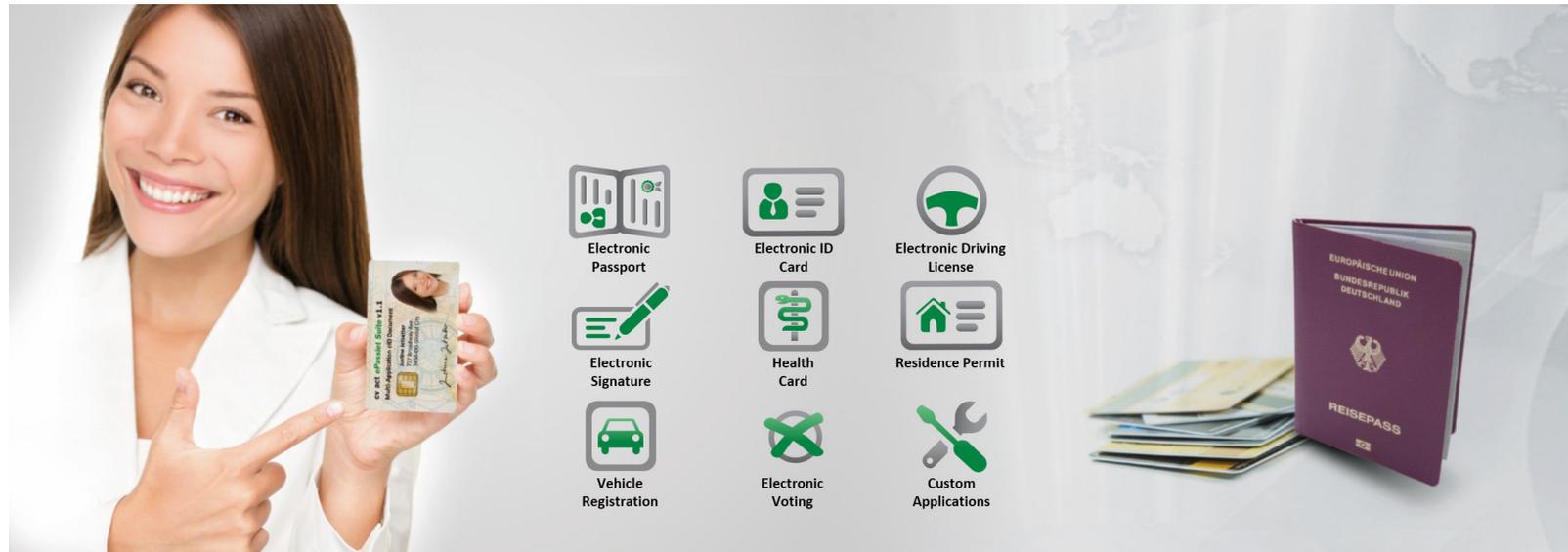


ePasslet Suite

Modular Java Card Applet Suite for eID Documents



ePasslet Suite is a Java Card applet suite providing a complete set of common applications for electronic identity cards, electronic travel documents, electronic driving licenses, and other similar documents. It supports many international standards.

MANAGEMENT SUMMARY

Identity cards, passports, driving licenses and other identity documents can be equipped with a small computer chip. The result is referred to as electronic identity document (eID). The embedded chip enhances security and can be used for many interesting applications, for instance computer login, automated age verification, and proof of identity on the internet.

Electronic identity documents have become very popular in recent years with dozens of countries already issuing machine readable electronic passports. Several countries are also issuing electronic identity cards in addition. With many countries planning eID projects, electronic identity documents are currently considered one of the hottest emerging technologies.

In order to realize eID applications it is necessary to implement them on the identity card chip. ePasslet Suite, a product developed by cryptovision, is aptly suited for this purpose. The suite consists of a collection of Java Card

applets, with each implementing some dedicated eID functionality, making work with these chip secured documents both simple and secure.

ePasslet Suite comes either as a ROM masked solution or preloaded into Flash memory of a Java Card enabled smart card. It provides applets for various eID document applications including ICAO MRTD, ISO 18013 electronic Driving License, PKI application for certificate-based authentication and digital signatures, electronic Health cards, custom national eID cards and more. The solution allows for activation of applets post-issuance; furthermore new applets can be developed leveraging an internal core library API providing a comprehensive set of functional building blocks reducing memory footprint and time-to-market.

ePasslet Suite is the ideal solution for authorities intending to enhance eID documents with additional functionality.

BACKGROUND



THE BASICS

ePasslet Suite

ePasslet Suite is a solution for realizing applications on electronic documents in a convenient and cost-effective manner. ePasslet Suite supports contact-only, contactless and dual-interface smart cards with this flexibility making both practical and functional for many diverse purposes, such as: national identity cards, drivers licenses, security access badges, travel documents or health cards.

Java Card Based

ePasslet Suite is based on the Java Card standard and consists of a collection of Java Card applets either ROM masked or preloaded into Flash memory of a Java Card enabled smart card. Since the applets are modular, functions can be easily mixed and adjusted to a specific application.

What Is An Electronic Identity Document (eID)?

An electronic identity document (eID) is a passport, identity card, driver's license or similar document equipped with a smart card chip. This smart card chip may be conventional or contactless. Electronic identity documents can be used for many applications, including: proof of identity on the internet, automated age verification, digital signatures, encryption, physical and logical access, digital payment, and even storing health insurance information. Electronic identity documents have become the de facto standard. Since 2004, the majority of countries issue Machine Readable

Travel Documents (MRTD) as specified by the International Civil Aviation Organization (ICAO). Many states such as Austria, Belgium, France, Germany, Malaysia, Saudi Arabia, Spain, and UAE have introduced electronic identity documents. Electronic identity documents are considered an important future technology with dozens more countries planning to introduce electronic identity cards in the near future. Several countries have started planning or are implementing electronic health card projects. Driving licenses, student IDs, and many other identity documents may also become electronic in coming years. With identity documents typically having long validity periods it is essential to thoroughly plan applications and leverage adaptable solutions.



Electronic Passport



Electronic ID Card



Electronic ID Card



Electronic Signature



Health Card



Residence Permit



Vehicle Registration



Electronic Voting



Custom Applications

ICAO

ePasslet Suite can be used to completely implement a Machine Readable Travel Document (MRTD) as specified by the International Civil Aviation Organization. ePasslet Suite includes applets for both the MRTD protocol standards, Basic Access Control (BAC), Password Authenticated Connection Establishment (PACE), and Extended Access Control (EAC).

National Identity Cards

ePasslet Suite features applets for the basic functionality of the European Citizen Card (EuCC) standard as well as configurations for alternative national EuCC profiles, like the German one. It is also possible to implement a non-EuCC-compliant identity card by leveraging the included National ID Standard applet.

Other Applications

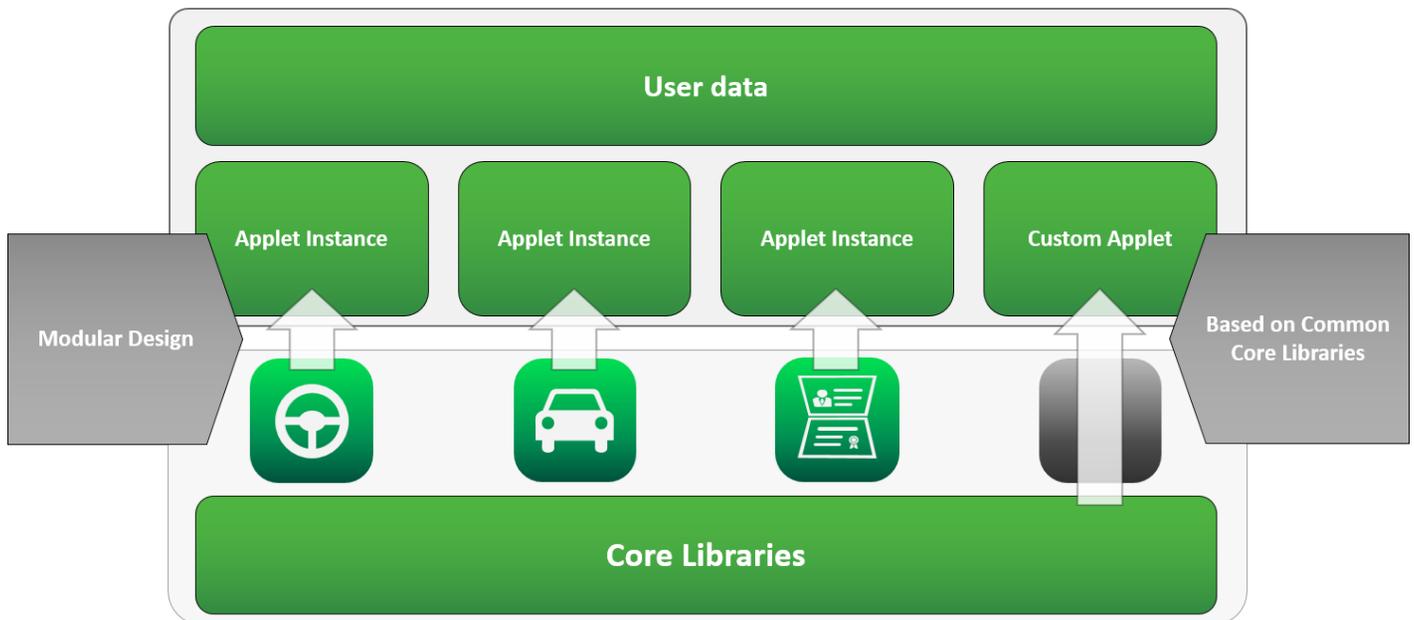
Electronic health cards and electronic driving licenses are already being used in some countries. ePasslet Suite includes both International Driving License (IDL) and a European Health Insurance Card (eHIC) applets to streamline this process. Multiple applets can be loaded onto the same card with shared resources. If additional features are desired, new applets can be created with it even possible to load new applets onto previously issued cards.

Certified Security

Two versions of ePasslet Suite have been certified according to Common Criteria (ISO 15408) at EAL 4+ with four configurations and corresponding Protection Profiles each. The latest product version is currently in certification at CC EAL5+.

THE TECHNICAL PART

ePasslet Suite is based on the Java Card standard. It consists of a collection of Java Card applets implementing a wide range of eID functions.



EDITIONS

ePasslet Suite Editions

Edition 1

- **ICAO MRTD** with Basic Access Control (BAC) and Password Authenticated Connection Establishment (PACE)
- **ISO 7816 File System**
- **ISO Driving License** with Basic Access Protection (BAP) and PACE

Additionally in Edition 2

- **ICAO MRTD with EACv1** (including BAC and PACE)
- **ISO Driving License with EACv1 or EAP** (including BAP / PACE)
- **ePKI / Secure Signature Creation Device**
- **Vehicle Registration**
- **Health Insurance**
- **Fingerprint Match-on-Card** (based on 3rd party matching package)

Additionally in Edition 3

- **German eID card** with EACv2, Restricted Identification and Auxiliary Functions
- **EU Residence Permit**
- **European Citizen Card** (Identification, Authentication, Signature)
- **eIDAS token functionality** (platform dependent)
- **Custom eID application**

Additional Applets

ePasslet Suite applets can be customized freely by different configuration options. Furthermore cryptovision can develop new applets which are tailor-made for the customer's needs. These additional applets can leverage existing ePasslet Suite functionality resulting in a smaller memory footprint and reducing development time.

SUPPORTED SYSTEMS

ePasslet Suite is portable to any Global Platform compliant Java Card. Performance optimized versions are available on NXP JCOP and Veridos Sm@rtcafé platforms as well as on Java Card operating systems and smart card chips of other vendors.

THE MARKET PART

Success story

With 160 million citizens, Nigeria is Africa's most populous country. As part of an ambitious Presidential initiative, this year adult Nigerians and resident legal aliens will be issued advanced multipurpose electronic identity cards. cryptovision plays a critical role in this mammoth project as the majority of the applications on this eID card are based on ePasslet Suite. These include an ICAO compliant travel application, a national eID application, and a digital signature

application, which include support for biometric Fingerprint Match-on-Card functionality provided by a cryptovision technology partner. The number of applications will grow in the future stages of the project thanks to the unique architecture of ePasslet Suite which enables in-field update and provide additional features.

About cryptovision

cryptovision is a leading supplier of innovative cryptographic IT security solutions. Based on its two decades of market experience and broad background in modern cryptographic techniques, such as Elliptic Curve Cryptography, all cryptovision products provide the most state-of-the-art and future-proof technologies. The company specializes in lean add-on components which can be integrated into nearly any IT system to gain more security in a both convenient and cost-effective way.

From small devices like citizen eID cards, all the way to large scale IT infrastructures, more than 500 million people worldwide make use of cryptovision products every day in such diverse sectors as defense, automotive, financial, government, retail and industry.

Customers

ePasslet Suite is used by these following customers amongst many others:

- Bundesdruckerei: The national German security printing house licensed ePasslet Suite to enhance their electronic identity card (eID) portfolio.
- South American country: A country with more than 10 million citizens in South America is now using ePasslet Suite for both, the electronic Passport and the national electronic ID document.
- ePasslet Suite has furthermore been deployed for ePassports, eID cards, eHealth cards, eVoting cards, driving licenses, and many more applications in more than 25 international projects around the world.

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