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Electronic Signatures and Infrastructures (ESI);
Policy and Security Requirements for
Trust Service Providers issuing Time-Stamps

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Contents

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Electronic Signatures and Infrastructures (ESI).

The present document was previously published as ETSI TS 102 023 [i.8].

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 is aiming to meet the general requirements of the international community to provide trust and confidence in electronic transactions including, amongst others, applicable requirements from Regulation (EU) No 910/2014 [i.4].

The Regulation includes requirements for Trust Service Providers (TSP) providing services to the public, including TSPs issuing time-stamps. Additionally, more specific requirements are identified in the Regulation for a specific class of TSP called a Qualified TSP, with further specific requirements for those Qualified TSPs which issue qualified time-stamps. The present document is aimed to meet the requirements of the Regulation for both Qualified and non-Qualified TSPs issuing Qualified and non-Qualified electronic time-stamps respectively.

In order to verify an electronic signature, it can be necessary to prove that the signature from the signer was applied when the signer's certificate was valid. This is necessary in two circumstances:

1) during the validity period of the signer's certificate, should the signer's certificate be revoked before the end of its validity, e.g. because the signer's private key has been compromised;

2) after the end of the validity period of the signer's certificate, since CAs are not mandated to process revocation status information beyond the end of the validity period of the certificates they have issued.

One method consists to use a time-stamp which allows proving that a datum existed before a particular time. This technique allows proving that the signature was generated before the date contained in the time-stamp. Policy requirements to cover that case are the primary aim of the present document.

However, these policy requirements allow addressing other needs.

Time-stamping is gaining an increasing interest by the business sector and is becoming an important component of digital signatures, this is commonly based upon the Time-Stamp protocol from the IETF RFC 3161 [i.2] which is profiled in ETSI TS 119 422 [5]. Agreed minimum security and quality requirements are necessary in order to ensure trustworthy validation of long-term digital signatures.

1 Scope

The present document specifies policy and security requirements relating to the operation and management practices of TSPs issuing time-stamps.

These policy requirements are applicable to TSPs issuing time-stamps. Such time-stamps can be used in support of digital signatures or for any application requiring to prove that a datum existed before a particular time.

The present document can be used by independent bodies as the basis for confirming that a TSP can be trusted for issuing time-stamps.

The present document does not specify:

- protocols used to access the TSUs;

NOTE 1: A time-stamping protocol is defined in IETF RFC 3161 [i.2] including optional update in IETF RFC 5816 [i.3] and profiled in ETSI TS 119 422 [5].

- how the requirements identified herein can be assessed by an independent body;
- requirements for information to be made available to such independent bodies;
- requirements on such independent bodies.

NOTE 2: See ETSI TS 119 403 [i.10].

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 http://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] Recommendation ITU-R TF.460-6 (2002): "Standard-frequency and time-signal emissions".

[2] ISO/IEC 19790:2006: "Information technology -- Security techniques -- Security requirements for cryptographic modules".

[3] ISO/IEC 15408 (1999) (parts 1 to 3): "Information technology -- Security techniques -- Evaluation criteria for IT security".

[4] ETSI TS 119 401: "Electronic Signatures and Infrastructures (ESI); General Policy Requirements for Trust Service Providers".

[5] ETSI TS 119 422: "Electronic Signatures and Infrastructures (ESI); Time-stamping protocol and time-stamp profiles".