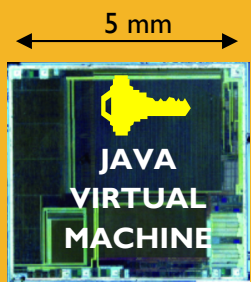


Liberate Your Security!

Software Platform for Clouds of Secure Elements



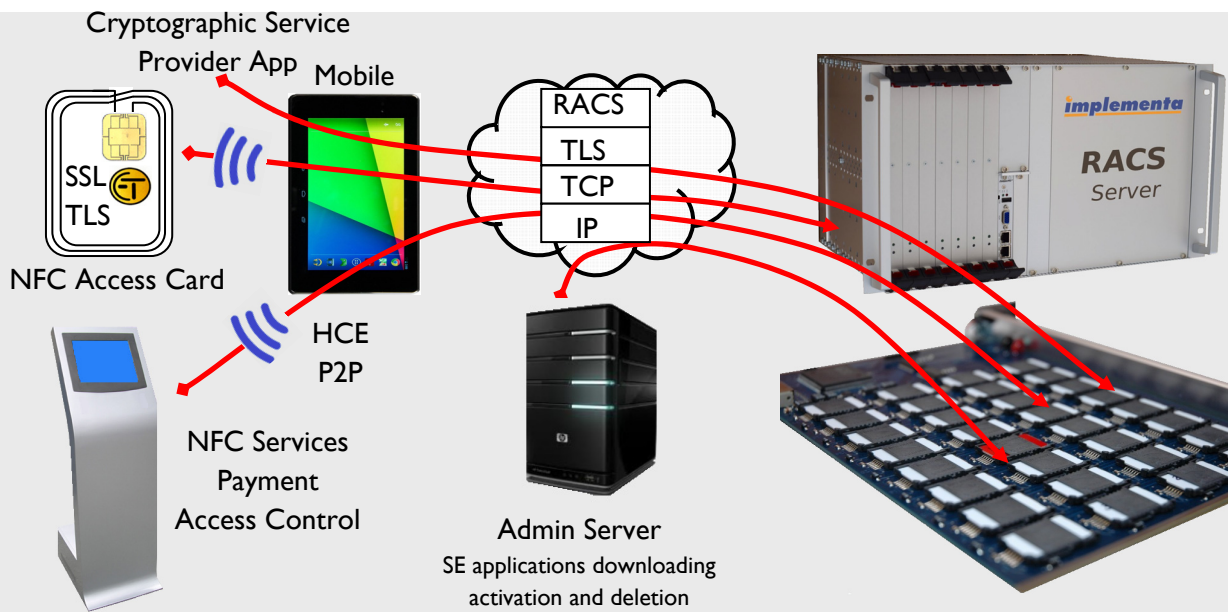
A Secure Element (SE) is a Secure Microcontroller, equipped with interfaces such as NFC, ISO7816, SPI or I2C. 8 billions of SE has been shipped in 2014, for SIM modules, bank cards, ePassport, PKI tokens.

To improve security EtherTrust "Liberate Your Security" platform emphasizes two main concepts: **isolation** and **granularity**.

Isolation means that sensitive procedures are remotely executed in tamper resistant Secure Elements stored either locally or in the cloud. Granularity means that security in the cloud, for example is enforced at the atomic level (the secure chip).

We are living in a connected world. Businesses and Individuals increasingly rely on mobile and cloud applications and want protection from eavesdropping or hacking. Although many announcements claim to provide security and privacy, daily news show a different reality. In addition mobiles can be stolen, lost, hijacked.

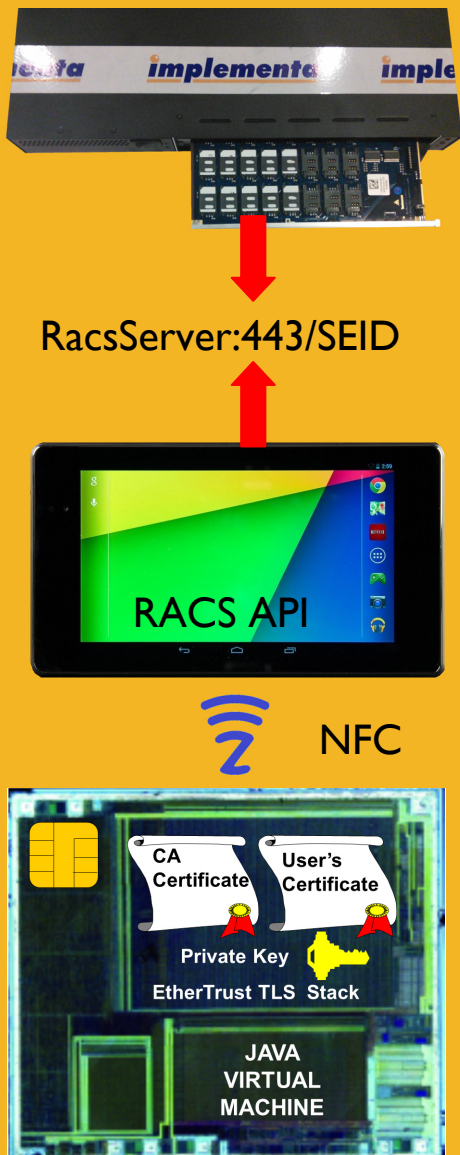
To address such issues, Billions of Secure Elements (SE) have been deployed as SIM modules in mobile phones, secure chips in Payment and Identity Cards and in Hardware authentication tokens. EtherTrust "Liberate Your Security!" software platform **facilitates the deployment and use of a Secure Element based infrastructure** for such uses as securing **online payment, remote access, cloud storage, and IoT**.



To Providers of **Payment Cards, Smart Card Authentication, and Cloud based HSM**, EtherTrust patented "Liberate Your Security" platform offers:

- ✓ **End to End Development Platform**, with APIs for Secure Elements, POS Terminals, Devices, Server administration and life cycle management.
- ✓ **Comprehensive support**: EtherTrust supports most types of secure elements, devices (Android, Windows, POS terminals), and Windows and Linux Servers.
- ✓ **Strong end-to-end security**: Leverages Secure Elements and SSL/TLS protocol, eliminates risks associated with terminal vulnerabilities.
- ✓ **Industry Standards Compliant**: (GlobalPlatform, EMVco, HCE, SSL/TLS)
- ✓ **Open**: Server Management Middleware is OpenSource.

Cloud of Secure Elements: an Open Technology



EtherTrust "Liberate Your Security" platform comprises the following components:

RACS Servers

Remote APDU Call Protocol Secure Server Software (RACS) for more effective and secure cloud based storage of cryptographic keys (SE based "HSM like" servers). The RACS protocol is an emerging open IETF draft: <http://tools.ietf.org/html/draft-urien-core-racs-00>.

implementa RACS Servers are highly reliable and scalable devices to host any number of SEs in the cloud with secure RACS compliant remote access.

Terminal/Server-side APIs

Enable applications to communicate with SE, leveraging NFC and HCE (Host Card Emulation). Supported environments include: Android (Java), Windows (DLL), and C for POS type embedded systems.

These APIs support two classes of mobile applications; 1) Security applications, such as electronic signing, authentication, encryption and decryption; 2) NFC applications such as payments with HCE interfaces or access control in corporate environments. Compatible with the NFC HCE (Host Card Emulation) mode available for the KitKat operating system, these APIs enable remote use of secure elements identified by their network locator.

Secure Element-side API

A small footprint SSL/TLS stack that enables secure connections between SEs, terminals and servers.

EtherTrust TLS Stack (ETS) supports most types of SE (NFC, SIM/USIM, SecureSD, SmartMX, etc.), and is compatible with emerging token-requestor protocols (EMVco).

Server Administration APIs (C)

Management Software for RACS servers to facilitate the remote life cycle management of SE based applications and data (i.e. application downloading, activation and deletion). Open Source based and Global Platform compliant.

About implementa

implementa provides industrial-strength communication products and solutions. For more than 15 years implementa has been specializing in wireless and smartcard technologies. Implementa is the market leader for cloud-based SIM and SE solutions.

About EtherTrust

EtherTrust markets software for secure elements and designs innovative solutions that strengthen the security of Cloud applications. In 2009 it was awarded by the 11th national contest for the support of innovative start-ups organized by the French ministry of research and universities.

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