The Standards People

European standardisation framework for trust services

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ETSI ESI Vice-Chair

For: **CA/B-Forum Thessaloniki**

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TC CYBER and CA/B Forum collaboration

TC CYBER has a broad array of products and work items for global use, including quantum safe cryptography

- Its dashboard portal can be found here
- Freely-available Technical Specifications and Reports that can be found here
- Work items in progress can be found here and here (quantum)

CA/B's work is closely followed and specific future collaboration is envisioned for

- Critical Security Control technical specifications referring to and including Code Signing Certificates to enhance cybersecurity trust generally
- Making use of the Subject Information and Certificate Policy Identification fields in conjunction with Middlebox Security Protocol specifications
- Contact is Tony Rutkowski, tony.Rutkowski@cisecurity.org

eIDAS Standards Roadmap

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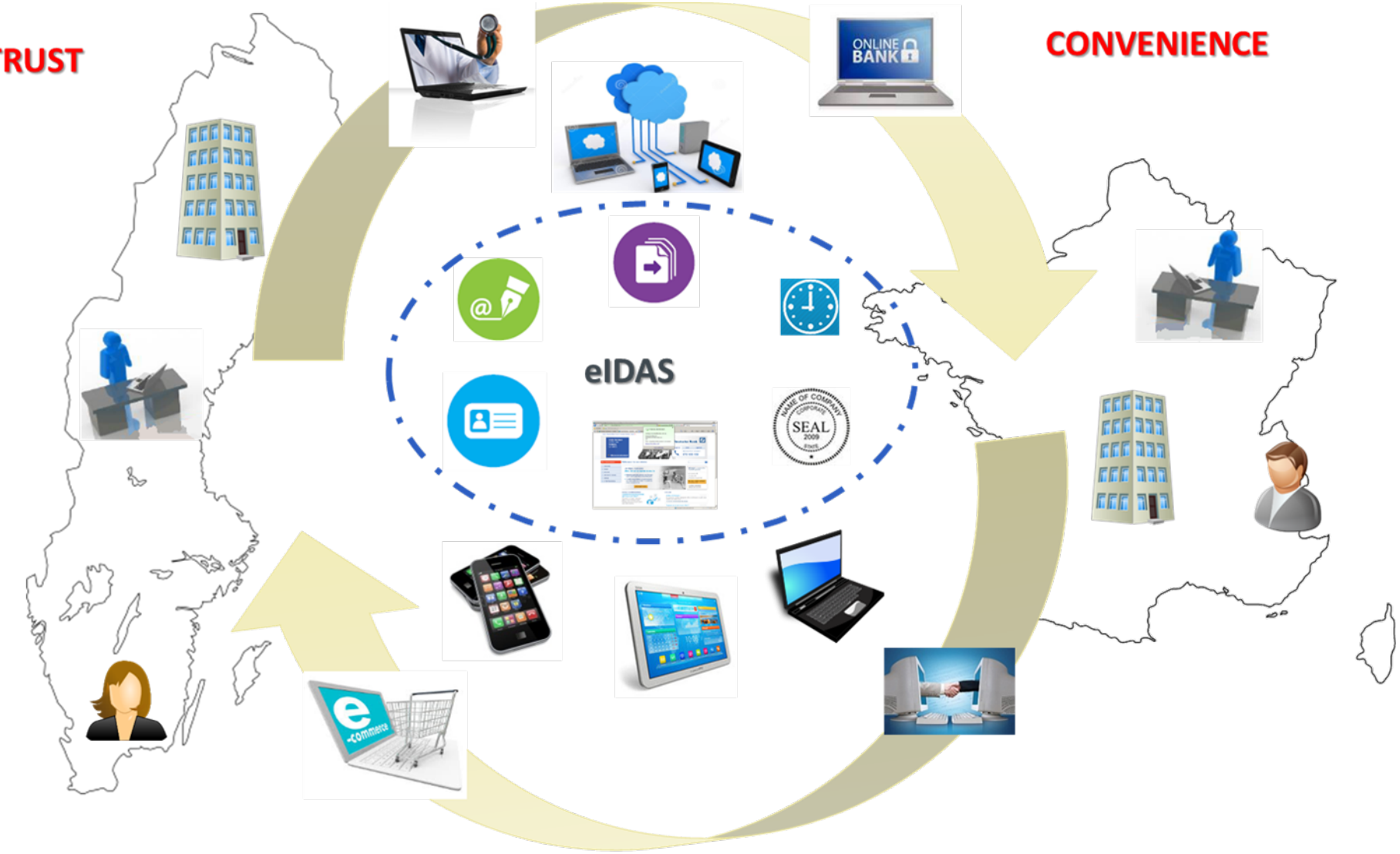
eIDAS Strategic Goals

(Slide from Andrea Servida; EU Commission; Head of DG CONNECT H4 - “eGovernment and Trust”)



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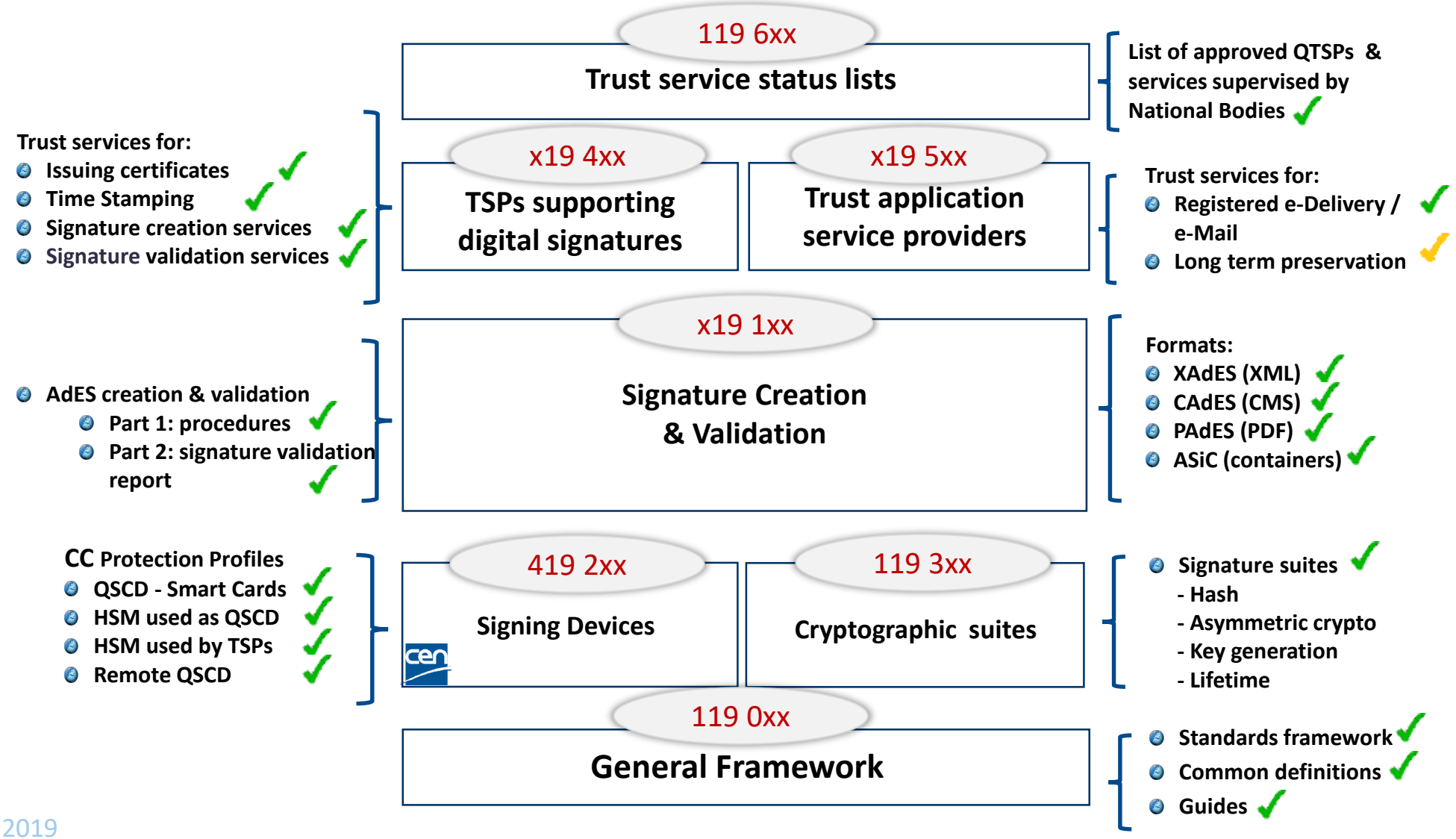
eIDAS Standards Framework: Published Standards



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Trust services issuing certificates

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Trust service issuing certificates

e-Signatures	For use by natural persons
e-Seals	For use by legal persons
Website authentication	For websites

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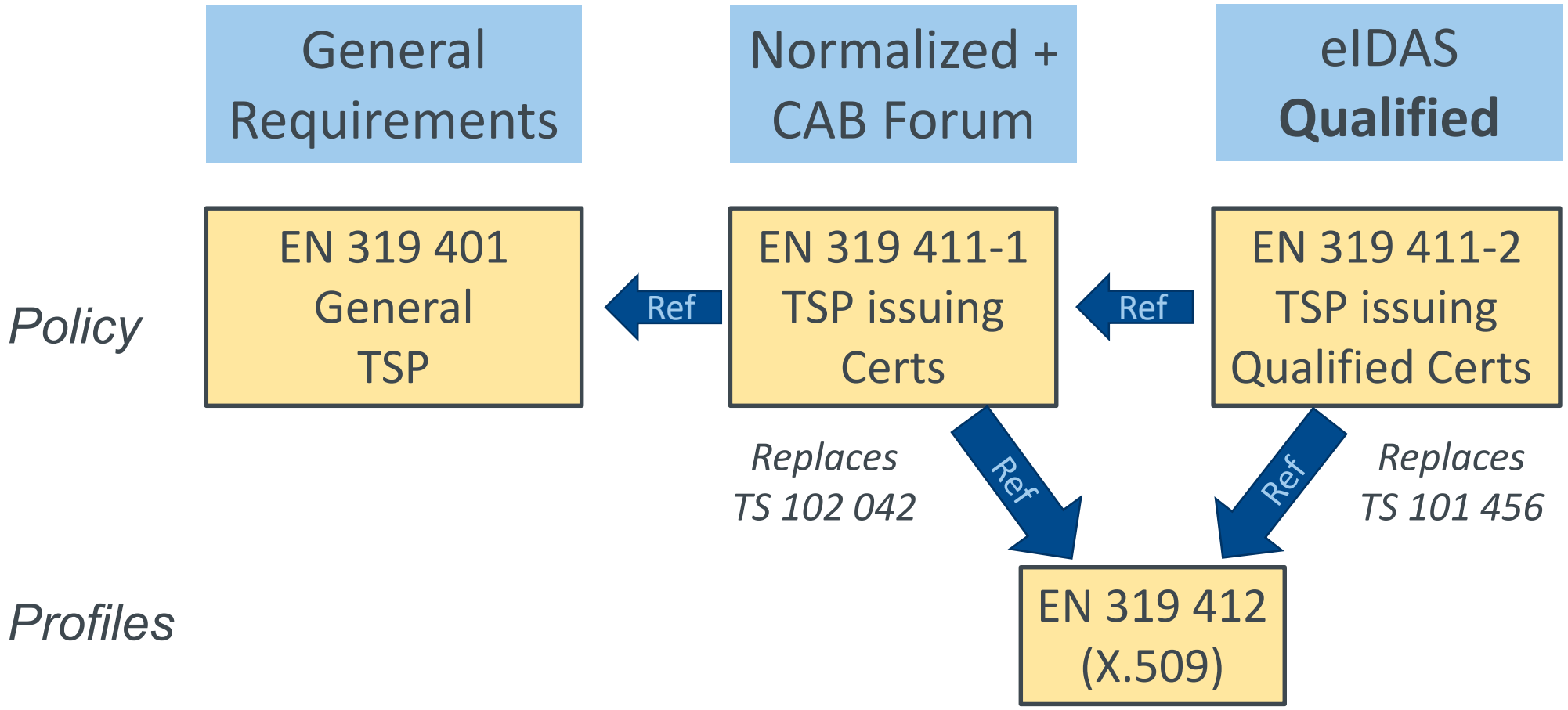
Trust services issuing certificates: ETSI standards overview



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Timestamping

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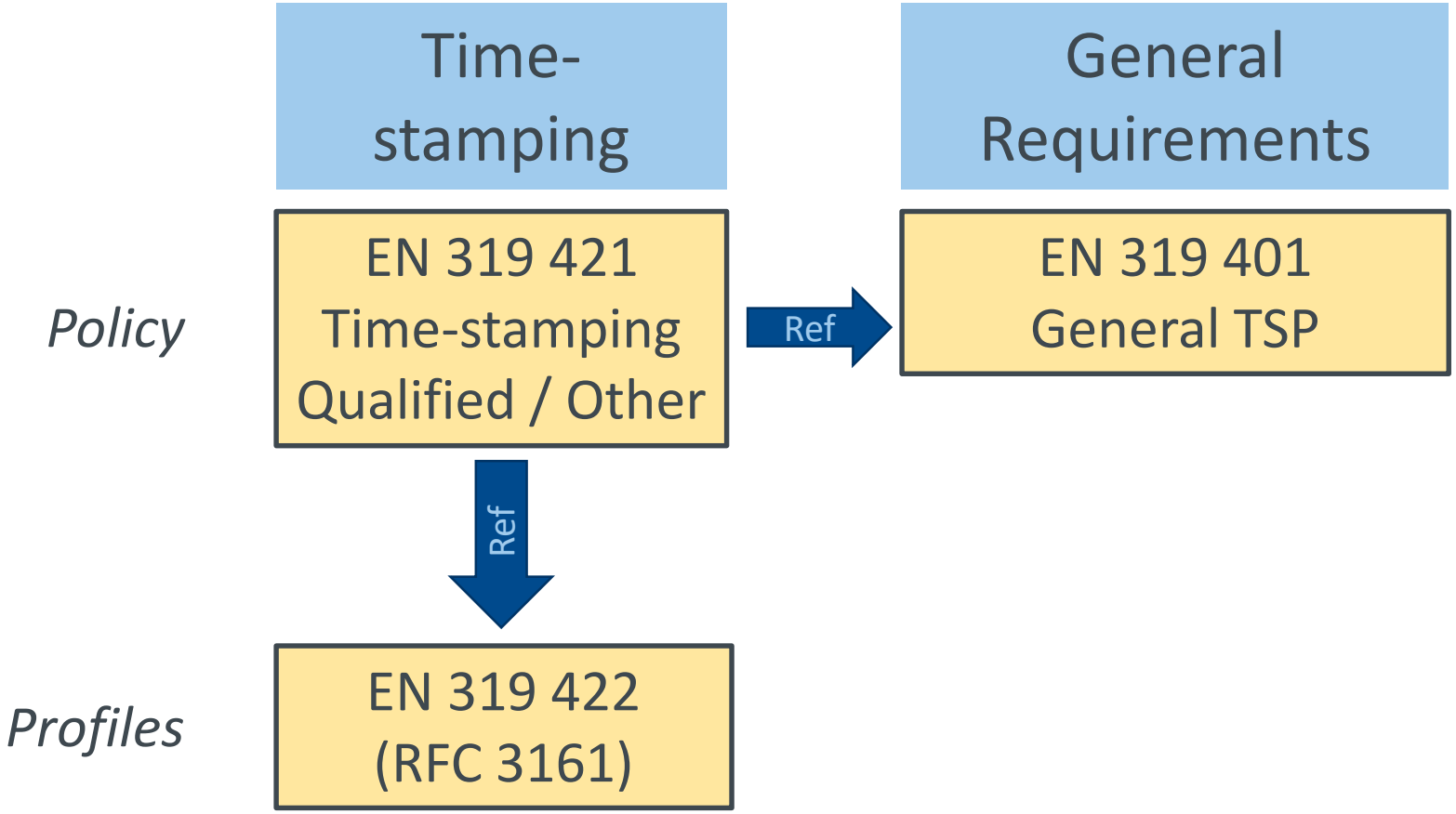
ETSI Time-Stamping Standards



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Signatures and Seals

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eIDAS, Signatures & Seals

Legal differences addressed by common technical solution:

Electronic signature is for *natural* persons

eIDAS Art. 3(10) "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"

(a) uniquely linked to the signatory;

(b) capable of identifying the signatory;

(c) created […] with a high level of confidence, use under his sole control; and

(d) linked […] in such a way that any subsequent change in the data is detectable.

Electronic seal is for *legal* persons

eIDAS Art. 3(25) "data in electronic form, which is attached to or logically associated with other data in electronic form to
ensure the latter's (electronic data) origin and integrity"

(a) uniquely linked to the creator of the seal;

(b) capable of identifying the creator of the seal;

(c) created […] with a high level of confidence under its control, use for electronic seal creation; and

(d) linked […] in such a way that any subsequent change in the data is detectable.

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Signature Formats for Advanced / Qualified Electronic Signatures / seals

- ETSI EN 319 122: : CAdES Digital signatures for binary data objects
- ETSI EN 319 132: XAdES Digital signatures for XML format documents
- ETSI EN 319 142: PAdES Digital signatures for PDF format documents
- ETSI EN 319 162: ASiC Associated Signature Container for ZIP package with signature
- Under development: JAdES Digital signatures for JSON data objects

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Signature Enhanced Services

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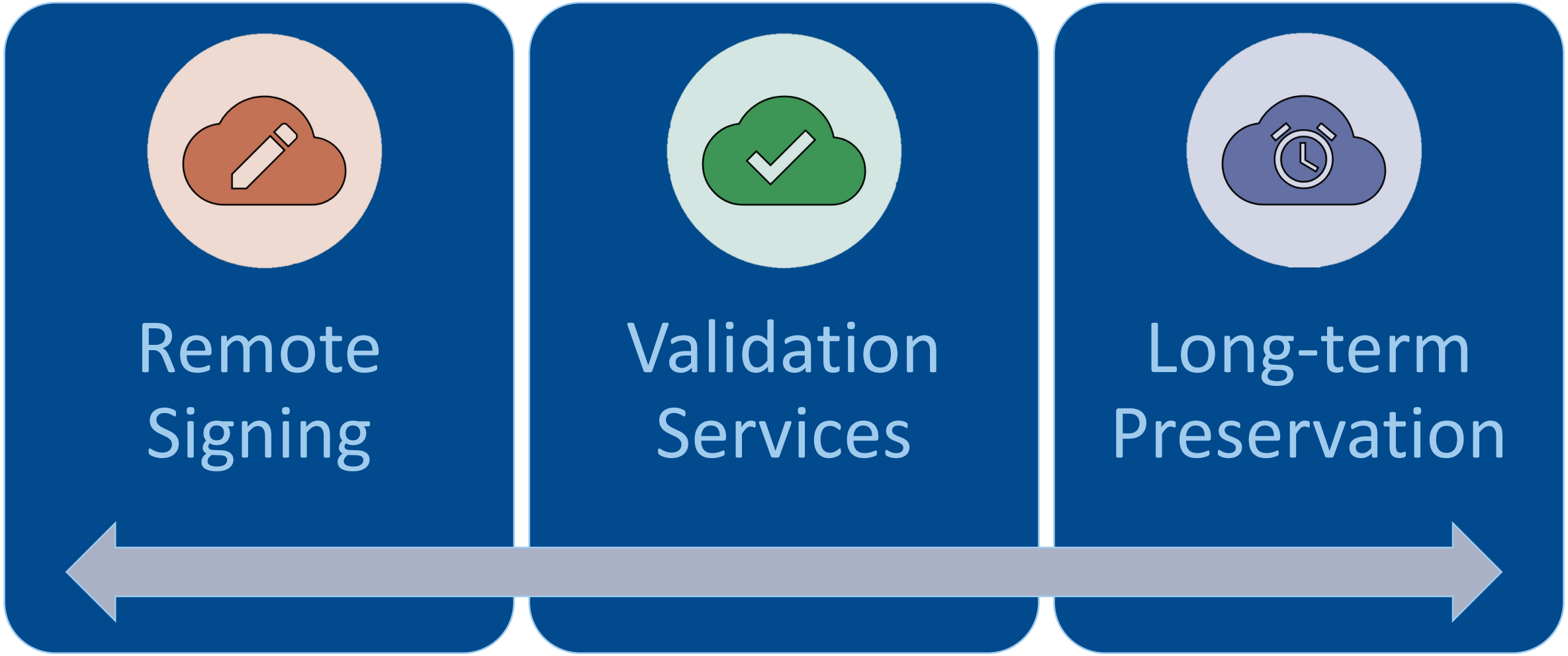
Signature Enhanced Trust Services



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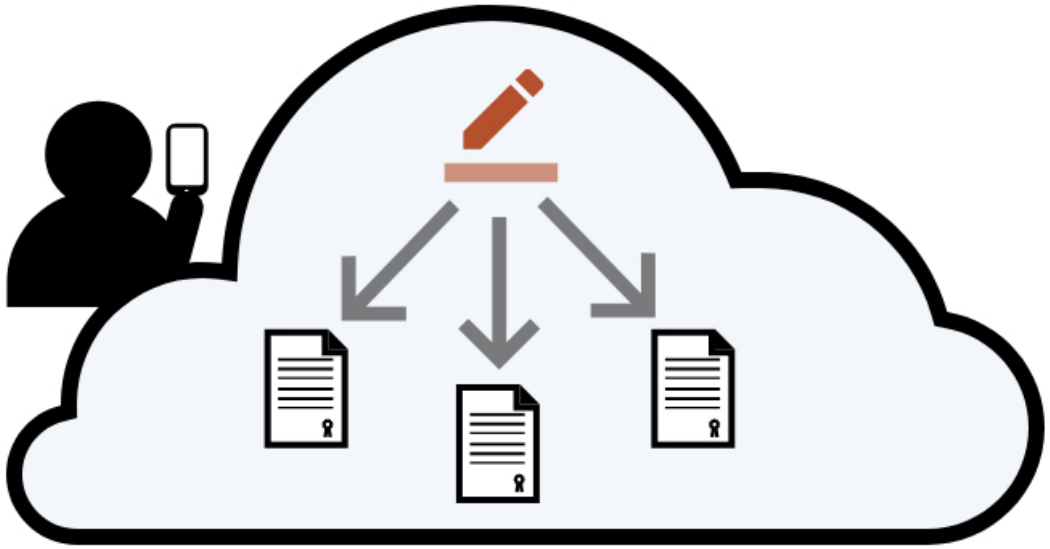
Signatures: Remote Signing



- **ETSI TS 119 431-1**

  Policy and Security Requirements for
  TSP Service Components Operating a Remote
  QSCD / SCD

- **ETSI TS 119 431-2**

  Policy and Security Requirements for
  TSP Service Components Supporting AdES Digital
  Signature Creation

- **ETSI TS 119 432**

  Protocols for
  Remote Digital Signature Creation

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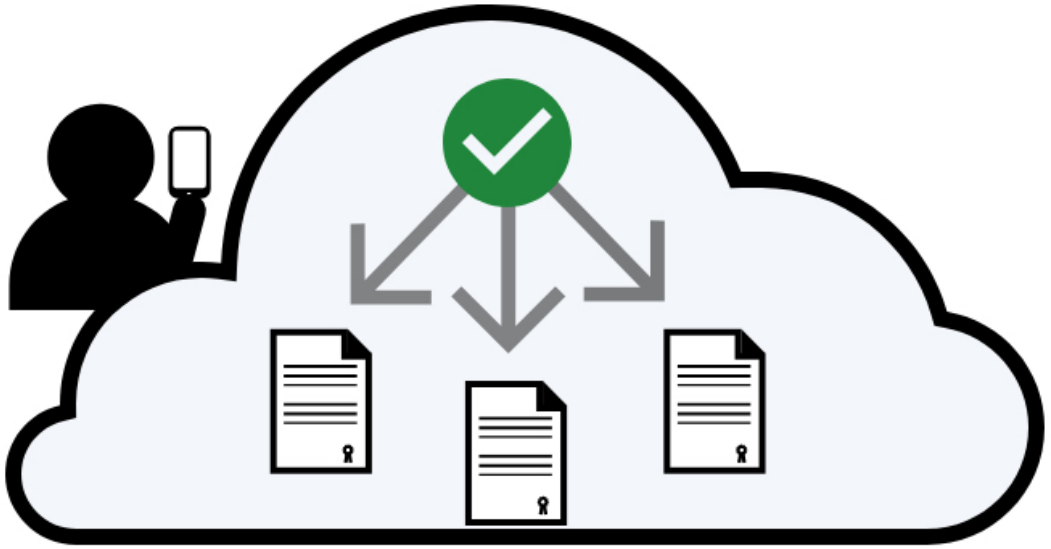
Signatures: Validation – cloud based signature validation



- **ETSI TS 119 441**

  Policy requirements for TSP providing signature validation services

- **ETSI TS 119 442**

  Protocol profiles for trust service providers providing AdES digital signature validation services

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Signatures: Preservation Services

ETSI TS 119 511

Policy and security requirements for trust service providers providing long-term preservation of digital signatures or general data using digital signature techniques *(draft)*

ETSI TS 119 512

Protocols for trust service providers providing long-term data preservation services *(draft)*

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Conformity Assessment

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Basis for EN 319 403 TSP Audit Requirements

Primary reference:

- ISO 17065 Conformity assessment -- Requirements for bodies certifying products, processes and services
  - Establishing a set of third party requirements against which a high degree of confidence and trust can be established by impartial and competent demonstration of fulfilment of those requirements

Additional requirements incorporated from:

- ISO 17021 Conformity assessment -- Requirements for bodies providing audit and certification of management systems
  - First published in 2006, was created for assessing certification bodies to ensure their competence and conformance to all types of management systems

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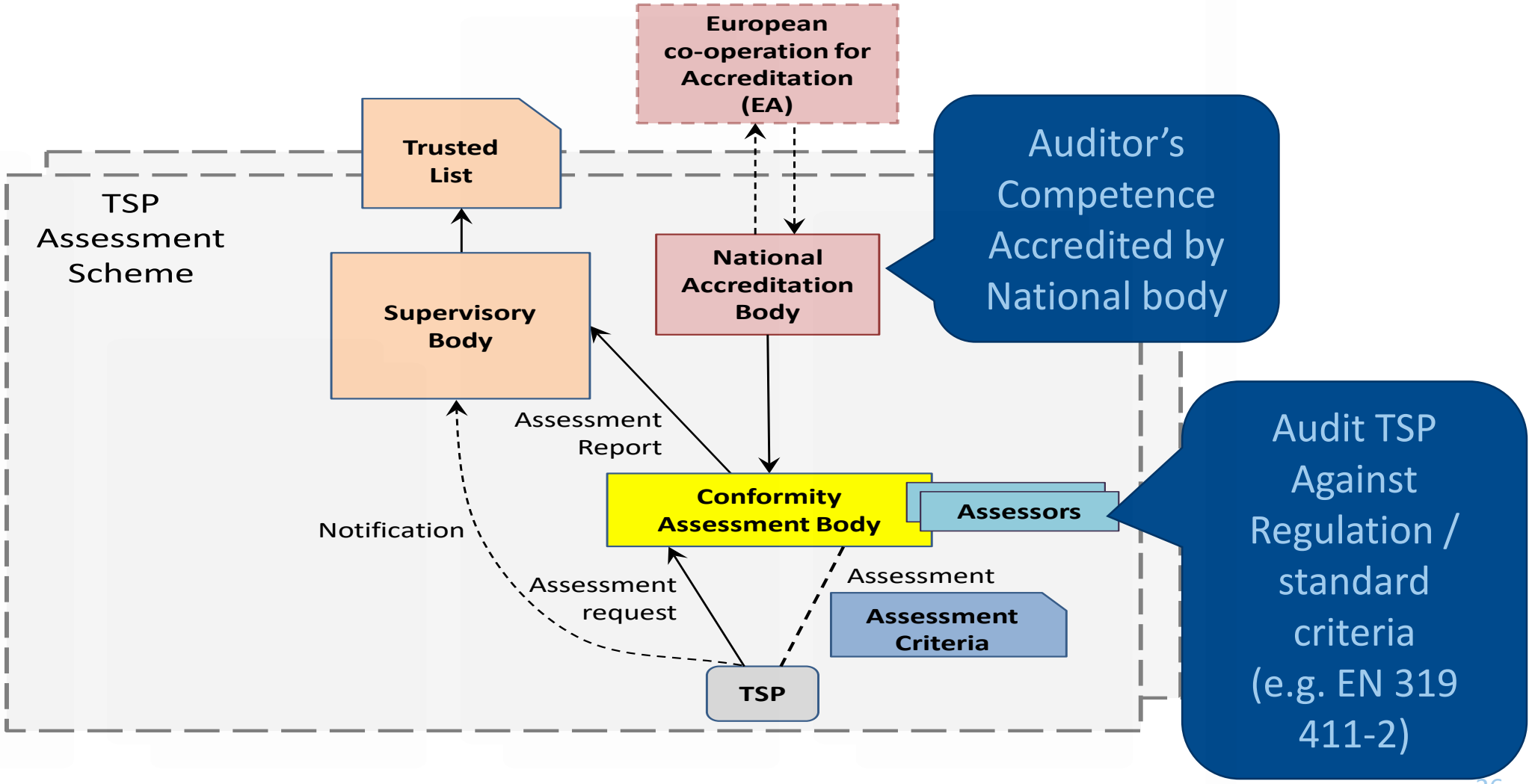
ETSI EN 319 403: TSP Conformity Assessment Model



New Supplements to EN 319 403 on specific TSP Audit Requirements

TS 119 403-2: Part 2: Additional requirements for Conformity Assessment Bodies auditing Trust Service Providers that issue Publicly-Trusted Certificates (e.g. as in CA/Browser Forum)

- Annual audit (versus bi-annually for eIDAS)
- Audit covers period of time since last audit
- Audit attestation requirements fitting web browser requirements

TS 119 403-3: Additional Requirements for CABs Assessing QTSPs against the eIDAS Regulation Requirements

- Auditor capabilities to carry out audits under eIDAS
- Required details included in conformity assessment report

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ETSI TR 119 411-4: Checklist for TSPs issuing certificates with 500+ controls in total

	Document reference	Technical requirement reference	Severity	CABF Requirement	OVCP	EVCP	DVCP	EVCP	NCP	NCP+	LCP	QCP-n	QCP-l	QCP-w (legal person)	QCP-w (natural person)	QCP-n with device	QCP-l with device	QCP-n-qscd	QCP-l-qscd	TSP Overall	Registration services	Certificate generation services	Dissemination services	Revocation management services	Revocation status services	Subject device provisioning services	eIDAS Regulation (subjarticle supported by the requirement-applicable to Qualified Certificate Policies defined in EN 319 411-2	Guidance	Claimed compliant status	Assessed compliant status	Comments	Actions required
2	[ETSI 319 411-2]	OVR-5.1-01	shall								y	y	y	y	y	y	y	y	y													
3	[ETSI 319 411-1]	OVR-5.1-01	shall					y		y									y													
4	[ETSI 319 411-1]	OVR-5.1-02	shall		y	y	y	y											y													
5	[ETSI 319 411-1]	OVR-5.1-03	should		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
6	[ETSI 319 411-2]	OVR-5.1-02	shall								ch	ch			ch	ch			y													
7	[ETSI 319 411-2]	OVR-5.1-03	shall										ch	ch					y													
8	[ETSI 319 411-2]	OVR-5.1-04	shall														y		y													
9	[ETSI 319 411-2]	OVR-5.1-05	shall															y	y													
10	[ETSI 319 411-2]	OVR-5.2-01	shall								y	y	y	y	y	y	y	y	y													
11	[ETSI 319 411-1]	OVR-5.2-01	shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
12	[ETSI 319 401]	REQ-6.1-01	shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
13	[ETSI 319 401]	REQ-6.1-02	shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
14	[ETSI 319 401]	REQ-6.1-03	shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
15	[ETSI 319 401]	REQ-6.1-04	shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
16	[ETSI 319 401]	REQ-6.1-05	shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
17	[ETSI 319 401]	REQ-6.1-06	shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
18	[ETSI 319 401]	REQ-6.1-07	shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
19	[ETSI 319 401]	REQ-6.1-08	shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
20	[ETSI 319 401]	REQ-6.1-09	shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
21	[ETSI 319 401]	REQ-6.1-10	shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
22	[ETSI 319 401]	REQ-6.1-11	shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													
23	[ETSI 319 411-1]	OVR-5.2-02	should		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y									See IETF RFC 3647				
	[ETSI 319 411-1]		shall		y	y	y	y	y	y	y	y	y	y	y	y	y	y	y													

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Trusted Lists

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Trusted Lists defined by eIDAS

eIDAS Section 3 Article 22

Each EU Member State has an obligation to establish, maintain and publish **trusted lists**, including information related to the **qualified trust service providers** for which they are responsible, together with information related to the qualified trust services provided by them. The lists are to be **published** in a secured manner, **electronically signed** or **sealed** in a form suitable for automated processing.

ec.europa.eu/digital-single-market/en/eu-trusted-lists-trust-service-providers

Please see: **ETSI TS 119 612:** Trusted lists

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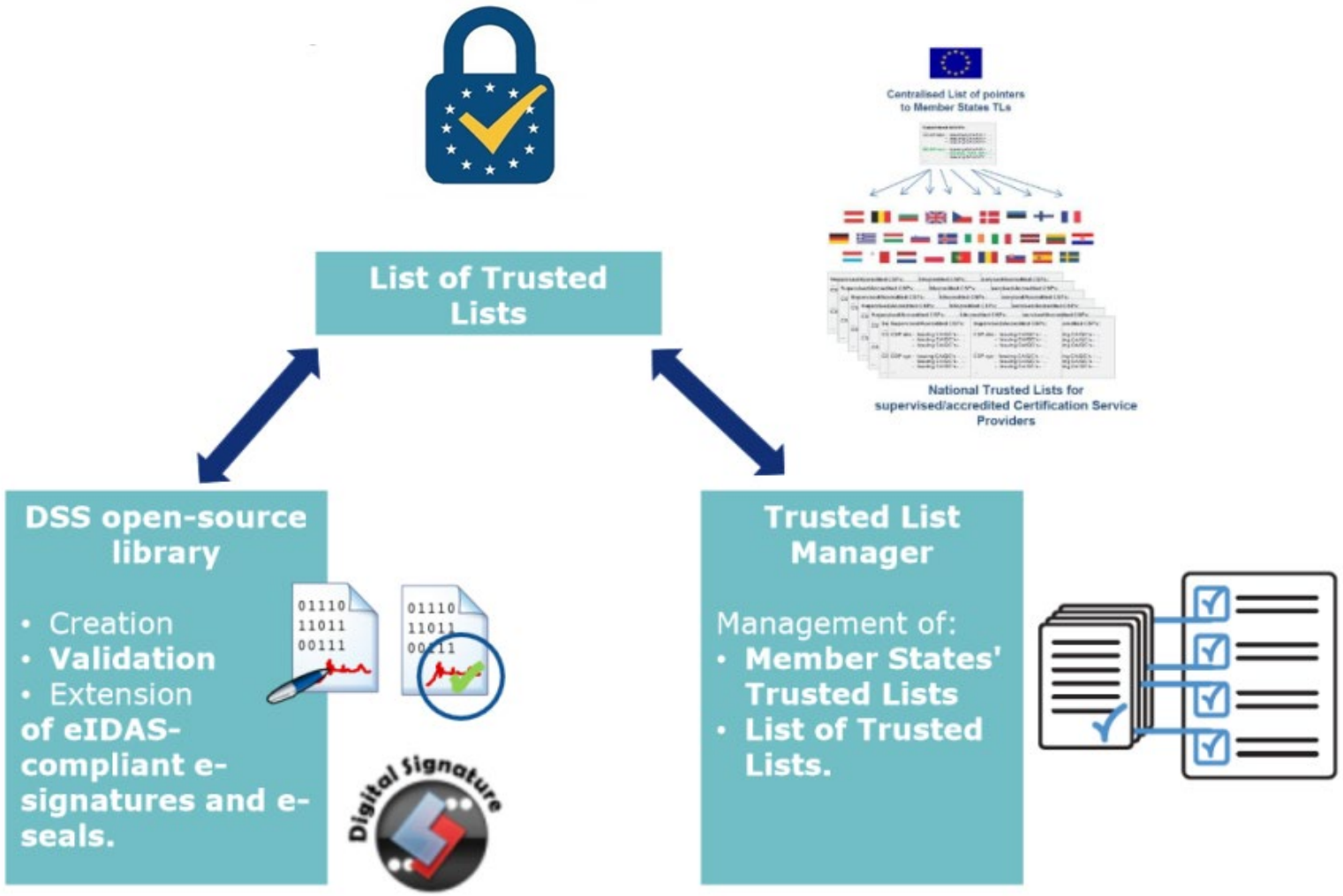
The EU “List of the Lists”



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Browsing the EU Trusted Lists

Trusted List Browser

Tool to browse the national Trusted Lists and the European List of Trusted Lists (LOTL).

Menu

European Commission > CEF Digital > eSignature > Trusted List Browser

Search a trust service by

Type of service
Search by type of trust service (e.g. time-stamping, certificate for e-signature) and country

Name of trust service
Search based on the name of a trust service

Signed file
Find the trust service that issued the signing certificate(s) contained in a file

Austria Issue date **2019-01-23**	**Belgium** Issue date **2019-03-08**	**Bulgaria** Issue date **2019-04-01**
Croatia Issue date **2019-02-08**	**Cyprus** Issue date **2019-02-08**	**Czech Republic** Issue date **2019-04-10**
Denmark Issue date **2019-02-06**	**Estonia** Issue date **2019-03-11**	**Finland** Issue date **2019-02-19**
France Issue date **2019-04-03**	**Germany** Issue date **2019-02-26**	**Greece** Issue date **2019-02-28**
Hungary Issue date **2019-01-25**	**Iceland** Issue date **2019-01-21**	**Ireland** Issue date **2019-01-25**
Italy Issue date **2019-04-03**	**Latvia** Issue date **2018-12-06**	**Liechtenstein** Issue date **2019-02-13**
Lithuania Issue date **2019-01-24**	**Luxembourg** Issue date **2019-02-20**	**Malta** Issue date **2019-01-14**

Trusted List Browser

Tool to browse the national Trusted Lists and the European List of Trusted Lists (LOTL).

Menu

European Commission > CEF Digital > eSignature > Trusted List Browser > Germany

Trusted List Germany

Trust service providers

Currently active trust service providers

- 1&1 De-Mail GmbH [QeRDS]
- Bundesagentur fuer Arbeit [QCert for ESig] [QTimestamp]
- Bundesnetzagentur [Non-Regulatory]
- Bundesnotarkammer [QCert for ESig] [QTimestamp]
- D-Trust GmbH [QCert for ESig] [QCert for ESeal] [QWAC] [QTimestamp]
- DGN Deutsches Gesundheitsnetz Service GmbH [QCert for ESig] [QTimestamp]
- Deutsche Post AG [QCert for ESig] [QeRDS]
- Deutsche Telekom AG [QCert for ESig]
- T-Systems International GmbH [QWAC]
- exceet Secure Solutions GmbH [QTimestamp]
- medisign GmbH [QCert for ESig]

Trust service providers without currently active trust services

Detailed information

Signature

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Cooperation with CA/B-Forum in June 2019:

- ETSI ESI has adopted SR 119 403-3 (extended Audit Rules for PTC) as requested by Mozilla, official version is published

https://www.etsi.org/deliver/etsi_ts/119400_119499/11940302/01.02.01_60/ts_11940302v010201p.pdf

- ETSI ESI is still discussing the comments on EN 319 403 (Audit Rules) , no quick win at last meeting, new round ongoing, Key Lifecycle; matching ISO 17065

- ETSI has set up a new work item on updating EN 319411-1 (Certification Policy) update on BR/EVG Links,

- New ETSI secretariat eMail-Adress to communicate with CA/B-Forum

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Conclusions

Information on available standards and current activities:
https://portal.etsi.org/TBSiteMap/ESI/ESIActivities.aspx

ETSI standards: available for free download
http://www.etsi.org/standards-search

CEN standards: available through EU National Standards Organisations

Updates on standardisation:
https://list.etsi.org/scripts/wa.exe?SUBED1=e-signatures_news&A=1

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