

CardOS API

The standard cryptographic Interface
for CardOS Tokens

Great convenience by supporting technical standard

A product for sophisticated requirements – CardOS API enables efficient user-friendly and simple implementation of smart cards for user authentication, data encryption and creation of digital signatures in a variety of application scenarios, like system login, web authentication, or secure email.

Overview

The CardOS® API product family offers powerful integration software for the use of CardOS smart cards and security tokens in a variety of standard applications.

CardOS API enables efficient user-friendly and simple implementation of smart cards for user authentication, data encryption and creation of digital signatures in a variety of application scenarios, like system login, web authentication, or secure email.

CardOS API is available for all common operating systems. CardOS API for Windows with Minidriver supports Microsoft Base Smart Card Crypto Provider (Base CSP) and thus allows the simple use of the new Microsoft smart card architecture. CardOS API is compatible with international standards like PKCS#11 Cryptoki and PKCS#15. Beside Microsoft Windows CardOS API is available also for Linux and Mac OS X.

CardOS API combined with the secure smart card operating system CardOS provides the perfect foundation for ID cards in different industries, especially in the public sector and in the healthcare sector. Employee IDs at companies and organizations, student cards and signature cards can be realized simply and cost-effectively with these products.

Current Versions

- CardOS API V5.4 for Windows
- CardOS API V5.4 for Linux
- CardOS API V5.4 for MacOS

Description

CardOS API provides powerful implementations of the two standard application interfaces for cryptographic services: PKCS#11 (Cryptographic Token Interface) and support of Microsoft CAPI through CardOS API Minidriver.

Via the CAPI interface under Microsoft Windows, CardOS API provides key and certificate management for applications which is seamlessly integrated in the operating system.

The PKCS#11 interface allows applications under Windows, Linux and Mac OS X to use the CardOS API functionalities.

Various applications can access the same key material via both interfaces simultaneously.

CardOS API provides a standard-based dynamic PKCS#15 file system on the smart card which can be flexibly customized according to customer requirements.

Thus the CardOS API enables simple and efficient use of CardOS smart cards with cryptographic keys and certificates in numerous applications.

Support of various operating systems, use of international standards and the realization of state-of-the-art cryptographic algorithms ensure sustainability for the future.

The option to insert PINs via PinPad reader (SPE) protects against eavesdropping of PINs on the computer.

Beside RSA algorithm, CardOS API also supports elliptic curve cryptography, ECDSA and ECDH, with CardOS V5.x smart cards.

Utilities

Additional utilities extend the scope of application.

The CardOS API – Viewer provides functions to initialize smart cards and import or delete data (such as keys, certificates or other objects). Objects saved on the smart card and their attributes as well as the properties of the smart card used can be displayed.

PIN management (change PIN, reset retry counter with PUK) can either be carried out using a separate PIN management utility or via the CardOS API – Viewer.

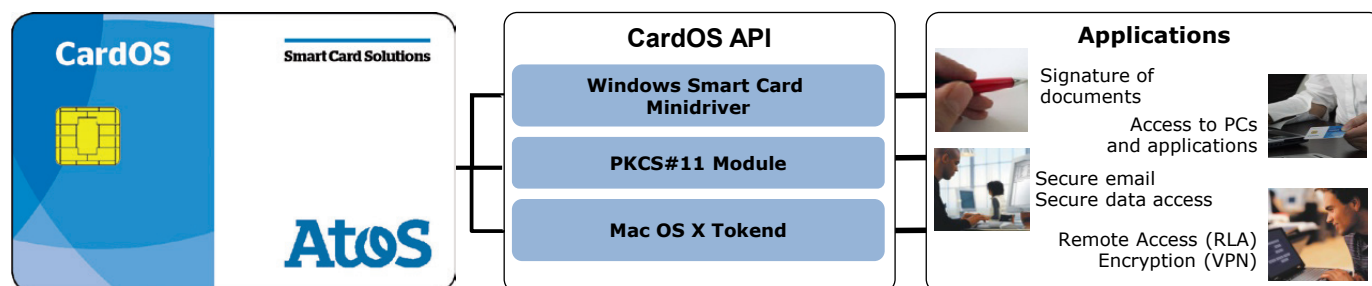
License

The software license is required in order to install and use the CardOS API software on a client workstation or on a Windows/Citrix terminal server.

In the case of clients, the number of licenses corresponds to the total number of systems on which CardOS API software is installed.

In the case of terminal servers, the number of licenses corresponds to the maximum number of concurrent users for each terminal server.

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Supported standards

- Microsoft smart card Minidriver for Windows Base CSP V7.07: Application interface on Windows platforms,
- RSA Public Key Cryptographic Standard PKCS #11: Cryptographic Token Interface, Standard Cryptoki: RSA standard application interface on Windows, Linux and Mac OS X,
- RSA Public Key Cryptographic Standard PKCS #15: Cryptographic Token Information Format Standard: Dynamic PKCS#15 file system on the smart card
- PC/SC V2.01: Interface to smart card readers
- PC/SC V2.01, Part 10: Interface to smart card readers with PIN pad
- Tokend on Mac OS X

Technical data

Supported operating systems:

- Windows 7 (SP1)
- Windows 8 / 8.1
- Windows 10
- Windows Server 2008 (SP2)
- Windows Server 2008 R2 SP1
- Windows Server 2012
- Windows Server 2016
- Citrix Terminalserver (Windows Server)
- Linux
- Mac OS

System requirement for Windows, Linux, Mac OS

- 40 MB free disk space

Supported smart card Operating Systems:

- CardOS V5.3
- CardOS DI V5.3
- CardOS V5.0
- CardOS V4.4
- CardOS V4.3 B
- CardOS DI V4.2 C
- CardOS V4.2 C
- CardOS DI V4.2 B
- CardOS V4.2 B
- CardOS M4.01a

Supported smart card readers:

PC/SC compatible smart card readers and selected PC/SC V2.01 Part 10 compatible PIN pad smart card readers.

Supported languages:

- German
- English
- French
- Italian
- Spanish
- Portuguese
- Slovakian
- Bulgarian (only CardOS API for Windows)
- Further languages on inquiry

Supported applications

ardOS API supports various applications via the standard interfaces.

Example Applications:

- Microsoft Windows PKI
- Microsoft CA / FIM
- Secure Key Injection for Windows *
- Microsoft Windows Smart Card Logon
- Microsoft Internet Explorer
- Microsoft Outlook
- Microsoft Word, Excel, Powerpoint
- Microsoft CAPICOM
- Microsoft EFS
- Microsoft Windows Terminal Services
- Evidian Authentication Manager
- Sirrix Trusted Disk **
- Sophos Safeguard Device Encryption **
- Adobe Reader / Acrobat
- Google Chrome
- Mozilla Thunderbird
- Mozilla Firefox
- Mac OS X Mail
- Mac OS X Safari
- Checkpoint VPN

*with CardOS V5.3 and CardOS DI V5.3
**VS-NfD compliant

High flexibility

Software pack

The CardOS API software includes the following components:

For Windows:

- Minidriver for CardOS
- PKCS#11 crypto module for CardOS
- PIN Management utility
- CardOS API-Viewer
- Documentation

For Linux:

- PKCS#11 crypto module for CardOS
- PIN Management utility
- Documentation

For Mac OS X:

- PKCS#11 crypto module for CardOS
- Tokend crypto module for CardOS
- PIN Management utility
- Documentation

Further information for developers

For application and software developers who intend to integrate CardOS API and CardOS smart cards in applications and smart card solutions, Atos can additionally offer consulting and support, and as well default scripts.

About Atos

Atos is a global leader in digital transformation with approximately 100,000 employees in 72 countries and annual revenue of around € 12 billion. The European number one in Big Data, Cybersecurity, High Performance Computing and Digital Workplace, The Group provides Cloud services, Infrastructure & Data Management, Business & Platform solutions, as well as transactional services through Worldline, the European leader in the payment industry. With its cutting-edge technologies, digital expertise and industry knowledge, Atos supports the digital transformation of its clients across various business sectors: Defense, Financial Services, Health, Manufacturing, Media, Energy & Utilities, Public sector, Retail, Telecommunications and Transportation. The Group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and operates under the brands Atos, Atos Consulting, Atos Worldgrid, Bull, Canopy, Unify and Worldline. Atos SE (Societas Europaea) is listed on the CAC40 Paris stock index.

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Bull is the European leader in HPC and its products include bullx, the energy-efficient supercomputer; bullion, one of the most powerful x86 servers in the world developed to meet the challenges of Big Data; Evidian, the software security solutions for identity and access management; Trustway, the hardware security module and Hoox, the ultra-secure smartphone. Bull is part of Atos.

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