CEN

WORKSHOP

AGREEMENT

CWA 14722-1

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English version

Embedded financial transactional IC card reader (embedded FINREAD) - Part 1: Business requirements

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Foreword

The production of this CWA (CEN Workshop Agreement) specifying a Embedded Financial transactional IC card reader (Embedded FINREAD), was formally accepted at the Embedded FINREAD Workshop's kick-off meeting on 2001-12-14.

The document has been developed through the collaboration of a number of contributing partners in WS-Embedded FINREAD, representing smart card interests.

This CWA has received the support of representatives of each of these sectors. A list of company experts who have supported the document's contents may be obtained from the CEN/ISSS Secretariat.

This CWA consists of the following parts, under the general title *Embedded Financial transactional IC card reader (Embedded FINREAD)* :

— *Part 1 : Business requirements*

— *Part 2 : Functional architecture and technical requirements*

— *Part 3 : Functional and security specifications*

— *Part 4 : Technical architecture and definition of APIs (Application Programming Interface)*

CWA 14722-1 was approved at the Workshop meeting on 2003-02-12 and published by CEN in April 2003; this revised version (mainly editorial changes and lay-out issues) was submitted to CEN for publication on 2004-06-03.

0   Introduction

Before the FINREAD initiative was instigated, there was no available standard for a secure IC card reader to be used in a private environment to protect electronic transactions on open networks. Because of this, major institutions from the European banking community and a terminal manufacturer, started to work on a common standard known as FINREAD. This standard was published in July 2001 by CEN/ISSS as CWA 14174.

Due to the rapid evolution of e-commerce and m-commerce and the growing number of access devices which are increasingly used to access these services, the need to expand the existing specifications to include a more wider definition of devices became apparent. Till now, the standard was limited to devices connected to a PC. By addressing devices such as mobile phones, set-top boxes or personal digital assistants (PDAs), the initiative has been expanded to include new partners, representing the interests and technology of new industries. As a logical evolution the new consortium was named Embedded FINREAD. The target of the given standard is the embedding and adapting, if needed, the FINREAD specifications into a wide range of new access devices.

0.1   Background

At present there is a lack of standards to access financial services based on IC cards via the wide range of different access devices available in the market. It is expected that devices like mobile phones or PDAs, characterised as personal[1] devices on the one hand, and set-top boxes or PC's, characterised as *private*[1] devices on the other hand, will be used to access a rapidly growing number of new services.

The distribution and use of smart bank cards in Europe is planned on networks of bank owned/controlled POS and ATM terminals, with little consideration given to other environments. The availability of new techniques makes it possible to develop access devices which can be used in a variety of applications. To take advantage of such devices, standards are needed.. The wording **secure reader** is used to refer to a secure IC card reader consisting of hardware and software related to a specific application. It is the combination of both the hardware and software which shall comply with banking industry security requirements. According to this definition, only a few IC card readers have either been designed or developed, and generally only for use with a specific application. In contrast to these **secure readers**, most readers available today are classified as **transparent readers.** These dumb devices are mainly only smart card contact units without their own software. They are not certified by a card scheme and they do not guarantee the security and thereby the necessary trust required in an electronic transaction.

There are several reasons inhibiting the manufacturing industry from developing a secure and interoperable access device with a secure reader, which could be universally applicable to a wide range of business needs:

— *nonstandardised software architecture*. Although there are several initiatives to establish a common software architecture to interface with an IC card reader, there is no established standard. Therefore most of the current software applications which are located on a hosting device use proprietary software architectures designed for use with one single type of IC card reader;

— *multiple hardware architectures of access devices*. There is no common hardware architecture between devices such as mobile phones, set-top boxes, PDAs or PCs to use applications on IC cards via an IC card reader. This hinders banks and payment schemes in the development of standardised software products, with regard to the compatibility and the interoperability between different applications based on these devices. In addition no agreement has been made on the security classification and the resources that the reader, in combination with the hosting device, may offer to the different schemes;

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[1] The detailed definition is given in Chapter 1 Scope.

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— *differences between applications (payment, financial or any other) based on the use of IC cards*. Most of the IC card readers are designed to be used with a particular application. Transparent readers are not dedicated to a particular application, but do not offer the level of security which is required;

— *different security rules in different schemes*. Most of the established schemes (payment, financial, health, government…) have security rules which only focus on the requirements of that specific scheme. This hinders the use of a device with an IC card reader within a second scheme or application. At present no common agreement has been made about the necessary security level for the use of a generic IC card reader within a wide range of specific hosting devices or / and different applications;

— *need for a secure IC card reader by the European financial industry*. In the past, this need has led to the development of several IC card readers and card acceptance devices, each for the benefit of one specific dedicated scheme, since the device was only designed for the use within a specific application.

In conclusion, each IC card project needs to develop its own specific components. For an IC card reader connected to a PC this implies the:

— development of an IC card application, running on the PC;

— development of a specific set of APIs that interfaces with the IC card reader;

— development of an IC card reader based application.

For other devices, like mobile phones or set-top boxes, the approach is even more complicated and additional requirements are necessary:

— agreements between banks running financial schemes, and operators controlling a network and the access devices;

— development of a financial application based on the technical capabilities of the hosting device;

— agreement to share available resources in a hosting device such as an IC card reader or IC card (like USIM or SIM) or the integration of an additional IC card reader.

The present CEN Workshop Agreement mainly addresses the requirements and specifications of flexible device software / firmware and necessary hardware. In accordance with the present CEN Workshop Agreement a device designed according to the Embedded FINREAD standard will be able to be used within all domains and applications, based on IC cards. The device should enable an "any card on any device concept", providing both support for the same application and comply to the present CEN Workshop Agreement. It should be possible to purchase an Embedded FINREAD IC card accepting device from any vendor, and to customise it for use within a specific scheme through a hardware independent software download.

0.2 Market needs

The banking industry is migrating from magnetic stripe technology to IC card technology, and other industries are also introducing IC cards. Across Europe, nearly half the bank cards in circulation are already chip based and it is expected that this proportion will exceed 80 % in 2 to 3 years. Banks would like to take advantage of the additional security offered by IC cards in ensuring a compatible secure infrastructure. This infrastructure should be integrated into a wide variety of different consumer devices. By using these IC cards within the home environment or with personal equipment, secure payment and authentication services would be offered to consumers, boosting e-commerce and remote financial services. As well as e-commerce, other domains such as remote financial services, security services and also e-government and health require the use of a secure and trustworthy IC card accepting devices, and may contribute to the establishment of the Embedded FINREAD standard.

It is in the interest of the banking industry that cardholders be equipped with devices designed according to the Embedded FINREAD standard.

0.3   Benefits

The Embedded FINREAD specifications will be beneficial for:

— the **cardholders,** because they will be able to trust the different financial or commercial services offered in a convenient way within their home environment or via their personal equipment. It will give them access to new kinds of services which cannot be provided today due to the vulnerabilities of the internet and the access environment. It might not be possible to offer such services via a transparent IC card reader or via access devices as they exist today;

— **banks and payment systems**, through the provision of current or enhanced financial and payment services in a secure way using a standardised IC card reader and access equipment;

— the **manufacturing industry and distributors,** who will be able to rely on open, universal and commonly agreed technical specifications for the production of POI (Point of Interaction) devices in an enlarged mass market;

— network **operators**, by being able to offer enhanced financial and payment services to e-commerce retailers and to end-users. In doing so, additional and new services will contribute to the increasing success of the network;

— the **retailer,** who will have the opportunity to rely on a secure and non-refutable electronic payment instrument for carrying out payments on open networks. It also gives him the opportunity to accept new types of services such as micro-payments, loyalty, authentication, etc.;

— **additional schemes**, which could take advantage of an established platform or simply the availability of a low-cost IC card reader and a widely distributed platform of interoperable access devices. Sharing the IC card reader with other sectors such as healthcare or e-government enforces standardisation and cost efficiency.

0.4   Product definition

The present CEN Workshop Agreement defines a set of specifications for an interoperable IC card reader - standalone or embedded in any kind of electronic device or system. An Embedded FINREAD IC card reader embeds the functionality of FINREAD in a hosting device. It is intended that the Embedded FINREAD IC card reader becomes as common to the user as an electronic mouse or mobile phone is today. The handling of such a device in combination with a bank IC card should be as normal in the future as it is today with any kind of automated POI device.

The exact definition of the Embedded FINREAD IC card reader will be derived from the present business requirements. Because of the use within different established schemes via a wide range of possible devices, the purpose of the present CEN Workshop Agreement is to take into consideration all the established schemes and the technology used to access services within the different sectors, and - where possible - to anticipate the requirements of future infrastructures. The present set of specifications takes into account therefore the common business requirements associated with most existing payment schemes. It also considers the business requirements of devices that may host Embedded FINREAD IC card readers to enable the success and distribution of financial applications with these devices.

It is not the objective of the present CEN Workshop Agreement to specify aspects of business that are the responsibility of the manufacturer of an Embedded FINREAD IC card reader or the responsibility of an operator or service provider. It is not intended to define, for example, the design or the quality of materials used, unless these elements have an impact on the functionality and the security of an Embedded FINREAD IC card reader.

Bestelformulier

Ja, ik bestel

__ ex. CWA 14722-1:2004 en Ingebouwde IC kaartlezer (embedded
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