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Identification card systems - European Citizen Card - Part 2: Logical data structures and security services

Systèmes de cartes d'identification - Carte Européenne du Citoyen - Partie 2: structures de données logiques et services de sécurité

Identifikationskartensysteme - Europäische Bürgerkarte - Teil 2: Logische Datenstrukturen und Sicherheitsfunktionen

This Technical Specification (CEN/TS) was approved by CEN on 9 January 2012 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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Foreword

This document (CEN/TS 15480-2:2012) has been prepared by Technical Committee CEN/TC 224 “Personal identification, electronic signature and cards and their related systems and operations”, the secretariat of which is held by AFNOR.

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This document supersedes CEN/TS 15480-2:2007.

CEN/TS 15480 *Identification card systems — European Citizen Card* consists of the following four parts:

Part 1, Physical, electrical and transport protocol characteristics

Part 2, Logical data structures and card services

Part 3, European Citizen Card Interoperability using an application interface

Part 4, Recommendations for European Citizen Card issuance, operation and use

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This Technical Specification specifies the logical characteristics and security features at the card/system interface for the European Citizen Card.

The European Citizen Card is a smart card with Identification, Authentication and electronic Signature (IAS) services. Therefore:

— the supported services are specified;

— the supported data structures as well as the access to these structures are specified;

— the command set is defined.

This Technical Specification aims to ensure the interoperability at card/system interface in the usage phase.

In order to reach the interoperability objective, IAS services are compliant with EN 14890 Part 1 and Part 2. As the EN documents offer options, this specification fully defines a complete profile.

This Technical Specification also considers ICAO Doc 9303.

This Technical Specification does not mandate the use of a particular technology, and is intended to allow both native and Java card technologies.

This specification encompasses mandatory and optional features. Optional features make up a toolbox of modular options from which issuers can pick up the necessary protocols to fulfil the requirements for use. Mandatory features shall be implemented for a smart card to be compliant with this Technical Specification. Mandatory features required for compliancy to ECC specification are given in Annex C, the optional features are given in Annex D. Two IAS-enabled smart cards issued by two different issuers, and compliant with this Technical Specification but implementing different application profiles out of this Technical Specification, can interoperate with a terminal provided that such a terminal supports both application profiles. Therefore, interoperability requires a specific agreement between issuers/governments in order to determine which cross-border services are to be shared, and consequently, which protocols are to be supported by the terminals in each country.

All the APDU commands described in this Technical Specification are in accordance with ISO/IEC 7816 Part 4 or Part 8. They are fully described here in order to provide the settings adopted by this specification and to prevent any ambiguity in case of several possible interpretations of the standards.

For physical, electrical and transport protocol characteristics, refer to CEN/TS 15480-1.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 14890-1:2008:2008, *Application Interface for smart cards used as Secure Signature Creation Devices — Part 1: Basic requirements*

ISO/IEC 7816-3, *Information technology — Identification cards — Integrated circuit(s) cards with contacts — Part 3: Electronic signals and transmission protocols*

ISO/IEC 7816-4:2005, *Identification cards — Integrated circuit(s) cards — Part 4: Organisation, security and commands for interchange*

ISO/IEC 7816-4:2005/PDAM 2.1:2008, *Identification cards — Integrated circuit(s) cards — Part 4: Organisation, security and commands for interchange, AMENDMENT 2: Handling of Extended Length Information (Working Draft)*

ISO/IEC 7816-11, *Identification cards — Integrated circuit cards — Part 11: Personal verification through biometric methods*

ISO/IEC 7816-15, *Identification cards — Integrated circuit cards with contact — Part 15: Cryptographic information application*

ISO/IEC 7816-15:2004/Amd 1:2007, *Identification cards — Integrated circuit cards with contact — Part 15: Cryptographic information application, AMENDMENT 1: Examples of the use of the cryptographic information application*

ISO/IEC 7816-15:2004/Amd 2:2008, *Identification cards — Integrated circuit cards with contact — Part 15: Cryptographic information application, AMENDMENT 2: Error corrections and extensions for multi-application environments*

ISO/IEC 9796-2, *Information technology — Security techniques — Digital signature schemes giving message recovery — Part 2: Integer factorisation based mechanisms*

ISO/IEC 14443-4, *Identification cards — Contactless integrated circuit(s) cards — Proximity cards — Part 4: Transmission protocol*

ISO/IEC 19794-2, *Information technology — Biometric data interchange formats — Part 2: Finger minutiae data*

ANSI X9.63, *Public Key Cryptography For the Financial Services Industry: Key Agreement and Key Transport Using Elliptic Curve Cryptography, January 8th 1999*

BSI TR-03110 Version 1.11, *Advanced Security Mechansims for Machine Readable Travel Documents – Extended Access Control (EAC)*

BSI TR-03111 Version 1.11, *Technical Guideline Elliptic Curve Cryptography*

ICAO Doc 9303, Machine Readable Travel Documents, Part 3 – Machine Readable Official Travel Documents – Volume 2 Specifications for Electronically Enabled MRtds with Biometric Identification Capability, Third Edition, 2008

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
Application Dedicated File (ADF)
structure hosting an application in a card

3.2
root
Master File MF in case of a native operating system, the applet instance having the default selection privilege in case of a Java card implementation