SLOVENSKI STANDARD
oSIST prEN 419111-2:2013

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Zaščitni profili za uporabo pri oblikovanju in preverjanju podpisov - Aplikacija oblikovanja podpisa - 2. del: Jedrni PP

Protection profiles for signature creation and verification application - Signature creation application - Part 2: Core PP

Schutzprofile für eine Anwendung zum Erzeugen und Prüfen von Signaturen - Signatur Kreation Anwendung - Teil 2: Core PP

Profils de protection pour application de création et de vérification de signature - Application de création de signature - Partie 2: Profils PP de base

Ta slovenski standard je istoveten z: **prEN 419111-2**

ICS:

35.240.15	Identifikacijske kartice in sorodne naprave	Identification cards and related devices

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English Version

Protection profiles for signature creation and verification application - Signature creation application - Part 2: Core PP

Profils de protection pour application de création et de vérification de signature - Application de création de signature - Partie 2: Profils PP de base

Schutzprofile für eine Anwendung zum Erzeugen und Prüfen von Signaturen - Signatur Kreation Anwendung - Teil 2: Core PP

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 224.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (prEN 419111-2:2013) 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.

This document is currently submitted to the CEN Enquiry.

This document, together with prEN 419111-1:2013 and prEN 419111-3:2013, will supersede CWA 14170:2004.

EN 419111 consists of the following parts under the general title "*Protection profiles for signature creation and verification application*":

— *Part 1: Introduction.*
This part is an introduction to EN 419111;

— *Part 2: Signature creation application – Core PP.*
This part is a PP for the SCA, specifying only the core security functions;

— *Part 3: Signature creation application – Possible extensions.*
This part specifies possible additional security functions that can be added to the core SCA PP;

— *Part 4: Signature verification application – Core PP.*
This part is a PP for the SVA, specifying only the core security functions;

— *Part 5: Signature verification application – Possible extensions.*
This part specifies possible additional security functions that can be added to the core SVA PP.

1 Scope

This document is a Protection Profile that defines the security requirements for a Signature Creation Application. This is the core document, which means that only the security functions that are mandatory are included. The ST writer can include other security functions in his TOE. For this purpose, he can include some of those described in prEN 419111-3:2013 [2].

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.

prEN 419111-1:2013, *Protection profiles for signature creation and verification application – Part 1: Introduction*

prEN 14169-1:2011, *Protection profiles for secure signature creation device – Part 1: Overview*

FprEN 14169-2:2013, *Protection profiles for secure signature creation device – Part 2: Device with key generation*

prEN 14169-3:2010, *Protection profiles for secure signature creation device – Part 3: Device with key import*

prEN 14169-4:2010, *Protection profiles for secure signature creation device – Part 4: Extension for device with key generation and trusted communication with certificate generation application*

prEN 14169-5:2010, *Protection profiles for secure signature creation device – Part 5: Device with key generation and trusted communication with signature-creation application*

prEN 14169-6:2010, *Protection profiles for secure signature creation device – Part 6: Device with key import and trusted communication with signature-creation application*

[NR1] *Common Criteria for Information Technology Security Evaluation – Part 1: Introduction and general model – July 2009 – Version 3.1 Rev. 3 CCMB-2009-07-001*

[NR2] *Common Criteria for Information Technology Security Evaluation – Part 2: Security functional components – July 2009 – Version 3.1 Rev. 3 CCMB-2009-07-002*

[NR3] *Common Criteria for Information Technology Security Evaluation – Part 3: Security assurance components – July 2009 – Version 3.1 Rev. 3 CCMB-2009-07-003*

[NR4] *Common Criteria for Information Technology Security Evaluation – Evaluation methodology – July 2009 – Version 3.1 Rev. 3 CCMB-2009-07-004*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in prEN 419111-1:2013 apply.

4 Symbols and abbreviations

For the purposes of this document, the symbols and abbreviations given in prEN 419111-1:2013 apply.

5 TOE overview

5.1 TOE Type

This PP aims at defining security requirements that an SCA shall conform to in the perspective of a security evaluation. The Target of Evaluation (TOE) considered in this PP corresponds to software, running on an operating system and hardware, the SCP. The TOE, using services provided by the SCP and by an SSCD allows the signatory to generate an electronic signature.

This TOE is the minimum configuration for an SCA. Many features that belong to the environment in this TOE could be added inside the TOE as suggested in prEN 419111-1:2013.

5.2 TOE Usage

The TOE, connected to an SSCD, enables to create electronic signature conformant to Directive 1999/93/EC [1].

5.3 TOE Environment

5.3.1 Overview

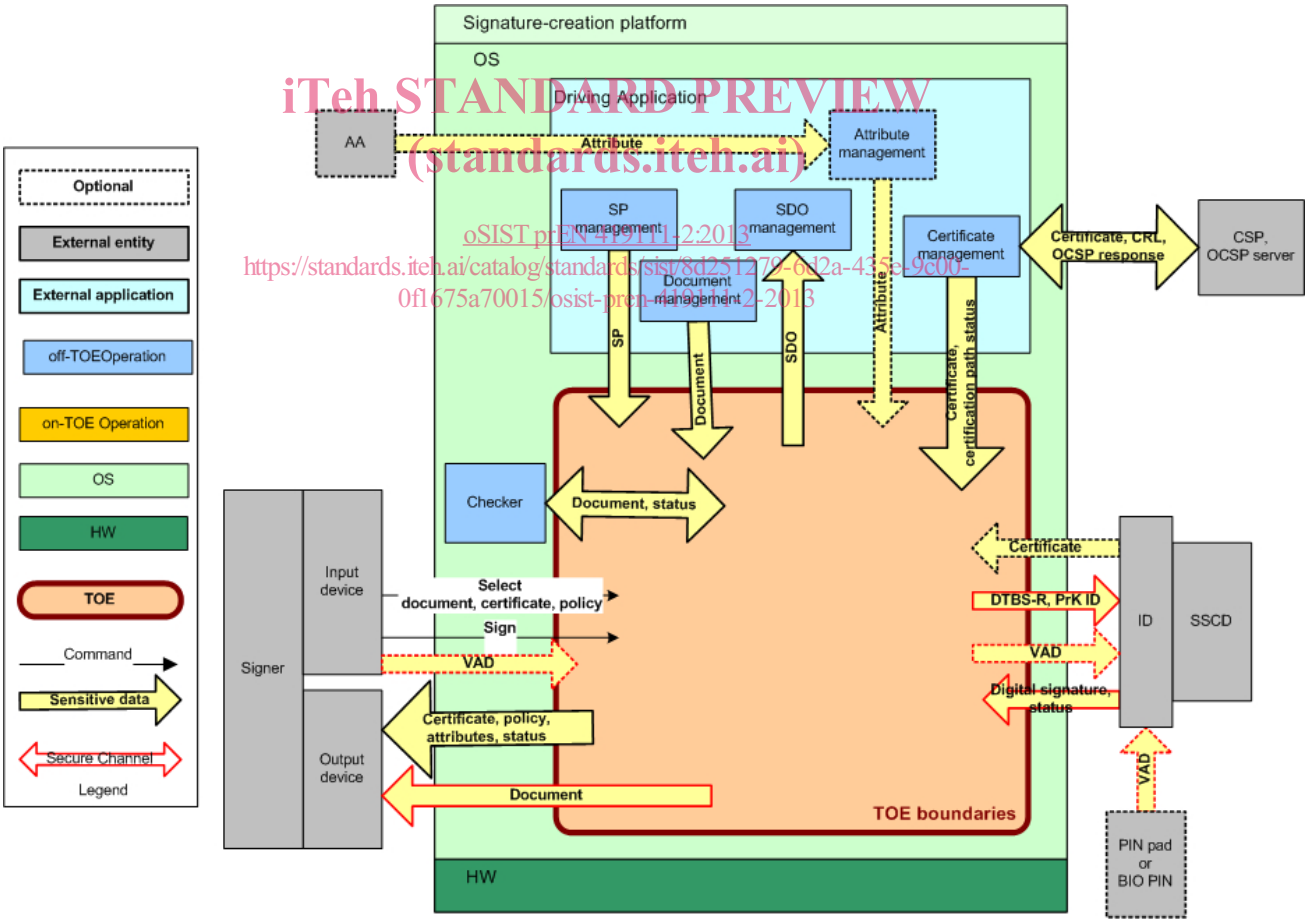

Figure 1 — TOE environment

The environment displayed in Figure 1 — TOE environment is given as an example.

5.3.2 External entities

The following entities are external entities of the TOE. They are connected to the TOE.

— SSCD

— Driving Application

— OS

— Input device

— Output device

A brief description of these external entities is given in prEN 419111-1:2013, 5.6.2.

5.3.3 Other Entities

The following entities are not directly external entities of the TOE, because they are not connected to the TOE, but to external entities of the TOE.

— CSP

— PIN pad or Bio pad

— Interface device

A brief description of these entities is given in prEN 419111-1:2013, 5.6.3.

5.4 TOE operations

5.4.1 Introduction

This section describes operations that are performed in the TOE.

5.4.2 Pre-signature operations

These operations include:

— SD Selection and import

— Invoking SD checker

— Signatory's intent to sign

— Collection of other information

They are described in prEN 419111-1:2013, 5.7.2.2.

5.4.3 Signature computation

Signature computation includes:

— DTBSR Composer

— Management of SSCD interface

— Digital Signature integrity verification

— SDO composer

These operations are described in prEN 419111-1:2013, 5.7.2.3.

5.5 TOE-environment operations

These operations include:

— Checker

— Certificate management

— Signature Policy management

— Sensitive data exchange with SSCD

They are described in prEN 419111-1:2013, 5.7.3.

TOE-environment operations also include:

- Get information/commands from input device
- Send SD / attributes to output device

They are described in prEN 419111-1:2013, 5.7.4.

6 Conformance claims

6.1 CC Conformance Claim

This Protection Profile (PP) is CC Part 2 extended and CC Part 3 conformant and written according to the Common Criteria version 3.1R3 ([NR1], [NR2], [NR3], and [NR4]).

6.2 PP Claim

This PP does not claim conformance to any other Protection Profile.

6.3 Package Claim

The evaluation assurance level for this PP is EAL4 augmented with the assurance component ALC_FLR.1.

CEN/TC 224 note: Different countries currently use different levels of EAL. So national bodies are requested to explicitly comment on this choice.

6.4 Conformance Rationale

Since this PP is not claiming conformance to any other protection profile, no rationale is necessary here.

6.5 Conformance Statement

The conformance required by this PP is the demonstrable-PP conformance. This will facilitate conformance claim to both this PP and other PP for Security Target (ST) authors.

7 Security problem definition

7.1 Assets

7.1.1 Document

The document that is to be signed is one asset that has to be protected in integrity. It is present in the TOE under the following forms:

— **SD** Signer's Document

— **DTBS** Data To Be Signed

— **DTBSR** Data To Be Signed Representation

— **DTBSR_DS** Data To Be Signed Representation Digital Signature

— **SDO** Signed Data Object, computed according to the SP and other data selected by the signer.

7.1.2 Certificate

The certificate needs to be protected in integrity.

7.1.3 Certificate path

The certificate path needs to be protected in integrity.

7.1.4 Signature policy

The signature policy needs to be protected in integrity.

7.1.5 Signature attribute

The signature attributes need to be protected in integrity.

7.2 Threats

7.2.1 T.Document

Any data originally intended by the End-User to be signed are modified by an attacker after they are under TOE control. This manipulation can be done on the document under different forms: SD, DTBS, DTBSR, and DTBSR_DS.

The document may be in a format allowing ambiguous interpretations.

It may contain information that the signer is not aware of.

The document may differ from what the signer expects.

7.2.2 T.Signature_Policy

The Signature Policy can be modified by an attacker, e.g. by removing or modifying a signature attribute.

The signer can mistakenly select a security policy after being fooled by an attacker.

This threatens the SDO as it will be computed according to a wrong SP.

7.2.3 T.Certificate

An attacker may modify the certificate reference selected by the signer, such that the DTBSR does not contain the right reference.

This threatens the SDO as it will be computed using a wrong certificate.

7.2.4 T.Signer_consent

An attacker may try to bypass the signer's consent.

This threatens the SDO as it will be computed using data not selected by the legitimate signer.

7.2.5 T.Digital_Signature

An attacker may try to modify the DTBSR_DS, during its import from the SSCD or when it is in the TOE.

This threatens the SDO as it will be computed using data not selected by the legitimate signer.

7.3 Organisational security policies

OSP.Crypto

The cryptographic algorithms used on the TOE shall conform to the rules established by the relevant CC certification body.

7.4 Assumptions

7.4.1 A.Platform

The TOE is installed on a personal computer located in an admission restricted area ensuring that those resources the TOE is relying on cannot be manipulated without user notification.

It is assumed that the host platform on which the TOE is installed is either directly under the responsibility of the signer or under the control of the organisation to which the signer belongs or of which he is the customer.

The operation system of the host platform is supposed to provide low-level communication interface to the following external interfaces:

— SSCD

— Input device

— Output device.

The operation system of the host platform is supposed to provide separate execution contexts for the various processes executed.

In addition, it is assumed that the following security measures are implemented:

- the host platform is protected from the viruses;
- the data exchange between the host platform and other IT elements via an open network are controlled by a firewall;