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STN	**Elektronické podpisy a infraštruktúry (ESI) Postupy na tvorbu a overenie digitálnych podpisov AdES Časť 1: Tvorba a overenie**	**STN EN 319 102-1 V1.3.1** 87 9102

Electronic Signatures and Infrastructures (ESI); Procedures for Creation and Validation of AdES Digital Signatures; Part 1: Creation and Validation

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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Contents

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Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Electronic Signatures and Infrastructures (ESI).

The present document is part 1 of a multi-part deliverable covering Procedures for Creation and Validation of AdES Digital Signatures, as identified below:

ETSI EN 319 102-1: "Creation and Validation";

ETSI TS 119 102-2: "Signature Validation Report".

National transposition dates	
Date of adoption of this EN:	1 November 2021
Date of latest announcement of this EN (doa):	28 February 2022
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 August 2022
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Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Introduction

The present document aims to meet the general requirements of the international community to provide trust and confidence in electronic transactions, including, amongst other, applicable requirements from Regulation (EU) No 910/2014 [i.15].

1 Scope

The present document specifies procedures for:

- the creation of AdES digital signatures (specified in ETSI EN 319 122-1 [i.2], ETSI EN 319 132-1 [i.4], ETSI EN 319 142-1 [i.6] respectively);
- establishing whether an AdES digital signature is technically valid;

whenever the AdES digital signature is based on public key cryptography and supported by Public Key Certificates (PKCs). To improve readability of the present document, *AdES digital signatures* are meant when the term *signature* is being used.

NOTE 1: Regulation (EU) No 910/2014 [i.15] defines the terms electronic signature, advanced electronic signature, electronic seals and advanced electronic seal. These signatures and seals are usually created using digital signature technology. The present document aims at supporting the Regulation (EU) No 910/2014 [i.15] for creation and validation of advanced electronic signatures and seals when they are implemented as AdES digital signatures.

The present document introduces general principles, objects and functions relevant when creating or validating signatures based on signature creation and validation constraints and defines general classes of signatures that allow for verifiability over long periods.

The following aspects are considered to be out of scope:

- generation and distribution of Signature Creation Data (keys, etc.), and the selection and use of cryptographic algorithms;
- format, syntax or encoding of data objects involved, specifically format or encoding for documents to be signed or signatures created; and
- the legal interpretation of any signature, especially the legal validity of a signature.

NOTE 2: The signature creation and validation procedures specified in the present document provide several options and possibilities. The selection of these options is driven by a signature creation policy, a signature augmentation policy or a signature validation policy respectively. Note that legal requirements can be provided through specific policies, e.g. in the context of qualified electronic signatures as defined in the Regulation (EU) 910/2014 [i.15].

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at https://docbox.etsi.org/Reference/.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

[1] IETF RFC 5280: "Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile".

[2] ISO/IEC 9594-8:2020: "Information technology -- Open Systems Interconnection -- Part 8: The Directory: Public-key and attribute certificate frameworks".

NOTE: Available at ISO - ISO/IEC 9594-8:2020 - Information technology -- Open systems interconnection -- Part 8: The Directory: Public-key and attribute certificate frameworks.

[3] IETF RFC 3161: "Internet X.509 Public Key Infrastructure; Time Stamp Protocol (TSP)".

[4] ETSI TS 119 172-1: "Electronic Signatures and Infrastructures (ESI); Signature Policies; Part 1: Building blocks and table of contents for human readable signature policy documents".

[5] T7 & Teletrust: "Common PKI Specifications for Interoperable Applications", Specification Part 9 SigG-Profile, Version 2.0, 20 January 2009.

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] IETF RFC 4158: "Internet X.509 Public Key Infrastructure: Certification Path Building".

[i.2] ETSI EN 319 122-1: "Electronic Signatures and Infrastructures (ESI); CAdES digital signatures; Part 1: Building blocks and CAdES baseline signatures".

[i.3] ETSI EN 319 122-2: "Electronic Signatures and Infrastructures (ESI); CAdES digital signatures; Part 2: Extended CAdES signatures".

[i.4] ETSI EN 319 132-1: "Electronic Signatures and Infrastructures (ESI); XAdES digital signatures; Part 1: Building blocks and XAdES baseline signatures".

[i.5] ETSI EN 319 132-2: "Electronic Signatures and Infrastructures (ESI); XAdES digital signatures; Part 2: Extended XAdES signatures".

[i.6] ETSI EN 319 142-1: "Electronic Signatures and Infrastructures (ESI); PAdES digital signatures; Part 1: Building blocks and PAdES baseline signatures".

[i.7] ETSI EN 319 142-2: "Electronic Signatures and Infrastructures (ESI); PAdES digital signatures; Part 2: Additional PAdES signatures profiles".

[i.8] IETF RFC 5652: "Cryptographic Message Syntax (CMS)".

[i.9] IETF RFC 4998: "Evidence Record Syntax (ERS)".

[i.10] IETF RFC 6283: "Extensible Markup Language Evidence Record Syntax (XMLERS)".

[i.11] Void.

[i.12] IETF RFC 6960: "X.509 Internet Public Key Infrastructure Online Certificate Status Protocol - OCSP".

[i.13] ETSI EN 319 422: "Electronic Signatures and Infrastructures (ESI); Time-stamping protocol and time-stamp token profiles".

[i.14] ETSI TS 119 312: "Electronic Signatures and Infrastructures (ESI); Cryptographic Suites".

[i.15] Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC.

[i.16] IETF RFC 3852: "Cryptographic Message Syntax (CMS)".

[i.17] ETSI TS 119 442: "Electronic Signatures and Infrastructures (ESI); Protocol profiles for trust service providers providing AdES digital signature validation services".

[i.18] ETSI TS 119 102-2: "Elecrotonic Signatures and Infrastructures (ESI); Procedures for Creation and Validation of AdES Digital Signatures; Part 2: Signature Validation Report".