



BSI Standards Publication

Rationalized structure for electronic signature standardization - Best practices for SMEs

National foreword

This Published Document is the UK implementation of CEN/TR 419030:2018.

The UK participation in its preparation was entrusted to Technical Committee IST/17, Cards and security devices for personal identification.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2018

Published by BSI Standards Limited 2018

ISBN 978 0 580 96807 5

ICS 35.030

Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 May 2018.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

TECHNICAL REPORT

CEN/TR 419030

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

May 2018

ICS 35.030

English Version

Rationalized structure for electronic signature standardization - Best practices for SMEs

Cadre pour la normalisation de la signature
électronique - Meilleures pratiques pour les PME

This Technical Report was approved by CEN on 9 March 2018. It has been drawn up by the Technical Committee CEN/TC 224.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	3
Introduction	4
1 Scope	5
2 Terms and definitions	5
3 Abbreviations	7
4 Electronic seals as per EU Regulation 910/2014.....	9
5 SME's perspective.....	10
5.1 Reasons for signing or sealing.....	10
5.1.1 General.....	10
5.1.2 Electronic signing as a way to confirm a legal commitment or because of a legal requirement.....	11
5.1.3 Electronic signing as a matter of diligence / risk management.....	12
5.1.4 Electronic seals as a way to comply with an explicit legal requirement to apply a seal, stamp or comparable formal requirement.....	13
5.1.5 Electronic seals as a way to ensure the integrity and authenticity of a document.....	13
5.2 Who signs or seals?.....	13
6 Solutions.....	14
6.1 General.....	14
6.2 Signature creation	14
6.2.1 General.....	14
6.2.2 Remotely managed signature creation application and signature creation device	16
6.2.3 Remotely managed signature creation device	17
6.2.4 Remotely managed signature creation	17
6.2.5 Signature creation application and signature creation device in the hand of the signatory.....	18
6.2.6 Responsibilities of parties	19
6.2.7 Level of security and assurance on the issued signatures	20
6.3 Signature validation.....	21
6.4 Signature preservation	21
7 I'm a TSP?	22
8 Use-cases	23
8.1 Use-cases where the SME is signing.....	23
8.1.1 eInvoicing.....	23
8.1.2 eProcurement Directive	23
8.1.3 Accessing markets across the EU and the impact of the Services Directive	24
8.2 Use-cases where the SME and the SME's customers / partners are co-signing or co-sealing	25
9 Annex Digital signatures standardization	26
Bibliography.....	30

European foreword

This document (CEN/TR 419030:2018) has been prepared by Technical Committee CEN/TC 224 “Personal identification and related personal devices with secure element, systems, operations and privacy in a multi sectorial environment”, 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.

Introduction

Today, it is possible to electronically sign data to achieve the same effects as when using a hand-written signature. Such electronic signatures benefit from full legal recognition due to the EU Regulation N° 910/2014 of the European Parliament and of the Council on electronic identification and trust services for electronic transactions in the internal market [1] (hereafter referred to as Regulation (EU) N° 910/2014) which addresses various services that can be used to support different types of electronic transactions and electronic signatures in particular.

The use of secure electronic signatures should help the development of online businesses and services in Europe. The European Commission standards initiative aims at answering immediate market needs by:

- securing online transactions and services in Europe in many sectors: e-business, e-administration, e-banking, online games, e-services, online contract, etc.;
- contributing to a single digital market;
- creating the conditions for achieving the interoperability of electronic signatures at a European level.

Besides the legal framework, the technical framework at the present time is very mature. Citizens routinely sign data electronically by using cryptographic mechanisms such as, e.g. when they use a credit card or debit card to make a payment. Electronic signatures implemented by such cryptographic mechanisms are called “digital signatures”. Appropriate technical methods for digital signature creation, validation and preservation, as well as ancillary tools and services provided by trust service providers (TSPs), are specified in a series of documents developed along with the present document.

The present document is part of a rationalized framework of standards (see ETSI TR 119 000 [6]) realized under the Standardization Mandate 460 issued by the European Commission to CEN, CENELEC and ETSI for updating the existing standardization deliverables.

Further support is provided to the emerging cross-border use of eSignatures through other legal and policy instruments that affect electronic processes being used in the market today (e.g. eInvoicing Directive [3], Public Procurement Directive [4] and Services Directive [5]).

In this framework, CEN is in charge of issuing Guidelines for electronic signatures implementation. These guidelines are provided through two documents:

- CEN/TR 419030, “Rationalized structure for electronic signature standardization - Best practices for SMEs”, aligned with standards developed under the Rationalised Framework as described by ETSI SR 001 604, and
- CEN/TR 419040, “Rationalized structure for electronic signature standardization - Guidelines for citizens”, explaining the concept and use of electronic signatures.

The present document builds on CEN/TR 419040.

These two documents differ slightly from the other documents in the Technical Framework since they go beyond the technical concept of “digital signature” and deal also with the legal concepts of electronic signatures and electronic seals.

1 Scope

This Technical Report aims to be the entry point in relation to electronic signatures for any SME that is considering to dematerialize paper-based workflow(s) and seeks a sound legal and technical basis in order to integrate electronic signatures or electronic seals in this process. It is not intended to be a guide for SMEs active in the development of electronic signatures products and services - they should rather rely on the series ETSI EN 319 for building their offer - but it is a guide for SMEs CONSUMING e-Signature products and services.

This document builds on CEN/TR 419040, "Guidelines for citizens", explaining the concept and use of electronic signatures, to further help SMEs to understand the relevance of using e-Signatures within their business processes. It guides SMEs in discovering the level of electronic Signatures which is appropriate for their needs, extends the work to specific use-case scenarios, paying special attention to technologies and solutions, and addresses other typical concrete questions that SMEs need to answer before any making any decisions (such as the question of recognition of their e-Signature by third parties, within their sector, country or even internationally).

Once the decision is taken to deploy electronic signatures or electronic seals in support of their business, SMEs will then typically collaborate with their chosen providers of e electronic signatures or electronic seals products or services, which can be done on the basis of ETSI TR 119 100 "Guidance on the use of standards for signature creation and validation", that helps enterprises fulfil their business requirements. The present document presents the concepts and use of the standards relevant for SMEs developed under the Rationalised Framework to SMEs.

2 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

2.1

advanced electronic signature

electronic signature which meets the requirements set out in Article 26 of Regulation (EU) N° 910/2014 [1]

Note 1 to entry: Article 26: An advanced electronic signature shall meet the following requirements:

- (a) it is uniquely linked to the signatory;
- (b) it is capable of identifying the signatory;
- (c) it is created using electronic signature creation data that the signatory can, with a high level of confidence, use under his sole control; and
- (d) it is linked to the data signed therewith in such a way that any subsequent change in the data are detectable.

[SOURCE: Regulation (EU) N° 910/2014 [1], Article 3 (11)]

2.2

electronic signature (from the regulation)

data in electronic form which is attached to or logically associated with other data in electronic form and which is used by the signatory to sign