ETSI The Standards People

Update on ETSI ESI standardisation related to Publicly Trusted Certificates

Arno Fiedler
ETSI ESI Vice Chair

20.02.2020

Agenda

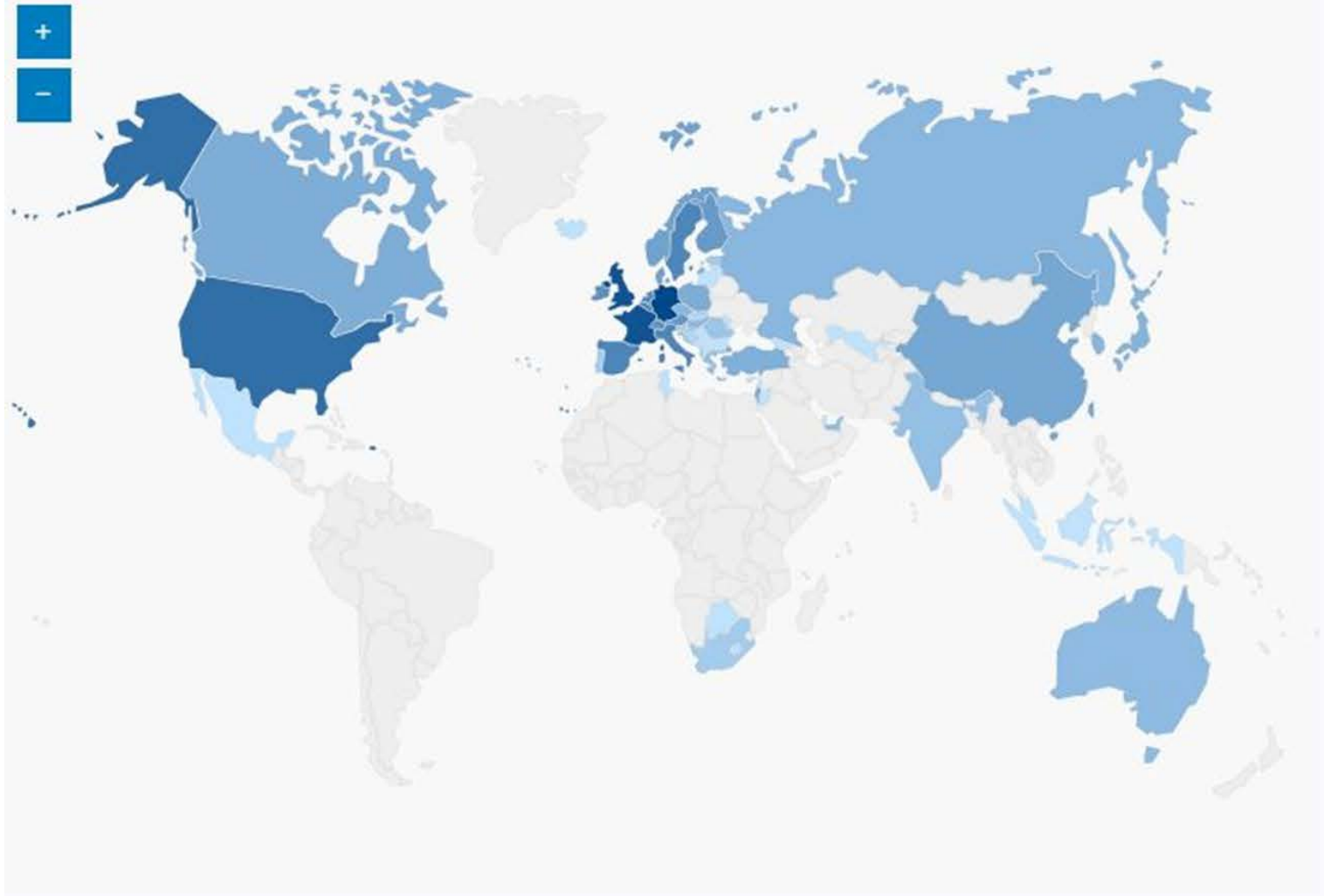
- Proposed Updates to CA policy requirements: EN319 411
- Updates to EN 319 412-x
- Support for PSD2 use of qualified certificates
- Signature validation
- Remote signing (CEN & ETSI standards)
- Electronic Registered Delivery and Registered Electronic Mail (REM) services
- Long-term (signature) preservation
- Algorithms
- Using Trusted Lists
- Audit Update
- Machine processable signature policies
- Starting work on identity proofing
- Global acceptance of trust services

Note: Areas where significant updates have occurred

eIDAS Strategic Goals

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

ETSI Member on Global Scale



871
Members

64
Countries

44
Standardization Groups

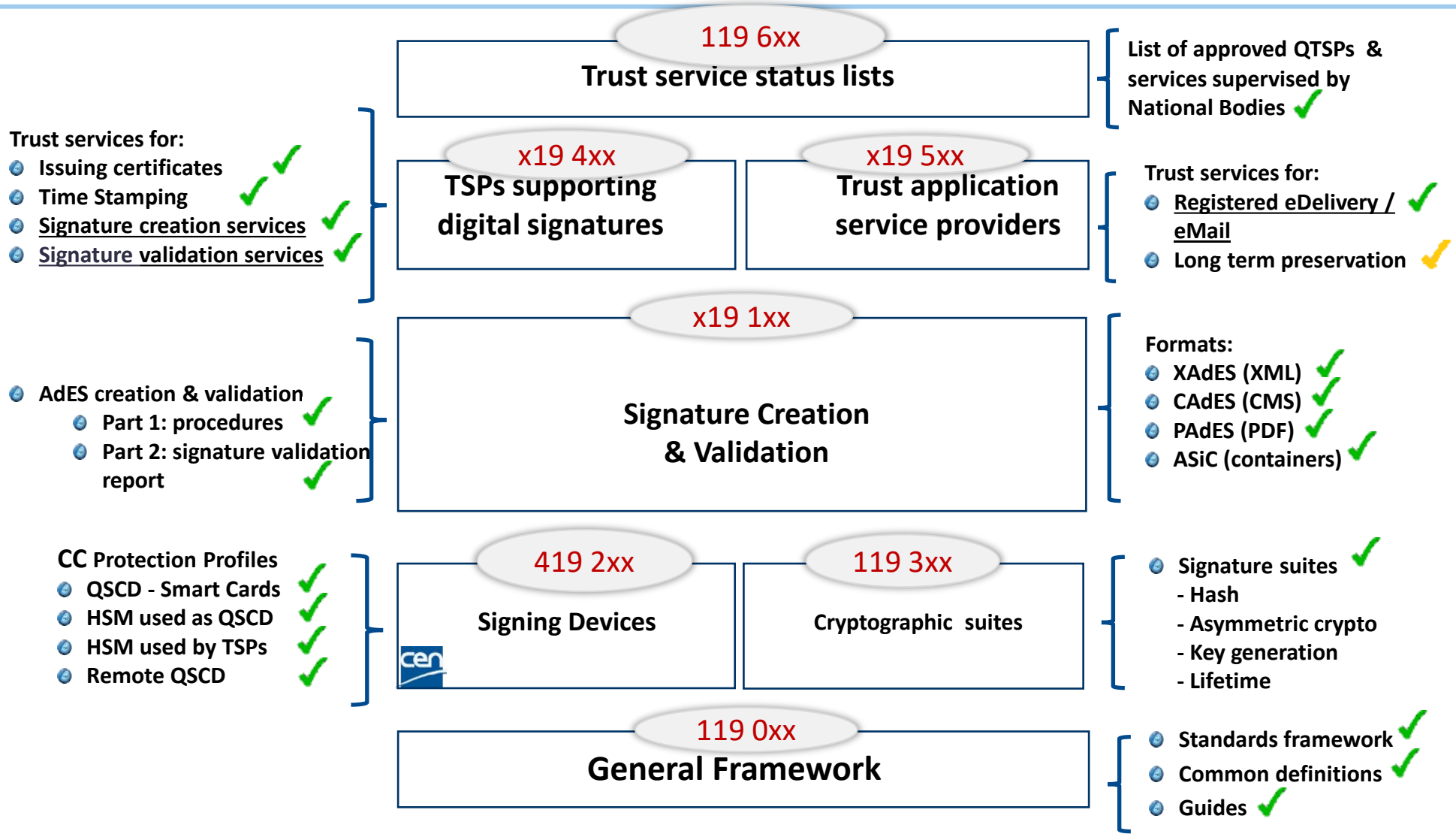
46151
Standards Published

EU Regulation for Trust Services & ETSI Standards

- EU Regulation 910/2014 on eID and Trust services (eIDAS)
  - Governmental supervision scheme for providers of trust services
  - Similar legislation being applied around the world

- eIDAS Best Practice
  - Commonly demonstrated by conformance to ETSI standards
  - Standards being adopted around the world

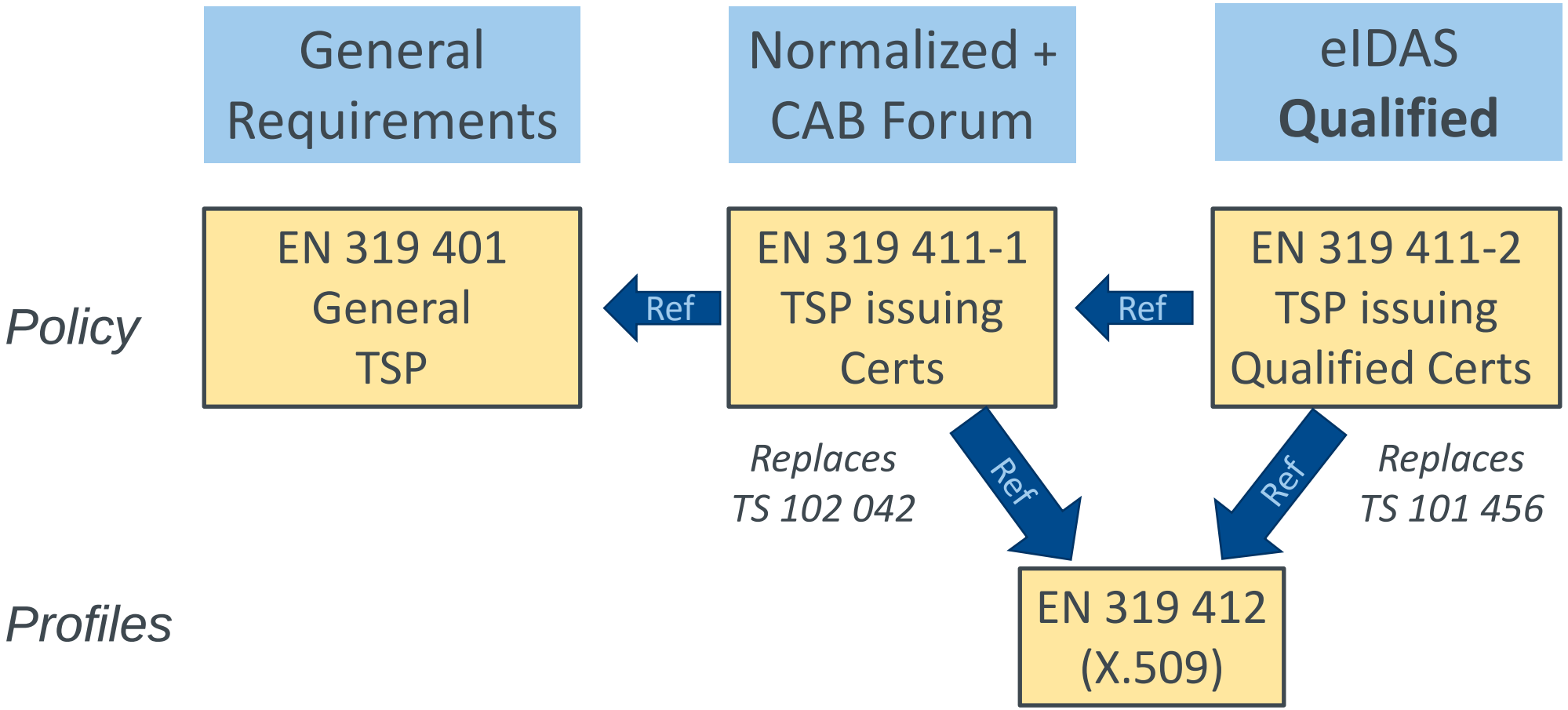
eIDAS Standards Framework: Published Standards



Standards framework complete – excepting preservation which is draft

TSP Requirements

Trust services issuing certificates: ETSI standards overview



CA Policy & Certificate Requirements: EN 319 411-x (Planned updates)

- EN 319 411 planned updates
  - "minor revisions to clarify areas where there has been uncertainty in interpretation of the standard"
  - Short term certificates (less than revocation notification period)
  - Due for agreement 06-2020

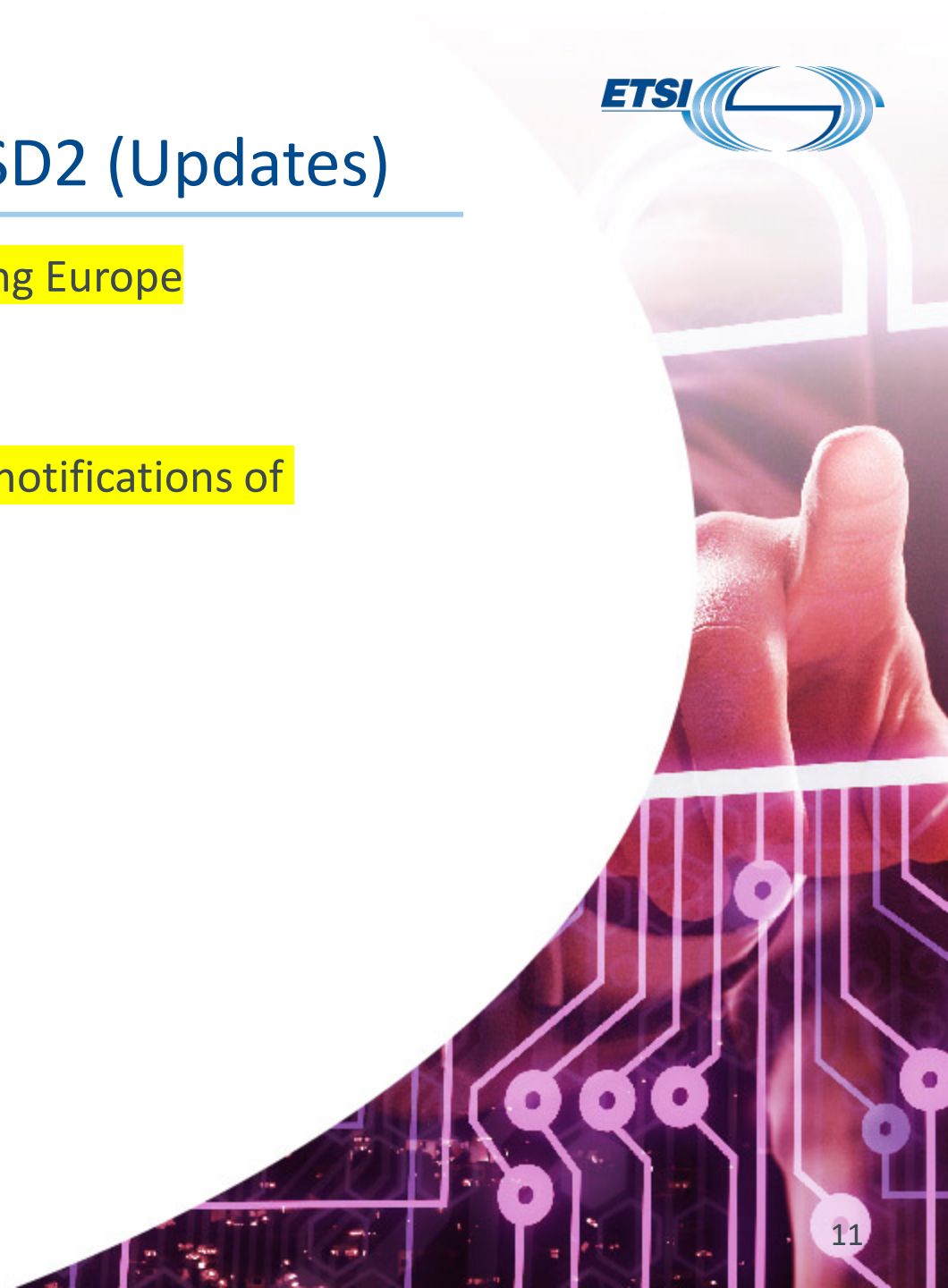
Certificate Profiles (Updates)

- EN 319 412-1 / TS 119 412-1 - Changes agreed to be published as TS & Draft EN (for ratification by EU countries) soon
  - Support for LEI in Subject
  - Support for eID attributes in Subject Name
  - Short term certificates
- EN 319 412-2 & 3 (Changes agreed to be published as Draft EN soon)
  - Clarification on Key usage
  - Removal of RFC 5280 attribute size limits (e.g. organisation name > 64 characters)
- EN 319 412-5 QCStatement for non-EU countries
  (See globalisation study later – now published)

TS 119 495 Qualified Certificates under PSD2 (Updates)

Coordinated with European Banking Association / Open Banking Europe

- Clarifications on Authorisation Number
- Email interface with “National Competent Authorities” for notifications of certificate issuance and revocation

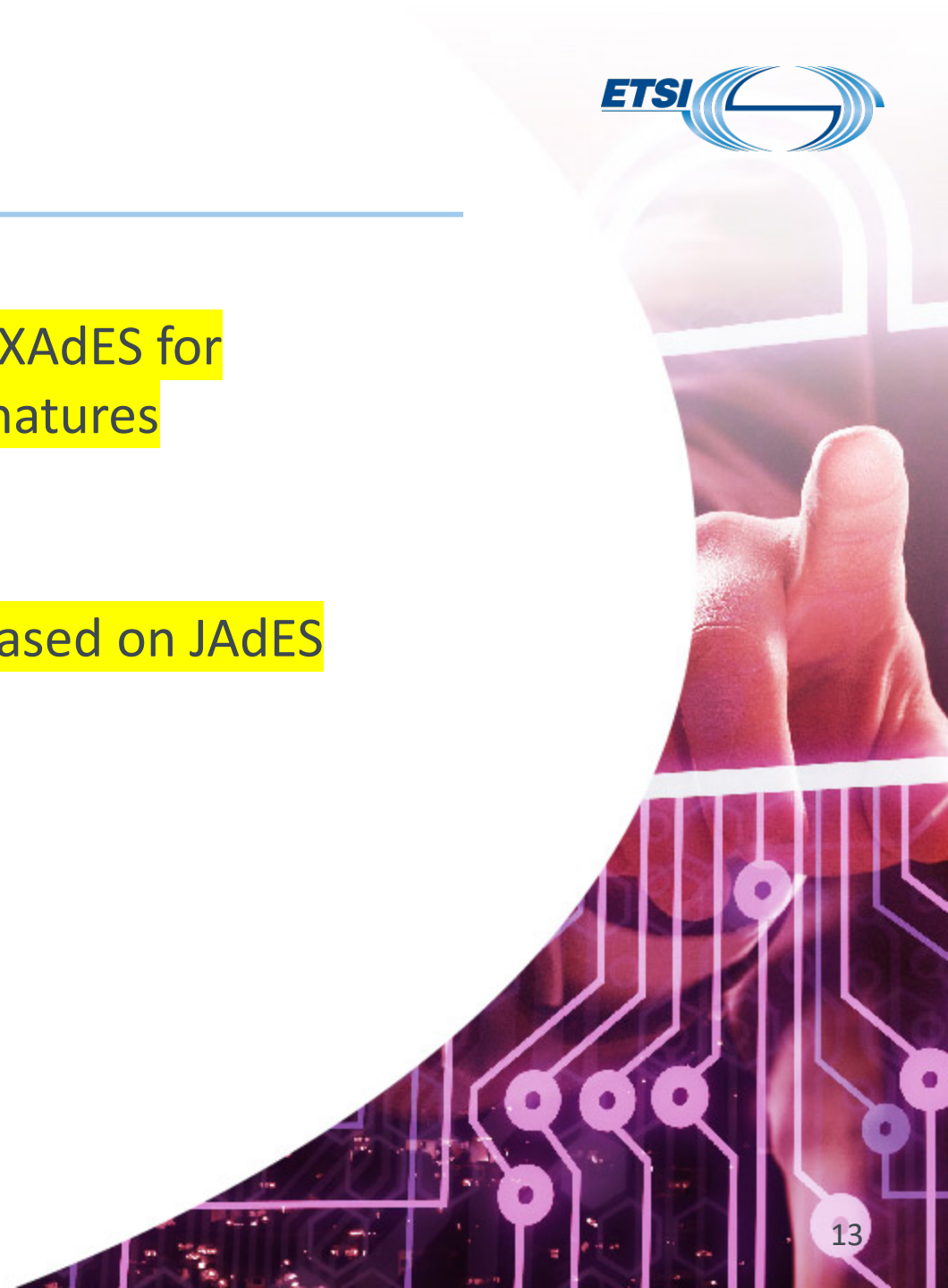


Signature Formats & Validation

JSON Signatures

Draft JAdES to define equivalent to CAdES / PAdES / XAdES for JSON data format based on RFC 7515 JSON Web Signatures

JWS profile for Open Banking developed with OBE based on JAdES



Signature Validation

- TS 119 102-1 (2019-1) Procedures for Creation and Validation of AdES - published
- TS 119 102-2 (2019-02): Validation Report – Published
- TS 119 441 (2018-08): Policy Requirements for TSPs Providing Signature Validation Services (including annex for qualified service) - Published
- TS 119 442 (2019-02): Protocol for Signature Validation Services – Published, To be updated following OASIS DSS v2.0 publication
- TS 119 172-4: Signature Validation Policy for European Qualified Electronic Signatures/Seals Using Trusted Lists – Draft to be updated following Plugtests™
  See: https://docbox.etsi.org/esi/Open/Latest_Drafts/draft-ts_119172-4v007-public.pdf
- TS 119 615: Procedures for using and interpreting European Union Member States national trusted lists – Draft to be updated Plugtests™
  See: https://docbox.etsi.org/esi/Open/Latest_Drafts/draft_ts_119_615_v0.0.9-public.pdf

Remote Signing & CEN Standards

Remote Signing & CEN Standards for Trustworthy Systems

CEN standards for remote signing systems:

- EN 419 241-1: General System Requirements - published
- EN 419 241-2: Protection Profile for QSCD for Server Signing - published
- EN 419 221-5: Cryptographic Module - published

Other CEN Documents recently published

- CEN TS 419 221-6: Conditions for use of EN 419 221-5 (HSM-PP)as qualified electronic signature or seal creation device
- CEN TR 419 210: Applicability of CEN Standards to Qualified Electronic Seal

ETSI Signature Creation Protocols & TSP Component Policy Requirements

Standards published:

- TS 119 431-1: Policy and Security Requirements for TSP Service Components Operating a Remote QSCD / SCD
- TS 119 431-2: Policy and Security Requirements for TSP Service Components Supporting AdES Digital Signature Creation
- TS 119 432: Protocols for Remote Digital Signature Creation
  To be updated following OASIS DSS v2.0 publication

Electronic Registered Delivery & REM

Electronic Registered Delivery and Registered Electronic Mail

Published standards:

- EN 319 522 (2018-09): Electronic Registered Delivery Services
- EN 319 532 (2018-09): Registered Electronic Mail (REM) Services (Supersedes ETSI TS 102 640)
- EN 319 521: Policy and Security Requirements for Electronic Registered Delivery Service Providers
- EN 319 531: Policy and Security Requirements for Registered Electronic Mail Service 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

Preservation

Long-Term (Signature) Preservation

- 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
- TS 119 512 Protocols for trust service providers providing long-term data preservation services (Published)

Signature Algorithms

Signature Algorithms

- TS 119 312: Cryptographic Suites – Updated 2019-02

- TS 119 322Generic schema for machine-readable algorithms
  - Takes into account 3 well known schemes: TS 119 312, SOGIS and IETF RFC 5698

Trusted Lists

Trusted Lists

- TS 119 615 Final draft to be updated following plugtests
  - on the use of information within a EU Trusted List by relying parties,
  - how to process a trusted list in order to obtain information about a QTSP and QTS(s) it provides
  - Building blocks
    - for validating a qualified signature/seal (see also upcoming TS119 172-4)
    - To link trusted list information to evidences produced by some types of trust services: validation service, preservation service, electronic registered delivery services
  - See: https://docbox.etsi.org/esi/Open/Latest_Drafts/draft-ts_119172-4v007-public.pdf
- TS 119 172-4 Final draft to be updated following plugtests
  - Signature policy using EU trusted list
  - See: https://docbox.etsi.org/esi/Open/Latest_Drafts/draft_ts_119_615_v0.0.9-public.pdf
- TS 119 612 / 602 Updates
  - Work deferred

TSP Audits

EN 319 403-1 (previously EN 319 403) Audit

Revised draft EN 319 403 -1:

- Audit of component services
- Clarification regarding handling of TSP requiring corrective actions
  - Audit report issued identifying corrective actions required.
  - Minor non-conformities to be corrected in 3 to 6 months
- New Annex on determining audit time (specifics removed)
- Other minor changes

EN Ballot closes 25 Feb 2020 – awaiting results

Supplements to EN 319 403 TSP Audit Requirements

- TS 119 403-2 (2019-03): Part 2: Additional requirements for Conformity Assessment Bodies auditing Trust Service Providers that issue Publicly-Trusted Certificates (e.g. as in CA/Browser Forum)

- TS 119 403-3 (2019-03): Electronic Signatures and Infrastructures (ESI); Trust Service Provider Conformity Assessment; Part 3: Additional requirements for conformity assessment bodies assessing EU qualified trust service providers

New Activities

Machine-processible signature policy formats

- TS 119 172-2: XML format for signature policies – Published

- TS 119 172-3: ASN.1 format for signature policies – published

Identity Proofing of trust service subjects

Experts to start work on "Policy and security requirements for trust service components providing identity proofing of trust service subjects.

- Can be a separate "component service"
- Subject may be for remote registration
- Supporting:
  - eIDAS Art.24.1.(d) remote electronic identification
  - EN 319 411-1/2: TSP issuing certificates
  - EN 319 521 / 531: ERDS / REM
  - TS 119 431: Remote signing

Study Report on Global acceptance of European Trust ServicesExecutive summary (TR 103 684) - Published

- Aims to facilitate cross recognition between EU eIDAS trust services, and other non-EU schemes.
- The study concentrates on existing PKI-based trust services
- Methodology on 4 pillars: legal context, supervision and audit, technical standards, and trust representation.
- Analysed 37 existing schemes.
- Workshops in Dubai, Tokyo, Mexico City and New York
- The study concludes with 18 recommendations
- There is strong interest but remain significant issues to be overcome.

Globalisation Study Report (TR 103 684)
Some conclusions relevant Supervisory Bodies

h) The lack of agreements under eIDAS article 14 is a barrier to the mutual recognition of trust services outside the EU to be recognised as Qualified trust services inside the EU.

k) The lack of consistency of the best practices used in the audit schemes for qualified trust services in Europe is jeopardizing their mutual recognition;

o) ETSI standards should be extended to provide an interoperable equivalent to the EU Qualified Certificate Policies (QCP-I) which may be adopted by non-EU countries and or agreement-based scheme. ….

r) The EN 319 412-5 [i.26] QcCompliance statement should be updated to extend its scope to non-EU countries.

(see report –for full set of conclusions)

Globalisation Study Report (TR 103 684)
Some conclusions relevant Supervisory Bodies

Establishing liaisons with Asia PKI, Japan and Arab ICT Organisation to take findings forward

Further information

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 National Standards Organisations

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

arno.fiedler@nimbus.berlin