



The Standards People

# European standardisation framework for trust services

Presented by: **Arno Fiedler**  
ETSI ESI Vice Chair

For: **New York City - Workshop on  
Globalisation of Trust Services**

# Agenda

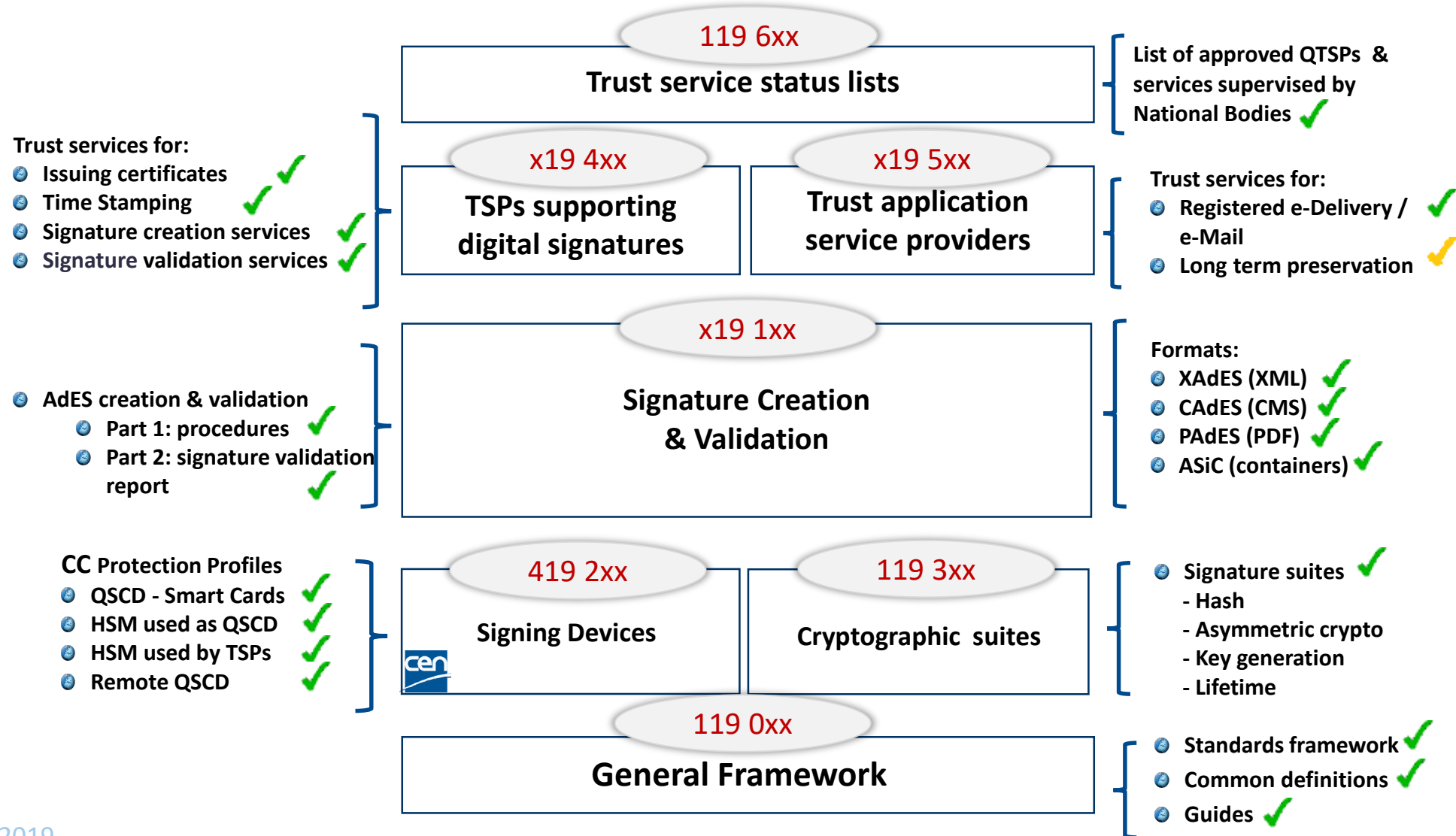
- ✔ eIDAS Standards Roadmap
- ✔ Trust Service Standards
- ✔ Electronic signatures and seals
- ✔ Trusted Lists
- ✔ Conformity Assessment
- ✔ Conclusions





# eIDAS Standards Roadmap

# eIDAS Standards Framework: Published Standards







# Trust services issuing certificates

## Trust service issuing certificates

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e-Signatures

For use by natural persons



e-Seals

For use by legal persons

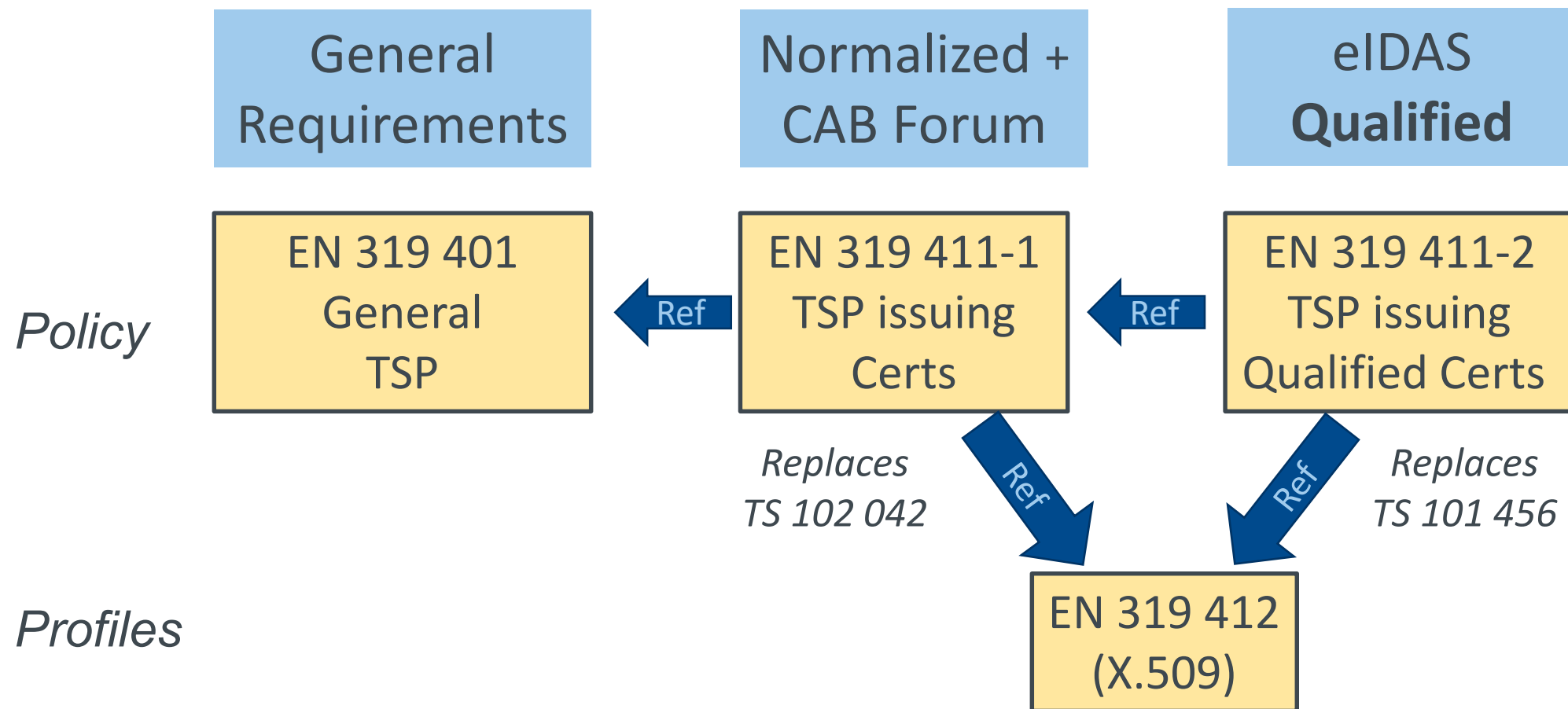


Website  
authentication

For websites



# Trust services issuing certificates: ETSI standards overview

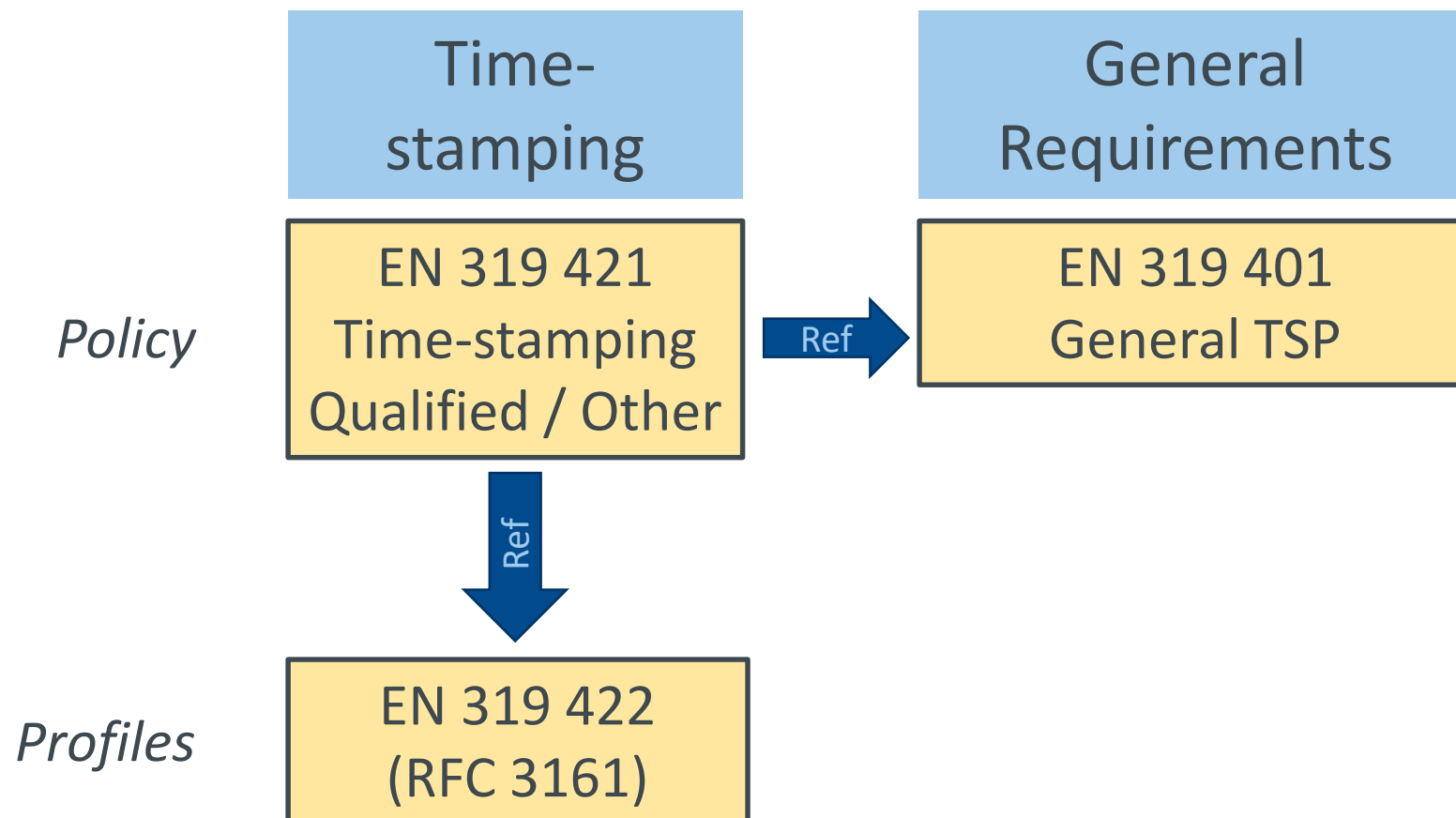




# Timestamping



# ETSI Time-Stamping Standards



# Signatures and Seals

# 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.

# Signature Formats for Advanced / Qualified Electronic Signatures / seals

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- ✔ 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





# Signature Enhanced Services

# Signature Enhanced Trust Services



Remote  
Signing



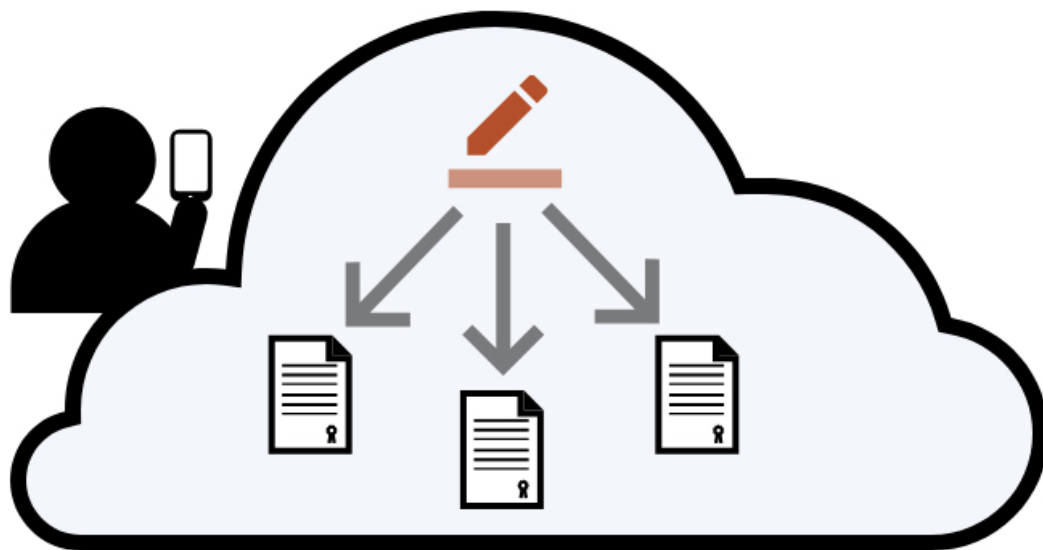
Validation  
Services



Long-term  
Preservation



# Signatures: Remote Signing



## ✔ ETSI TS 119 431-1

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

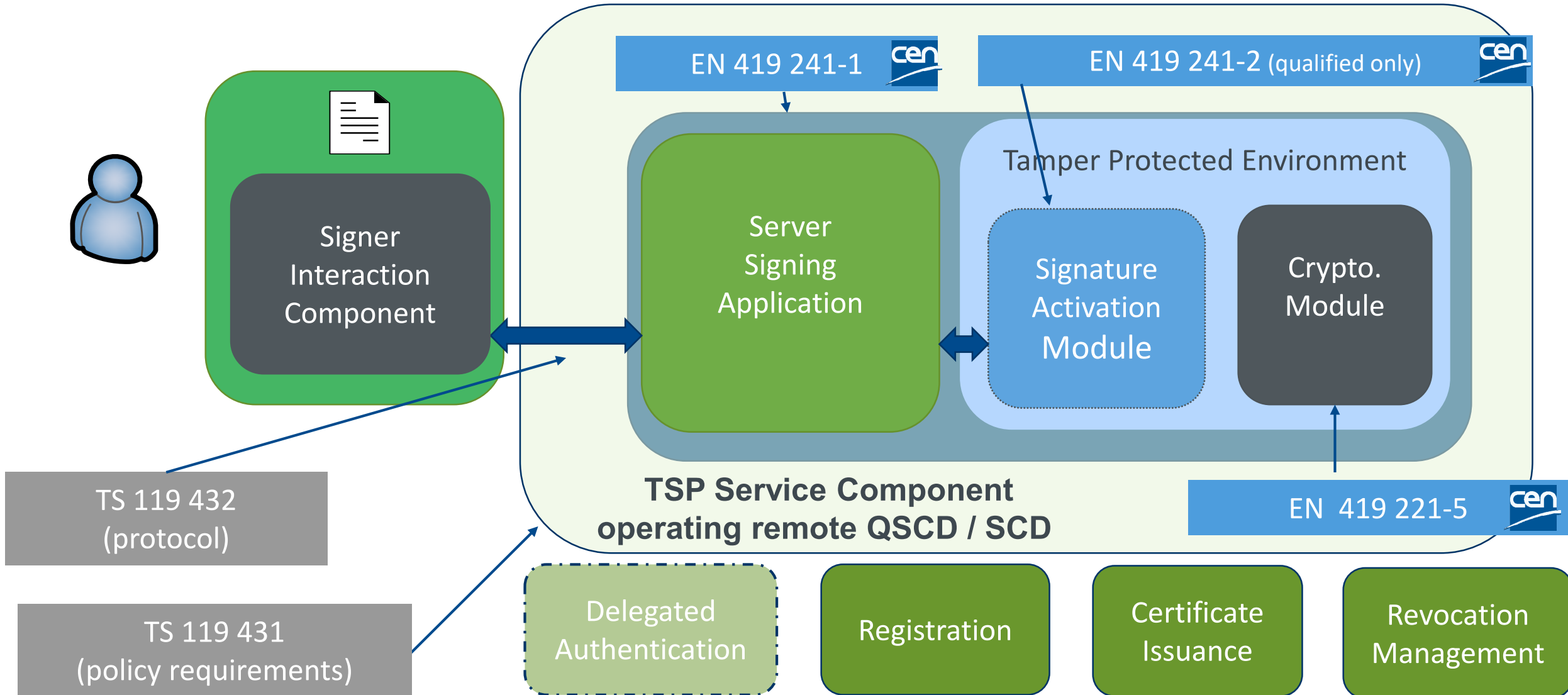
## ✔ ETSI TS 119 431-2

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

## ✔ ETSI TS 119 432

Protocols for Remote Digital Signature Creation

# Trust services issuing certificates: Scope of Remote Signing Standards





# 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

# Signatures: Preservation Services



2019-2020-2021-2022-2023-2024-2025...

## ✔ ETSI TS 119 511

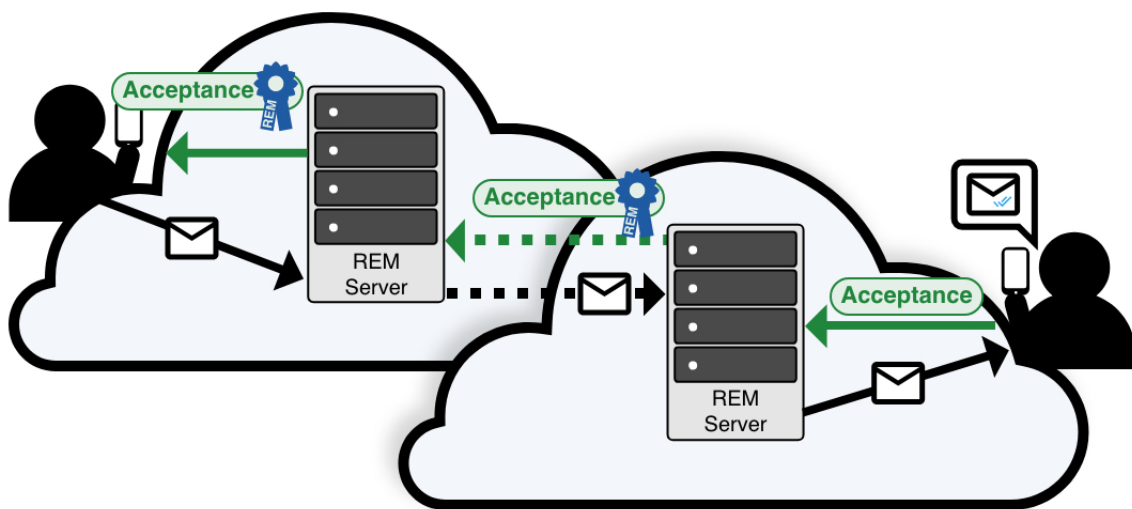
Policy and security requirements for trust service providers providing long-term preservation of digital signatures or general data using digital signature techniques.

## ✔ ETSI TS 119 512

Protocols for trust service providers providing long-term data preservation services.

# Electronic Registered Delivery & REM

# Electronic Registered Delivery (ERDS) and Registered Electronic Mail (REM)



✔ ETSI EN 319 522

Electronic Registered Delivery Services (ERDS)

✔ ETSI EN 319 532

Registered Electronic Mail (REM) Services  
(Supersedes ETSI TS 102 640)

✔ ETSI EN 319 521

Policy and Security Requirements for Electronic  
Registered Delivery Service Providers

✔ ETSI EN 319 531

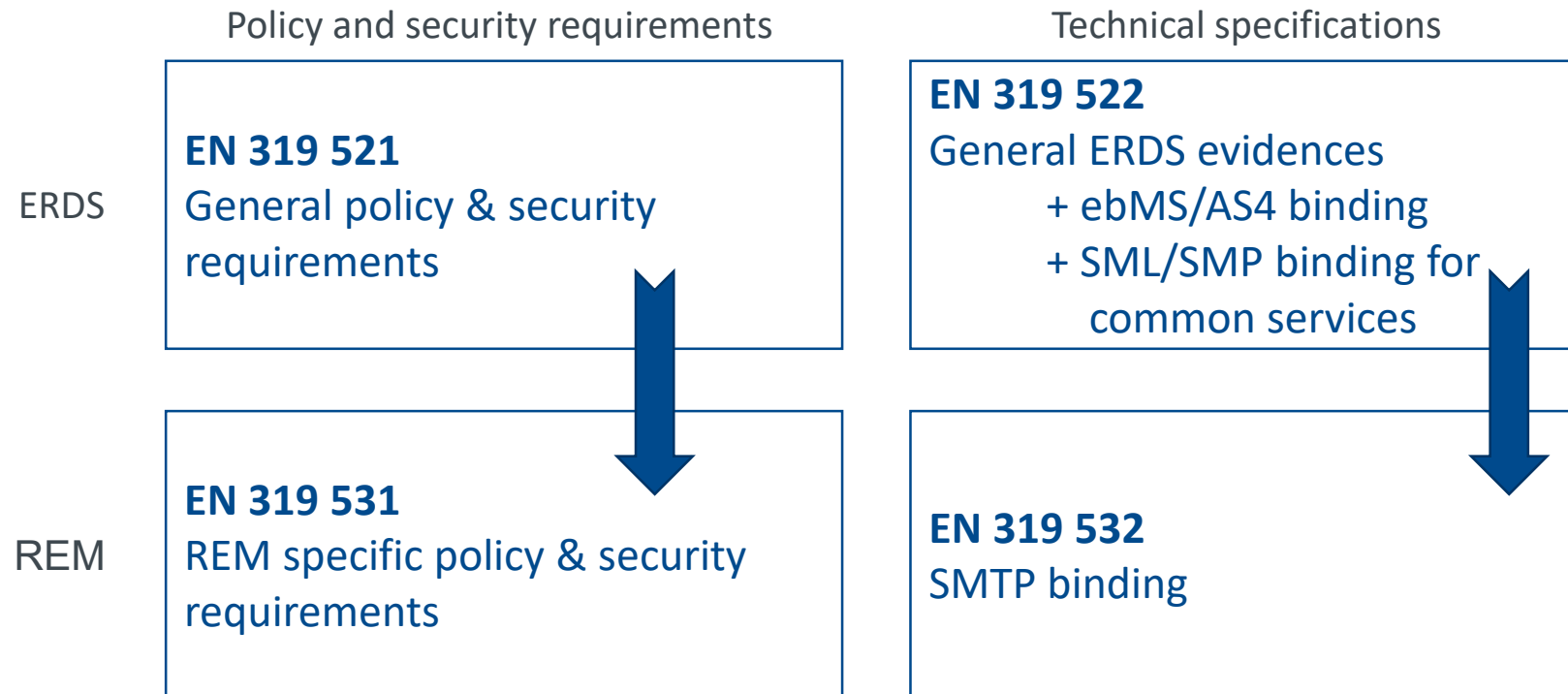
Policy and Security Requirements for  
Registered Electronic Mail Service Providers



# Electronic Registered Delivery (ERDS) and Registered Electronic Mail (REM)



Denotes a path from general requirements, common to any ERDS, to requirements that are specific ONLY to REM services and REM services providers.



**TS 119 524** Testing Conformance and Interoperability of Electronic Registered Delivery Services

**TS 119 534** Testing Conformance and Interoperability of Registered Electronic Mail Services

**TR 119 500** Business Driven Guidance for Trust Application Service Providers

# Conformity Assessment

# Basis for EN 319 403 TSP Audit Requirements

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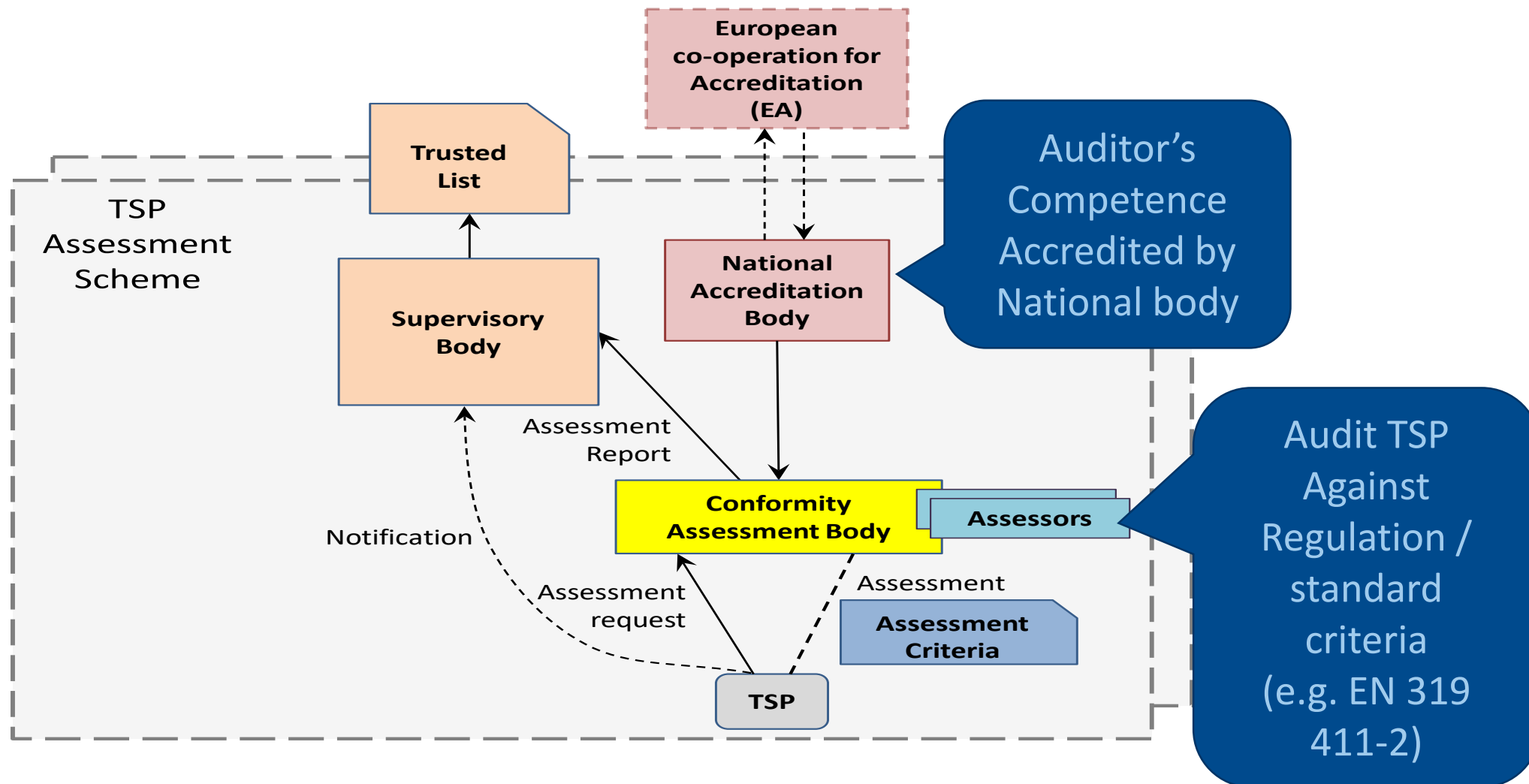
## Primary reference:

- ✔ 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

# ETSI EN 319 403: TSP Conformity Assessment Model



## **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







# Trusted Lists

## Trusted Lists defined by eIDAS

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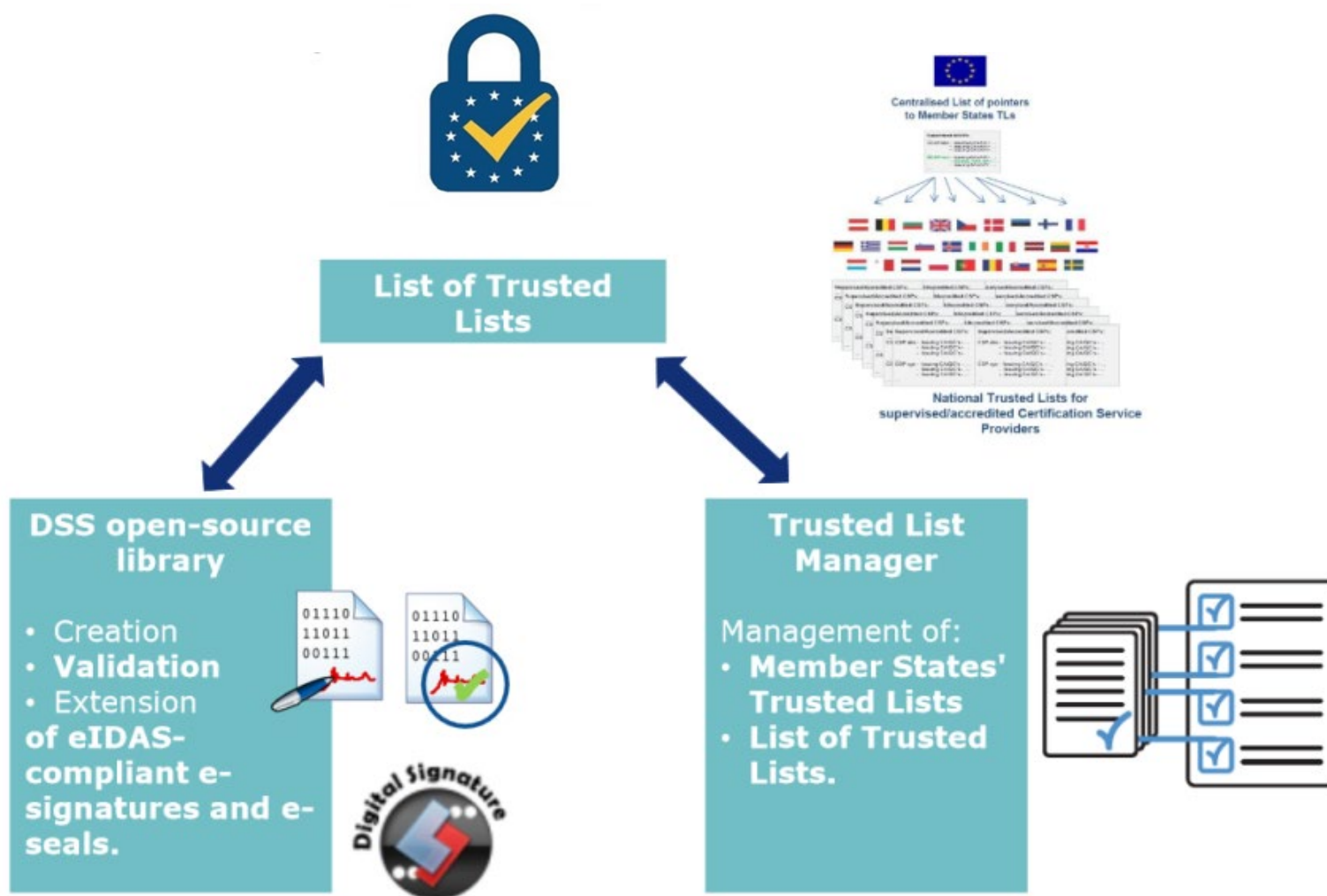
### eIDAS Section 3 Article 22

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](https://ec.europa.eu/digital-single-market/en/eu-trusted-lists-trust-service-providers)

Please see: ETSI TS 119 612: Trusted lists

# The EU “List of the Lists”



# 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

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



## Conclusions

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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](https://list.etsi.org/scripts/wa.exe?SUBED1=e-signatures_news&A=1)