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Personlig identifikation – Robusthed over for biometrisk bedrageri – Anvendelse til automatiseret grænsekontrol i Europa

Personal identification – Robustness against biometric presentation attacks – Application to European Automated Border Control



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TECHNISCHE SPEZIFIKATION

December 2018

ICS

English Version

Personal identification - Robustness against biometric presentation attacks - Application to European Automated Border Control

Identification personnelle - Recommandations pour garantir la robustesse de la biométrie dans les systèmes de contrôle frontalier automatisés européens contre les attaques de présentation

Persönliche Identifikation - Empfehlungen zur Sicherung der biometrischen Belastbarkeit Europäischer ABC-Systeme gegenüber Manipulation

This Technical Specification (CEN/TS) was approved by CEN on 10 September 2018 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.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (CEN/TS 17262:2018) 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Introduction

EU Member States issue electronic passports (ePassports) containing a smart-card chip that stores biometric data. The biometric data stored is a face image and two finger images of the holder, except for Ireland and the UK, which issue ePassports containing only a face image. A number of EU Member States have deployed automated border control (ABC) systems that automate border checks for EU citizens in possession of an ePassport. An ABC system authenticates the ePassport, verifies that the traveller is the rightful holder of the ePassport by comparing presented biometric characteristics with biometric data stored in the ePassport, queries border control records (possibly involving biometric identification of the traveller in watchlists), and finally determines eligibility of border crossing according to pre-defined rules, without intervention of a border guard. Border guards can supervise several ABC lanes and intervene whenever something does not work as expected or the traveller hits a watchlist.

Even though supervised, ABC systems are potentially vulnerable to biometric presentation attacks. A biometric presentation attack (or spoofing) is the presentation of artefacts or human characteristics to the biometric capture subsystem in a fashion that may interfere with the system policy. Techniques for the automated detection of presentation attacks are called presentation attack detection (PAD) mechanisms.

This document deals with best practice recommendations regarding the PAD capabilities of European ABC systems.

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1 Scope

This document is an application profile for the International Standard ISO/IEC 30107. It provides requirements and recommendations for the implementation of Automated Border Control (ABC) systems in Europe with Presentation Attack Detection (PAD) capability.

This document covers the evaluation of countermeasures from the Biometrics perspective as well as privacy, data protection and usability aspects. Technical descriptions of countermeasures are out of scope. Enrolment, issuance and verification applications of electronic Machine Readable Travel Documents (eMRTD) other than border control are not in scope. In particular, presentation attacks at enrolment are out of scope.

The biometric reference data can be stored in an eMRTD and/or in a database of registered travellers.

This document covers:

- biometric impostor attacks and
- biometric concealer attacks in a watchlist scenario.

This document addresses PAD for facial and fingerprint biometrics only.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

[ISO/IEC 2382-37](#), *Information technology — Vocabulary — Part 37: Biometrics*

[ISO/IEC 30107 \(series\)](#), *Information Technology — Biometric presentation attack detection*

[CEN/TS 16634](#), *Personal identification - Recommendations for using biometrics in European Automated Border Control*