft CryptoAPI, CNG

» macOS Crypto Token Driver

» PC/SC

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