

eIDAS-compliant Qualified Seal

Qualified Mass and Local
Sealing

White Paper



The seal for enterprises and institutions operating in the digital world

A Qualified Electronic Seal is an EU approved tool used for signing documents by legal entities such as joint-stock companies, limited-liability companies and public institutions. It is a solution based on trust, which guarantees integrity and authenticity of the data sources it is connected with.

For legal entities the qualified electronic seal is an equivalent of an qualified electronic signature used by natural persons.

Application areas

Finance and insurances

- Highest level of assurance: the origin of the document is digitally confirmed
- Guarantee of the documents' integrity
- Support of documents' digitalisation processes: scanning and archiving
- Acts as a durable medium for future reference
- PSD2 requires the use of QSeal in order to confirm and guarantee the integrity of data

Public administration

- Improving the circulation of documents
- Electronic documents are becoming legally binding and valid
- Signing and timestamping tax declarations
- Electronic confirmation that various applications and documents have been received
- Notarial services

Business

- Automated processes in DMS and EPR systems for more efficient business accounting, sales, customer service and HR
- Automated and legally binding B2B and B2C electronic communication
- Lowering the costs and saving time when processing documents and files
- Managing e-invoices

Health care

- Improvement of processes for higher efficiency
- Reliability and integrity of medical documentation
- Safe document exchange with internal, as well as external operators
- Long-term validity of the stored documents
- Easier administrative flow due to improved workflow

Usage options of qualified electronic seal

- Mass documentation e.g. notifications, bank statements, policies etc.
- Official notifications and certificates
- Patients' hospital records
- Legal documents (e.g. legal acts)
- Authentication when gaining the access to financial services in accordance with EU's regulation regarding PSD2 payment services
- Official company documents (financial reports, fiats, statutes)
- Contracts and commercial offers
- Electronic invoices, bills, order and delivery confirmations
- Electronic correspondence (smart scanning with document integrity confirmation)

Key business goals and benefits



Improved and efficient automatization processes

- All steps of the process take place via electronic channels
- Using the full range of already implemented digital services
- Reduction of time and costs connected with document



Legally binding transactions



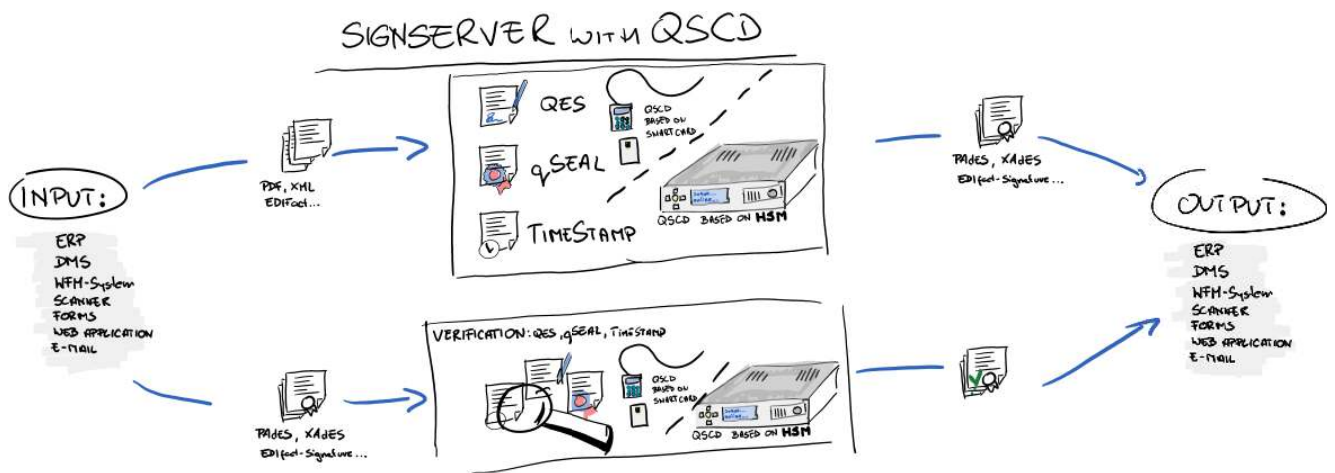
Efficient, quick and flexible organisation



Higher level of legal certainty for organizations which implement innovative solutions



Highest level of security in B2B and B2 communication



Solution description

QSeal can be integrated with any system managing electronic documents (DMS, ERP) or any other application using a shared disc resource. Integration using API is also possible.

QSeal for QSCD

Mass document sealing in B2B and B2C transactions: for sealing multiple documents (mass sealing) server-based software can be used. The solution uses hardware security module (HSM) as QSCD to store private keys safely protected.

QSeal for SmartCard

Sealing individual or multiple documents using local software, both desktop- and server-based. The process includes the use of a single cryptographic card with a card reader.

Supported standards

PKCS#7, PDF & PDF/A, XAdES, EDI, LTA, ERS, timestamp




Local QSeal with QSCD


- Seal qualified on a cryptographic card (Smart-Card) or on a high efficiency QSCD
- The seal is stored by the legal entity being its owner in a specially secured server room


Remote QSeal with QSCD


- Qualified seal delivered as a service in a public or corporate cloud
- Qualified seal remains under the sole control of the document signee


Application for creating the electronic seal


 Supporting shared standards, algorithms and protocols

 Mass sealing of millions of documents per hour

 Documenting the achievements

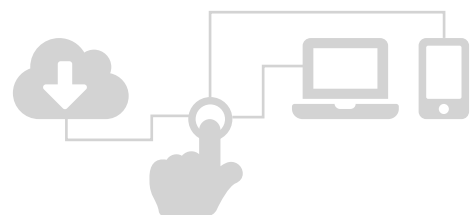
 High efficiency

 Flexible integration

 Mass sealing of hundreds of documents in a single step

Long-term document archiving

- Binding power and integrity of signed documents
- Supporting popular standards such as LTANS / ERS
- Re-signing and timestamping
- Securing algorithms
- Full audit and access log



The eIDAS regulation and qualified electronic seal

eIDAS - the EU regulation (1999/93/WE) regulates electronic identification and trust services in regard to online transactions, standardises norms of the security of electronic interactions between citizens, enterprises and public institutions all over the European Union.

Thanks to the eIDAS regulation, electronic documents signed with qualified seal are treated equally as documents signed by hand.

ENISA

In November 2018, ENISA, the European Union Agency for Cybersecurity, has published an Assessment of Standards related to eIDAS Recommendations to support the technical implementation of the eIDAS Regulation. §4.3.2 states clearly that "This Protection Profile can be perfectly applied for devices that are not managed by a TSP. A device certified against this PP may be used by users that wish to store their signing keys remotely, as it would be the case e.g. for a legal person implementing a QSCD to issue qualified seals."

CEN/TS

In March 2019, CEN TS 419 221-6 which specifies "Conditions for use of EN 419221-5 as a qualified electronic signature or seal creation device" was published.

This technical specification provides a clear basis for acceptance of EN 419221-5 certified devices for use as a qualified signature creation device or a qualified electronic seal creation device under Regulation 910/2014 even if not operated by a qualified TSP. In other words, the legal owner of a qualified seal can use a QSCD locally, usually on premise, for high performance local sealing of documents.

Why is the QSeal in accordance with eIDAS?



A Qualified Electronic Seal guarantees authenticity and integrity of documents in B2B and B2C transactions



A Qualified Electronic Seal is assigned to a specific legal entity, it is the digital confirmation. It works as a digital version of a traditional company seal stamp.



Thanks to proper certification of Qualified Signature Creation Devices (QSCD) a Qualified Electronic Seal for mass and local sealing can be stored either by the seal owner or certified Trust Services Provider.

Legal aspects and certification against eIDAS PP EN 419 221-5

eIDAS requires a certified Qualified Signature (or Seal) Creation Devices (QSCD) using qualified certificates for the generation of electronic signatures and seals. Our solution is based on Utimaco's CP5 Common Criteria Protection Profile PP EN 419 221-5 certified QSCD.

Standardisation

Apart from introducing electronic signatures and timestamps, the eIDAS regulation also introduced the procedure of electronic sealing, registering of electronic receptions/deliveries, as well as validation and conservation seals and signatures.

Legal validity and binding

The aim of all the solutions mentioned above is providing maximum security of electronic transactions carried out online, as well as giving them the same binding legal power as if they were signed on paper.

About Esysco

ESYSCO supports its customers with world-leading, innovative solutions based on cryptography. We specialize in areas such as Digital Transformation, eIDAS Electronic Signatures, E-Administration, PKI, IoT as well as Identity and Access Management with the aim of providing services at the highest level of quality and security.

As a system integrator and technology provider for crypto based products, services and solutions, we support companies and public organizations in protecting sensitive data and information using advanced technology solutions.

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