



Embedded FINREAD Workshop

Business Plan

1) Status of the Business Plan

Version 3.2; approved at Kick-off Meeting on 14 December 2001

2) Workshop supporters (companies, organisation, etc.)

The Embedded FINREAD Consortium created in the framework of the European Commission's IST (Information Society Technologies) Programme.

Embedded FINREAD Consortium's partners :

GIE- Groupement des Cartes Bancaires "CB"	France (Co-ordinator)
Sagem S.A.	France
SIZ GmbH	Germany
Canal + Technologies S.A.	France
Banksys S.A.	Belgium
Ingenico S.A.	France
Interpay Nederland B.V	The Netherlands
Orga Kartensysteme GmbH	Germany
Visa EU	United Kingdom
France Telecom S.A.	France

3) Workshop objectives

Based on the expertise gained in the FINREAD activities launched in the framework of the European Commission's ISIS Programme related to the technical specifications for a secure ICC reader connected to a PC, the FINREAD Consortium has considered the extension of the FINREAD architecture to a larger variety of acceptance devices (mobile phones, PDAs, set-top boxes, etc.) with, as a basic principle, that each device would accept a smart card with the same level of security and the same user-friendliness.

The Embedded FINREAD concept has evolved as the natural continuation of the FINREAD initiative: e.g. a payment carried out on an Embedded FINREAD would offer to the cardholder the same convenience of payment and the same level of security, whatever the card acceptance device appears to be.

The project intends to concentrate on the following Point-of-Interaction devices which belong to a mass market of acceptance terminals :

- Mobile phones ;
- PDAs ;
- Set-top boxes ;
- And other similar devices.

All those technologies have different origins and objectives, as well as their own technical specificity and limits.

The Embedded FINREAD project intends to:

- continue the on-going standardisation activities started with FINREAD by issuing an industry standard for technical specifications related to a universal secure IC card reader embedded in a variety of mass-market card acceptance devices. The specifications would meet the requirements of the European banking industry, whilst being sufficiently open to accommodate requirements of a non-financial nature (e.g. access control, cardholder authentication, health, etc.);
- ensure the same level of security to the cardholder and retailer independently of the type of the acceptance device ;
- present the same user interface to the cardholder independently of the device ;
- provide a multi-platform interoperability, which means that the same software application (e.g. applet) should be developed and downloaded in the card reader, independently of the target device (e.g. same applet downloaded in a PC reader, a mobile phone, a set-top box, etc.). A virtual machine is used for this purpose ;
- work in a close liaison with manufacturers and operators of the above devices to ensure that the standard is compliant with each device architecture adopted by the industry and is manufactured according to these specifications. This will allow manufacturers to achieve economies of scale to drive the unit price for such devices down ;
- liaise with official standardisation bodies (ETSI, CEN, ISO, ANSI), bank industry and ad hoc standardisation bodies (e.g. ECBS) and global ad hoc industry initiatives (e.g. WAP, MET, MOBEY, EMV, SET, OTS) to adopt the proposed industry standard as an international standard ;
- facilitate the development of software through the provision of a common development kernel.

The CEN/ISSS Embedded FINREAD Workshop will officially start with a Kick-off meeting on **14 December 2001** in Brussels. It is expected that a closing session be held in **September 2003** (expected end of CEN/ISSS Embedded FINREAD Workshop activities).

4) Workshop's Work Programme

4.1 The Workshop's work programme consists of the following work items :

Work Item 1 : Definition of requirements and architecture

Set of documents composed of the following contribution papers¹: Business requirements, Functional architecture and technical requirements.

Work Item 2 : Functional and security specifications

This series is composed of the following contribution papers : Functional and security specifications.

Work Item 3 : Technical specifications

Set of documents composed of the following contribution papers: Technical architecture and APIs, Definition of the Virtual machine.

The documents which are part of the above workpackages will be published as one or more CEN Workshop Agreements (CWAs) and other supporting documentation. The specific Work Item(s) to provide the CWAs, and their timescales, will be agreed by the Workshop on the basis of proposals to be provided by the project Consortium.

4.2 Timescales and Milestones

The estimated timescales and milestones for the project are the following ones :

- i) **Official Kick-off Meeting² : 14 December 2001 ;**
- ii) **Phase 1: Definition of Requirements and Functional architecture**
 - Dissemination of Work Item 1 contribution papers for comments by e-mail (tentative date : **15 May 2002**) ;
 - Deadline for comments : end of July 2002 (tentative date : **31 July 2002**);
 - Dissemination of the final draft Work Item 1 contribution papers (tentative date : **3 September 2002**).
- iii) **FINREAD Workshop Meeting 1: (tentative date: 17-18 September 2002)**
 - Approval of Work Item 1 contribution papers.
- iv) **Phase 2: Functional and security specifications**
 - Dissemination of Work Item 2 contribution papers for comments by e-mail (tentative date : **1 November 2002**);
 - Deadline for comments : end of December 2002 (tentative date : **31 December 2002**);
 - Dissemination of the final draft Work Item 2 contribution papers (tentative date : **1 February 2003**)

¹ See Annex for a brief description of each document.

² Official presentation of the Embedded FINREAD initiative with a clear overview of the CEN/ISSS Embedded FINREAD Work-programme.

- v) **FINREAD Workshop Meeting 2: (tentative date: 12-13 February 2003)**
 - Approval of Work Item 2 contribution papers.

- vi) **Phase 3: Technical Specifications**
 - Dissemination of Work Item 3 contribution papers for comments by e-mail (tentative date : **30 March 2003**) ;
 - Deadline for comments : mid-May 2003 (tentative date : **15 May 2003**) ;
 - Dissemination of final draft Work Item 3 contribution papers (tentative date : **15 June 2003**).

- vii) **FINREAD Workshop Closing Meeting : (tentative date: 10-11 September 2003)**
 - Approval of Work Item 3 contribution papers ;
 - Formal acceptance of Work Item 1,2 and 3 contribution papers and supporting documentation as CEN Workshop Agreements (CWAs).

Summary of Timescales :

Event	Date
Embedded FINREAD Workshop Kick-off Meeting	14 December 2001
Dissemination of WI1 CPs for comments	15 May 2002
Deadline for comments	31 July 2002
Dissemination of final draft WI1 CPs	3 September 2002
FINREAD Workshop Meeting 1	17-18 September 2002
Dissemination of WI2 CPs for comments	1 November 2002
Deadline for comments	31 December 2002
Dissemination of final draft WI2 CPs	1 February 2003
FINREAD Workshop Meeting 2	12-13 February 2003
Dissemination of WI3 CPs for comments	30 March 2003
Deadline for comments	15 May 2003
Dissemination of final draft WI3 CPs	15 June 2003
FINREAD Workshop Closing Meeting	10-11 September 2003

5) Workshop Organisation

Input and feedback to deliverables

Documents approved by the Embedded FINREAD consortium will be sent to the CEN Secretariat of the Workshop for dissemination to all Workshop members. Dissemination of documents starts the procedure of document approval, the consensus verification phase.

Approval of documents and CWAs (the Consensus verification phase)

The Consensus verification phase covers the period between the dissemination of documents to the Workshop members by the Embedded FINREAD Consortium through the Workshop secretariat and the final approval of the documents by the Workshop.

During the Consensus verification phase, comments to the documents disseminated by the Consortium are submitted by the Workshop participants to the Secretariat. They are forwarded to the Editor in charge of the document(s) for action with a copy to the Embedded FINREAD Workshop Chairman, the Embedded FINREAD Consortium Co-ordinator and the Embedded FINREAD Consortium Technical Co-ordinator.

One or several consensus meetings are organised by the Secretariat between the organisation(s) that made the comments and the editor(s) of the document(s). The Embedded FINREAD Workshop Chairman, the Embedded FINREAD Consortium Co-ordinator and the Embedded FINREAD Consortium Technical Co-ordinator are invited to these meetings.

An overview of the comments received and how they were solved along with the documents modified is produced by the Workshop Secretariat and the Editor and distributed to all the Workshop members before the Workshop meetings.

6) Resources

6.1 Workshop Secretariat function

- to liaise with the Embedded FINREAD Consortium ;
- to liaise with other standardisation bodies ;
- to maintain a database of the Embedded FINREAD Workshop members ;
- to invite to, to organise and to produce, a report on the Embedded FINREAD Workshop meetings ;
- to produce the necessary documents to assist/enable the Chair to manage the Consensus building process ;
- to help CEN/ISSS to update the CEN/ISSS Embedded FINREAD Workshop web chapter ;
- to provide expertise and help in progressing Embedded FINREAD deliverables to CWAs.

Estimated resources in man-days : **30**

Funding : **FINREAD Showcase Project (IST Programme)**

6.2 Workshop Chairman function

- to liaise with the Embedded FINREAD Consortium ;
- to liaise with other standardisation bodies ;
- to prepare (*agenda*) and supervise the organisation of the Embedded FINREAD Workshop Kick-off meeting and Workshop meetings ;
- to chair the Embedded FINREAD Workshop meetings ;
- to manage the consensus verification phase ;
- to review the draft minutes of the Embedded FINREAD Workshop meetings and supervise their dissemination to the Workshop's members and CEN delegations ;
- to take an active part in the preparation and update of the CEN/ISSS Embedded FINREAD Workshop web chapter ;
- to supervise the process of elaborating and delivering CWA documents.

Estimated resources in man-days : **35**

6.3 Document Editor function

- to edit document(s) under his responsibility ;
- to take into account comments received during the consultation phase in liaison with the Workshop Secretariat and Workshop Chairman ;
- to update and deliver final draft documents under his responsibility ;
- to participate in Workshop meetings ;
- to convene – if needed – small drafting groups.

Resources: *Embedded FINREAD Consortium members.*

7) Related activities and Liaisons

A liaison will be carried out with the European Committee for Banking Standards (ECBS), preferably through the active participation of one or two ECBS technical experts at Embedded FINREAD Workshop meetings. Other liaisons with any relevant CEN/ISSS Workshops or other activities (Electronic Commerce, Electronic Signatures, etc.) will be carried out under the umbrella of the CEN/ISSS WS Embedded FINREAD Chair and Secretariat. Liaison will also be carried out with ETSI and the DVB-MHP.

A liaison with eEurope initiative is established through the eEurope Smart Card Charter Initiative - Trailblazer 4 (TB4: Generalised Card Reader) Chair.

Liaison with other related initiatives is to be ensured through the Embedded FINREAD Consortium. Some of these initiatives are:

EMV : Europay, MasterCard, Visa

Initiatives related to Mobile communications

WAP-Forum: Wireless Application Protocol

GMCIG : Global Mobile Commerce Interoperability Group

MET : Mobile transactions

MIDP : Mobile Information Device Profile

MOBEY : Mobey Forum

Global Platform Inc.

Initiatives related to PDAs

EPOC technology

PDA profile

Initiatives related to electronic commerce and payment protocols

STIP : Small Terminal Interoperability Platform

OTP : Open Trading Protocol

8) Contact points

Embedded FINREAD Consortium

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Brief description of CEN/ISSS Embedded FINREAD WS documents to be drafted

1. Business requirements

The objective of the Business requirements is to identify the domains, applications and functions to be taken into consideration for the devices covered by Embedded FINREAD. The Business requirements include :

- the scope of the standardisation work to be carried ;
- the need for interoperability in the domains concerned and its technical limits ;
- the capacity of evolution of the solution retained (architecture, technical choices...);
- the link with other standards and technical specifications currently in use ;
- the response to the needs – not only for banks and financial institutions but also for other partners interested in the proposed solution - ;
- the constrains of use and user friendliness ;
- the availability of open source development tools ;
- the necessary commercial compromise between security and cost ;
- etc.

2. Functional architecture and technical requirements

The Embedded FINREAD project focuses on the following mass-market card acceptance devices:

- Mobile phones ;
- PDAs (Personal Digital Assistants) ;
- TV Set-top boxes ;
- PC IC card readers (compliant to the FINREAD technical specifications).

These devices extend the scope of the FINREAD technical specifications initially restricted to a secure IC card reader connected to a PC.

Each device has specific characteristics: environment, hardware, architecture, target applications etc.

The objective of this document is to analyse in detail the characteristics of each device in order to achieve the building-up of a common platform which complies to the approach followed by FINREAD. Technical requirements will be drafted on the basis of the Functional architecture.

The resulting Functional architecture will take into account the following elements :

- the main characteristics and environment of each generic device ;

- the technical architecture (hardware and core software) ;
- the comparison of the architecture and technical specifications of each generic device according to the FINREAD card reader architecture and specifications ;
- the restrictions and limitations identified, if any, sorted out by level of importance - blocking, important, minor - and the way of circumventing them ;
- the resultant Functional architecture and environment that will be used as a basis of the Embedded FINREAD Functional, Security and Technical specifications.

The resulting document will determine the actual scope of the project by :

- restricting the specifications to the elements and areas (hardware and software) that should be common to all devices ;
- defining the areas in which the Embedded FINREAD approach gives advises or recommendations ;
- describing the elements and areas that are kept outside of the scope of the standardisation process.

From an architecture perspective, the Technical requirements of the Embedded FINREAD will be issued.

This task will have a major impact on the project due to :

- the knowledge of the different devices concerned and their environment which is essential for the success of the following tasks ;
- the fact that the actual standardisation scope is appropriately determined.

3. Functional and security specifications

The objective of this document is to define the Embedded FINREAD specifications concerning two aspects:

- Functional specifications ;
- Security specifications.

The Functional specifications include :

- a description of the environment concerned by the specifications ;
- a general architecture of the Embedded FINREAD IC card reader ;
- the main hardware components to be included in the Embedded FINREAD and their description ;
- the main software modules to be included in the Embedded FINREAD and their description ;
- some implementation options : platform, standards to be followed, etc.
- a description of the functionality which is common to all generic devices : behaviour of an IC card when introduced or removed from the reader, use of the keypad and display of the device, downloading of software, etc.;
- a description of the functions to be implemented in all generic devices and available for applications that interface with the IC card reader.

The Security specifications include:

- the specifications of the security architecture, cryptography and their related key management ;
- the options retained to implement the security requirements issued from the Protection Profile ;
- a list of cryptographic functions to be implemented in each generic device.

4. Technical Architecture and Definition of APIs (Application Programming Interface)

The technical specifications of the Embedded FINREAD solution includes a target framework technical architecture that specifies how to access the different card reader components, either hardware (keypad, IC connector, display) or software (crypto-functions, generic functions...).

The Technical architecture description includes the general management of events, the processes (synchronous or asynchronous), the multiple request management, error and exceptions, etc.

The APIs document includes the data objects to treat as well as the detailed description of the functions that must be implemented.

5. Definition of the Virtual Machine

This document describes the Virtual machine and its related core functions to be implemented in an Embedded FINREAD generic device. Depending on the technical architecture adopted, the resulting deliverable will outline some options which provide the minimum requirements to be fulfilled by the generic card reader (e.g. the decision to implement a Virtual Machine based on Java^{TM3} specifications will have as consequence that the deliverable will address the minimal functionality associated to the JavaTM specifications to be implemented in an Embedded FINREAD generic device).

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