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STANDARDISATION MANDATE
TO THE EUROPEAN STANDARDISATION ORGANISATIONS CEN, CENELEC AND ETSI IN THE FIELD OF INFORMATION AND COMMUNICATION TECHNOLOGIES APPLIED TO ELECTRONIC SIGNATURES

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1.   RATIONALE

The **Directive 1999/93/EC on a *Community framework for electronic signatures*** [R1][1] was adopted by the European Parliament and the Council in December 1999. The purpose of the Directive is to establish a legal framework for eSignature and for certification-services providers in the internal market. Several internal market instruments (e.g. Services Directive [R6], Public Procurement [R8], eInvoicing [R9]) rely in their functioning on the framework set by the Directive.

The current state of the European standardisation on eSignature[2], which also covers ancillary services to eSignature, relates to the legal requirements of the Directive and stems from the **EESSI**, the *European Electronic Signature Standardization Initiative* [R10, R11]. EESSI was set up to coordinate the European standardisation organisations CEN and ETSI in developing a number of standards for e-signature products as a result of two specific mandates from the Commission [R10, R11].

The **Commission Decision 2003/511/EC** [R2], on generally recognised standards for electronic signature products, was adopted by the Commission following the results of the EESSI. This decision fostered the use of eSignature by publishing "generally recognised standards" for electronic signature products in compliance with article 3(5) of the Directive. The Commission stated in 2006, in a report on the operation of the Directive, that its objectives had been largely fulfilled and that no clear need for its revision had emerged. Nonetheless, acknowledging problems with the mutual recognition and cross-border interoperability of eSignature, the Commission added that it intended to address the legal, technical and standardisation related causes of these problems [R5].

As a follow-up, the Commission launched a study on the standardisation aspects of eSignature [R12] which concluded that the current multiplicity of standardisation deliverables together with the lack of usage guidelines, the difficulty of access and lack of business orientation is detrimental to the interoperability of eSignature, and formulated a number of recommendations to mitigate this. Furthermore, the fact that EESSI ended its activities immediately after the publication of its work did not contribute to the take-up of the existing standardisation deliverables by the industry. Such take-up could possibly have resolved many interoperability issues before they occurred. Furthermore, the Commission evaluated the EESSI process, and recommendations to improve its openness were formulated [R13].

The Commission also launched the CROBIES study [R14] to investigate solutions addressing some specific issues regarding profiles of secure signature creation devices, supervision practices as well as common formats for a trusted list, qualified certificates and signatures.

Finally, the Commission adopted in 2008 an Action Plan on eSignature and eIdentification [R4], which contained the following actions relevant for standardisation:

- to update or possibly extend the Commission Decision 2003/511/EC [R2];

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[1]   Unless explicitly specified otherwise, "**Directive**" refers to the eSignature Directive1999/93/EC [R1]

[2]   eSignature: electronic signature(s)

- to compile a "Trusted List" of qualified certification service providers;
- to provide guidance helping to implement eSignature in an interoperable way.

The objective of this mandate is to update the existing European eSignature **standardisation deliverables**[3] in order to create a **rationalised framework**. Such a rationalisation will also support the realisation of the items of the Action Plan related to eSignature.

The standardisation environment

The **EESSI** was **launched in 1999** [R10, R11]. Under the umbrella of CEN and ETSI, EESSI delivered **CEN Workshop Agreements (CWA)**, and **ETSI Technical Specifications (TS)** and **ETSI Technical Reports (TR)**[4] on a variety of electronic signature related topics. EESSI was **closed in October 2004**, after their publication.

Standardisation work continued and resulted in a rather complex set of ETSI and CEN standardisation deliverables for eSignature and ancillary services:

- The CEN/ISSS Workshop on E-Sign was closed in 2003 but some CWAs were taken on by the CEN TC224[5] for maintenance, with a few being meant to progress to European Standards (ENs)[6]. CWAs have a three-year validity but the validity of the CWAs referred to by Decision 2003/511/EC [R2] has been renewed automatically.

- New standardisation work as well as maintenance of existing ETSI TSs and TRs is carried out by ETSI TC/ESI[7].

Figure 1 below illustrates the current known status.

The deliverables cover a range of **hardware and software products**, or relevant components thereof, as well as **services** which are intended to be used by a certification service provider for the provision of eSignature services or are intended to be used for the creation or verification of eSignature.

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[3] The expression **standardisation deliverable** is used in this document as a generic reference to standardisation documents, be they established standards such as official European or international standards, or less formal consensus specifications such as CWA, TS, TR.

[4] ETSI Technical Specifications (TSs) are normative and ETSI Technical Reports (TR) are informative.

[5] CEN/TC224: personal identification, electronic signature and cards and their related systems and operations.

[6] CWA 14890 was upgraded to a European standard; the upgrade of CWA 14169 is in progress and the upgrades of CWA 14170 and 14355 are foreseen but not scheduled yet.

[7] ETSI ESI: Electronic Signatures and Infrastructures Technical Committee

The considered services are the issuance and management of certificates, as well as any other service using, or ancillary to, eSignature, such as directory services, signature validation services, time-stamping, (long term) archiving, computing services or specific consultancy services.
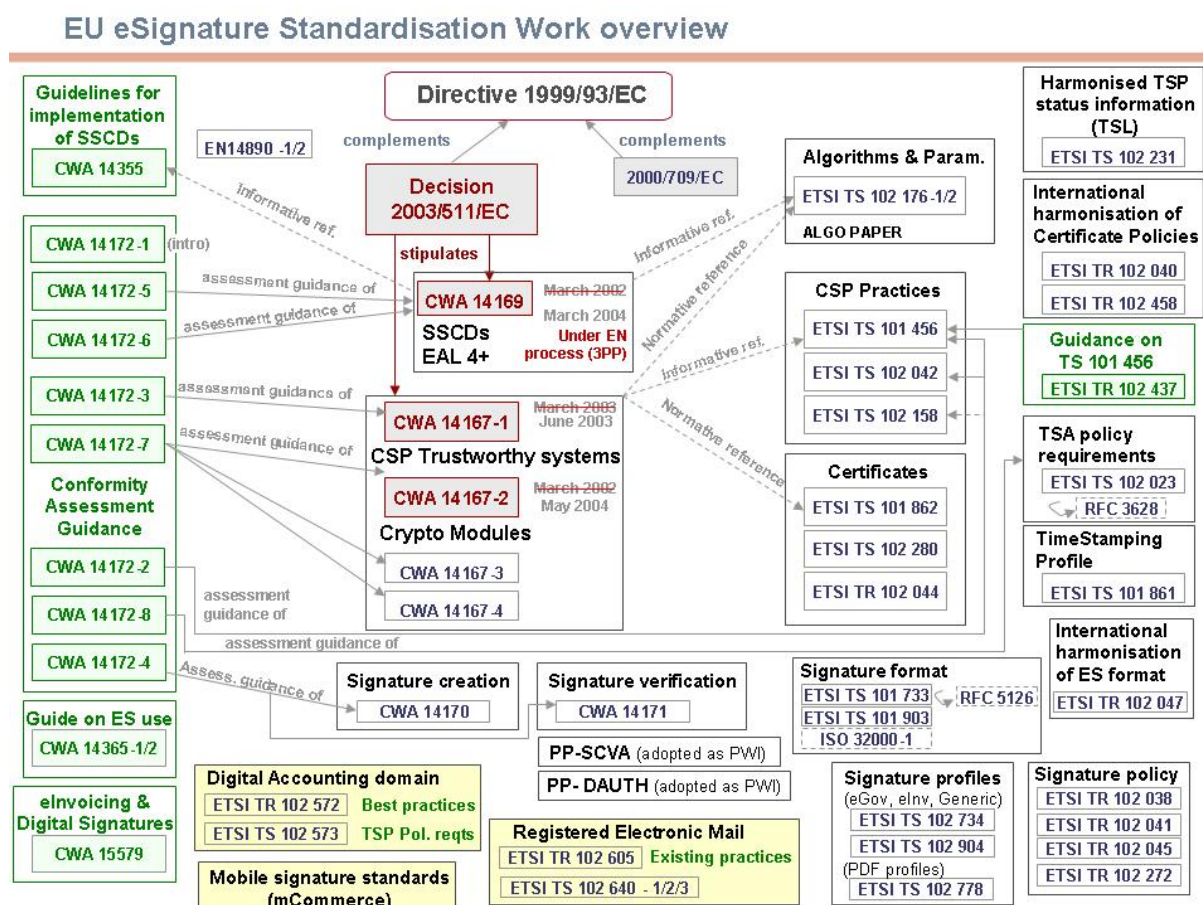

Figure 1 Current known status of the European eSignature standardisation deliverables (source: update from [R12])

In addition to European standardisation deliverables, there are other international eSignature standards, most of which have not significantly changed since EESSI started its work. An important development, expected to occur in 2010, may be the gathering of certain signature formats under a single ISO standard[8]. Finally, several Member States have developed their national standardisation framework for eSignature.

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[8]   A formal liaison has been established between ETSI and ISO to provide a formal avenue for the ETSI signature expertise to be applied to the PDF standards. The first goal of the liaison has been to establish the PDF Advanced Signature as an ETSI TS profile which has resulted in TS 102 778 Part 2. TS 102 778 Parts 3-5 have been submitted to ISO as ETSI recommended improvements to the PDF signature formats in subsequent ISO 32000 standards. All parts of TS 102 778 can currently be used in conjunction with ISO 32000-1 using the PDF extensions mechanism even before they are included directly into the ISO 32000-2 standard..

2. SCOPE AND DESCRIPTION OF THE MANDATE

2.1. Scope

The scope of this mandate is to create the conditions for and achieve the interoperability of eSignature at intra-community level, by defining and providing a *rationalised* **European eSignature standardisation framework,** which must also include **implementation guidelines.** This shall include a planning element for the future development and maintenance of any deliverables produced that are not European Standards (ENs).

The set of existing *European eSignature* standardisation deliverables is illustrated in the previous chapter. A possible, schematic structure of the planned rationalised European eSignature standardisation framework, that this mandate seeks to obtain as its ultimate result, is depicted below for illustration purposes:
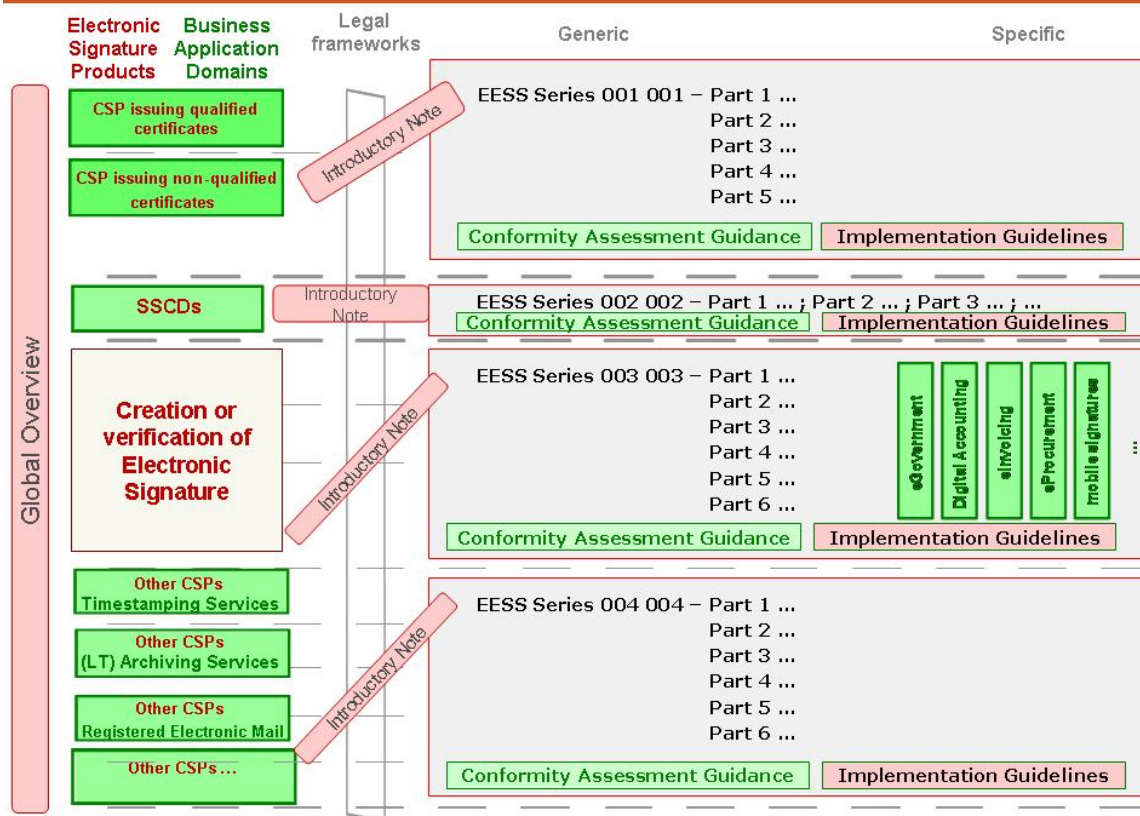
Figure 2 – Illustration of the schematic architecture of the rationalised European eSignature standardisation framework. eSignature product/service categories could be the following[9]:

1. *Provisioning of certification services issuing qualified and non-qualified certificates*
2. *Secure Signature Creation Devices (SSCD)[10]*
3. *Products related to the creation and/or verification of electronic signatures*
4. *Provisioning of certification/trusted services other than issuing certificates:*
   a. *Services supporting eSignatures: time stamping, eSignature generation, eSignature validation, (long term) archiving*
   b. *Services employing eSignatures: registered mail services and other services to be identified*

2.2. Description of the mandate

Starting from the inventory and assessment of existing eSignature standardisation documents on a European and worldwide scales, the first aim is to define the structure

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[9]   EESS stands for European Electronic Signature Standard. These categories should not be restricted to a specific type of technology or aspect (e.g. non-smart card based SSCDs or mobile aspects should be covered).

[10]   Given their importance, SSCDs may be considered as a specific category.

for the rationalised European eSignature standardisation framework and to agree the rationalisation work programme. The following tasks should be carried out[11]:

- Inventory of eSignature standards – a comprehensive inventory of national, European and worldwide[12] existing eSignature-related standards, assimilated standardisation deliverables and documentation;

- Rationalised structure for the European eSignature standardisation documents – i) schematic structure (including relationships) of the existing set of eSignature standardisation deliverables; ii) definition of the scope and structure of the to-be-developed rationalised European eSignature standardisation framework;

- Gap analysis – assessment of the existing eSignature standardisation deliverables in order to identify the standardisation work required to improve them, the gaps in terms of standardisation deliverables and the work needed to fill those gaps;

- Quick fixes – identification of actions that must be performed rapidly leading to a quick and easy improvement of the functionality of the existing eSignature standardisation deliverables (such as the actions identified by the CROBIES study [R14], in particular those identified in deliverable 2 for Trusted Lists and deliverable 3 for the Certificate Profile for natural and legal persons, and the work performed on eSignature by the Services Directive comitology [R6]);

- In line with the commitment[13] in the Action Plan on eSignatures & eIdentification [R4] related to Decision 2003/511/EC [R2], **immediate attention should be given to update CWA 14169:2004, CWA 14167-1:2003, CWA 14167-2:2004 and CWA 14167-4:2004 to quickly <u>update</u> this Decision**. Similarly, **attention should be given to the elements for a possible rapid <u>extension</u> of the Decision.**

The rationalised European standardisation framework should be supported, as a minimum, by the following:

- Global overview - architecture of the rationalised European eSignature standardisation framework, with a clear positioning of the eSignature Directive requirements and other applicable legal instruments and the associated eSignature standard series;

- Information on how to address series of related standards (including the mapping to the relevant eSignature Directive requirements and other applicable legal requirements);

- Implementation guidelines – support for cross-border interoperability, providing guidance on the proper and efficient implementation of the standards;

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[11] The results of the CROBIES study [R14] shall be taken into account for the completion of these tasks.

[12] In particular, close attention should be given to the following ISO/IEC standards: 14888 9796, 9797, 9798, 10116, 10118, 11770, 11889, 15408, 15945, 15946, 18014, 19772 and 29190.

[13] "*the Commission will update Decision 2003/511/EC , establishing the list of generally recognised standards for e-signature products and will analyse the possible extension of the decision to other e-signature products than those covered by the present Commission Decision […]*".

- Conformity assessment guidance – guidance on the verification of conformity of products, systems or services that implement the standards.

3. EXECUTION OF THE MANDATE

3.1. Modus operandi

The ESOs are invited to establish an adequate and efficient co-operation mechanism between them and with other relevant stakeholders in view of achieving as a top priority, the widest possible consensus amongst all parties concerned. Preservation of the existing investments made for eSignature implementation shall be ensured. The stability but also maintainability of the rationalised framework shall be considered at the same time.

A wide and open consultation of all stakeholders (e.g. through conferences or seminars) would be appropriate to ensure the validation of early results and the future take-up of the work.

European Standards (EN) must be targeted in general as a result of the mandate. CWA or TS should only be considered if justified. "EN" status is preferred because it reflects the widest possible consensus.

It is of utmost importance that the **internationalisation of the rationalised framework is considered right from the start of the work**. Therefore, **international cooperation should be ensured with international bodies** such as ISO/IEC and ITU, as appropriate, as well as with other international standards developing organisations, such as IETF, OASIS or W3C. Whenever necessary to ensure the international interoperability of eSignature, ISO/IEC or ITU standards must be targeted beyond EN standards, by taking them forward in ISO/IEC or ITU.

The rationalised framework must address business needs and practices and therefore be readily usable for business without disproportionate effort or need for expertise[14].

In the development of the work set out in this mandate, ESOs must comply with EU data protection values and legislation.

In order to favour the take-up of the rationalised standardisation framework, its various components should be made as readily available as possible, for instance by gathering all standards under a single webpage, by allowing free download whenever possible, etc.

3.2. Standstill

With acceptance by the ESOs of the mandate, the appropriate standstill period in accordance with Article 7.1 of the Directive 1998/34/EC [R6] as amended will start.

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[14] Examples: rather than looking for an academic comprehensiveness, options in standardisation deliverables should be reduced as much as possible to what is really needed for an application.

3.3. Reports, evaluations and results

CEN, CENELEC and ETSI shall provide to the Commission, within four months of the acceptance of the mandate, a detailed work programme that sets out the timetable for the work described in 2.2 above.

CEN, CENELEC and ETSI shall submit **six-monthly progress reports and yearly management reports** to the Commission detailing the work performed during the elapsed period.

The mandate shall run for a total maximum duration of **48 months** from the date of its acceptance.

4. ORGANISATIONS TO BE INVOLVED

As appropriate, CEN, CENELEC and ETSI will invite the representative organisations of consumers' interests (ANEC), environmental protection (ECOS), workers (ETUI) and small and medium-size enterprises (NORMAPME) to take part in the standardisation work.

ANNEX: REFERENCE DOCUMENTATION

R1. **Directive 1999/93/EC** of the European Parliament and the Council of 13.12.1999 on *a Community framework for electronic signatures*

R2. **Decision 2003/511/EC** of 14.7.2003 on *the publication of reference numbers of generally recognised standards for electronic signature products in accordance with Directive 1999/93/EC of the European Parliament and of the Council*

R3. **Commission Decision 2000/709/EC** of 6.11.2000 on the *minimum criteria to be taken into account by MS when designating bodies in accordance with Article 3(4) of Directive 1999/93/EC of EP and Council on a Community framework for electronic signatures.*

R4. Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on an ***Action Plan*** *on e-signatures and e-identification to facilitate the provision of cross-border public services in the Single Market*, **COM(2008)798** of 28.11.08.

R5. Report from the Commission to the European Parliament and the Council: *Report on the operation of Directive 1999/93/EC on a Community framework for electronic signatures*, **COM(2006)120**, 15.3.06.

R6. **Directive 1998/34/EC** of the European Parliament and the Council of 22.6.1998 laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services.

R7. **Services:** Directive 2006/123/EC of the European Parliament and Council of 12.12.06 on services in the internal market, OJ L376 of 27.12.06.

R8. **Public procurement:** Directive 2004/18/EC of the European Parliament and Council of 31.3.04 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts and Directive 2004/17/EC of the European Parliament and Council of 31.3.04 coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors.

R9. **eInvoicing:** Council Directive 2006/112/EC of 28.11.06 on the common system of value added tax.

R10. **EESSI Mandate M279**, *Mandate to CEN, CENELEC and ETSI in support of a European legal framework for electronic signatures*, European Commission, 1998.

R11. **EESSI mandate M290,** *Mandate addressed to CEN, CENELEC and ETSI in support of the European legal framework for electronic signatures- Phase 2: Implementation of the work programme resulting from mandate M279 and presented in Section 8.3 of the (draft) report prepared by EESSI*, European Commission, 1999.

R12. ***Study on the standardisation aspects of e-signatures***, SEALED, DLA Piper et al, 2007.

R13. *Evaluation of the standardization procedures in the context of the European electronic signature standardization initiative*, Jos Dumortier, 2002.

R14. ***CROBIES study*** *(Cross-Border Interoperability of eSignature),* Siemens, SEALED and TimeLex, staged publication: draft documents delivered in October 2009, last publication foreseen 1Q2010.