



## keyon true-Sign

Keyon true-Sign is our comprehensive signature solution that allows you to digitally sign all types of data in a wide variety of formats. Legally compliant, efficient, and convenient.

**With keyon true-Sign, you can sign Office and PDF documents, scripts, code, macros, and much more. Keyon true-Sign supports all types of certificates and file types. Both internal and external certificate providers and signature services can be integrated. With keyon true-Sign, you can protect the integrity and authenticity of your most important data.**

### One solution for all digital signatures

Companies are faced with the task of offering services digitally and in a legally valid manner. SITS helps you make this transition seamlessly and securely. We offer the right solution for your challenge.

You can choose whether your documents should be signed on your computer, on a server in your IT environment, or in the cloud. We offer qualified and advanced signatures as well as seals and time stamps. Local, on-premises, or in the cloud—everything from a single source.

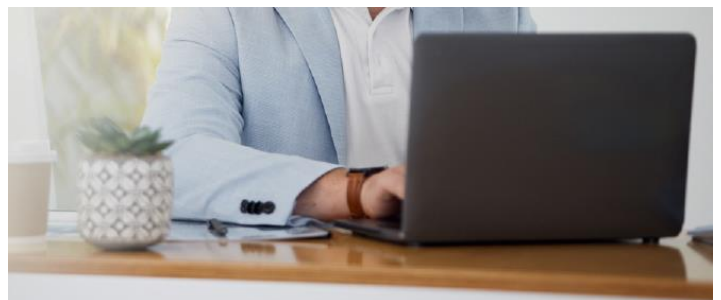
Keyon true-Sign supports all common file formats, hash trees, and generic signatures. With true-Sign, mobile electronic signatures can be created without a smart card or USB token.

#### Our offering:

- Document signatures
- Personal signatures
- Seals
- Code signatures
- Time stamps
- Mass signatures
- Validation
- Compliant with laws and standards

#### Your advantages with SITS:

- **Building trust:** Globally recognized solutions that build trust and promote digitization.
- **Tailored consulting:** Individual consulting and solution finding according to your specific requirements.
- **Comprehensive service:** From consulting to SaaS solutions – we offer the complete package.
- **Seamless integration:** Support with connecting to specialist applications and integration into existing systems.
- **Experience:** Decades of experience in the field of electronic signatures guarantee professionalism and data protection.



## Our solutions

### The central signature service

#### keyon true-Sign Service

Keyon true-Sign Service is a central signature service that offers various interfaces for signing common file formats.

With keyon true-Sign Service, mobile electronic signatures can be created without a smart card or USB token. The service either signs the original files or only the respective hash value.

With keyon true-Sign, other remote signature services can be connected via the CSC interface. The service enables the integration of revocation information and time stamps as well as conversion to PDF/A.

### Signatures in the web application

#### keyon true-Sign Web

Keyon true-Sign Web is a modern web application that allows you to conveniently sign documents and code in your browser.

With keyon true-Sign Web, you can generate signatures in a wide variety of formats in your browser, validate files, check code for malware, and manage your certificates.

Keyon true-Sign Web uses the services of keyon true-Sign Service for this purpose.

#### Interfaces:

- SOAP
- REST
- CLI
- KSP/CSP
- Virtual Smartcard
- PKCS#11
- ...

### High flexibility

#### Internal and external certificates

Keyon true-Sign supports both proprietary and advanced and qualified certificates issued by public certification authorities.

Different types of signatures with different levels of trust are required for different use cases and different signature volumes. Keyon true-Sign therefore supports both certificates and signature services from public trust service providers and internally issued certificates from a wide range of certification authorities.

### Highest security

#### Integration with hardware security modules

The security of your private keys is our top priority.

To ensure that your signatures are trustworthy, your private keys must be securely stored. Keyon true-Sign supports the most secure FIPS and CC-certified hardware security modules and works closely with its partners Thales and Securosys.

### For local signature creation

#### keyon true-Sign V

Keyon true-Sign V allows the client-side connection of an internal or external signature service, enabling local applications to easily integrate the signature.

With keyon true-Sign V, you can sign Office and PDF documents, scripts (code), and macros on a Windows or Mac client.

Keyon true-Sign V offers the functionality of a virtual smart card, a crypto or keystore provider (CSP or KSP), or a PKCS#11 module.

### Creation of time stamps

#### keyon true-Time

Keyon true-Time is a timestamp service that can issue MS Authenticode or RFC-3161 timestamps.

Trusted time stamps are essential for keeping signatures valid beyond the validity period of their certificates. Keyon true-Time issues these time stamps based on official time services.

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#### Authentication:

- OIDC / OAuth2
- Kerberos / Active Directory
- Client Cert
- MFA
- ...

# Code signatures

## Security

### Protection against malware

Malicious code and Office macros executed on workstations are the primary triggers of cyber security attacks.

With keyon true-Sign, all common executable code files and Office macros can be electronically signed so that their authenticity and immutability (integrity) can be verified before they are executed. A company's workstations can be configured to only allow the execution of signed code and/or Office macros. This provides effective protection against cyber security attacks of this kind.

## Trust

### Compliance

The challenge with code signing is protecting the private signature key associated with the code signing certificate. If a key is compromised, the certificate loses its trustworthiness and value, putting the already signed software at risk.

With keyon true-Sign, executable code or Office macros can be signed centrally via web browsers or web service interfaces. Access to the private key of the code signing certificate can be controlled, logged, and audited.



## PQC

### Post-quantum security

Software, especially in the OT sector, is often in use for decades and should therefore be protected now against possible attacks in the future.

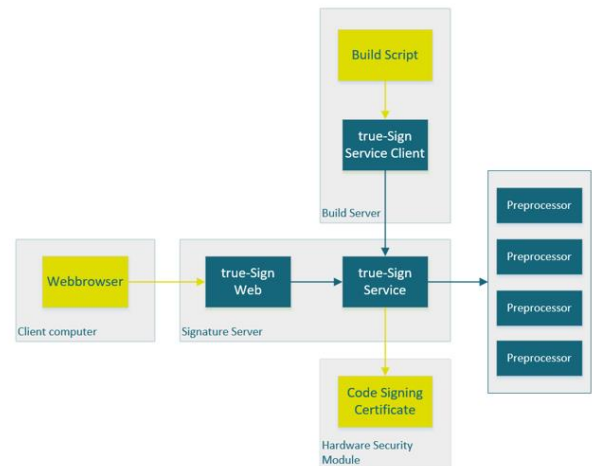
Keyon true-Sign is "PQC ready" and, in addition to a variety of conventional cryptographic methods, also supports modern, quantum-resistant methods that can also be used in hybrid mode.

## Integration

### Build processes CI/CD

Keyon true-Sign integrates seamlessly into your build processes.

Keyon true-Sign can be integrated into your existing software build tools via the existing interfaces. The signature thus represents the completion of automated and frequent processes.



## Preprocessors

### Validations

Keyon true-Sign enables rule-based signatures with checks for viruses and malware.

Keyon true-Sign offers the option of checking code or macros for malware and macros for potentially malicious command structures (e.g., uploading data to external systems) before signing. Code or macros can be inventoried, providing an effective measure for checking all macros used as part of hardening your workstations.

### Types of code:

- Microsoft Office macros
- Microsoft Authenticode
- Java
- RPM
- PKCS#7 / CMS
- XML
- EDIFACT
- SBOM
- ...

## Document signatures

### Digitization without media discontinuity

#### Digital business processes

Electronic signatures enable documents to be signed in a digitized business process without media discontinuity.

This primarily involves electronically signing PDF documents based on a web-based workflow or directly in the PDF reader on a Windows or Mac workstation.

Keyon true-Sign supports single or multiple signatures (e.g., dual control principle) using company certificates, public certificates, or legally regulated certificates (according to ZertES or eIDAS). Furthermore, keyon true-Sign supports all common Office and PDF formats (including PDF/A) and includes a service for validating electronic signatures. The application of current time stamps in conjunction with PDF/A and the embedding of validation information enables the signed documents to be archived securely.

#### Document types:

- PDF
- PDF/A
- MS Office
- Open Office
- XML
- EDIFACT
- ...

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### Immutability of documents

#### Integrity

The digital signature from keyon true-Sign protects your documents.

Applying a digital signature from keyon true-Sign not only verifies the identity of the signer but also protects the document from alteration. During the validation process, any changes made after the signature is applied become visible.

### Data protection

#### Confidentiality

Keyon true-Sign gives you control over your documents.

The documents to be signed do not leave your IT infrastructure. Only the calculated hash values and authentication information are securely transmitted to the remote signature service.

### Individuals and companies

#### Seals and signatures

With keyon true-Sign, you sign as a natural or legal person.

The certificates underlying the signature can be issued to natural persons or legal entities, enabling authorized persons to sign on behalf of their company.

### Public trust

#### Remote signatures

We connect true-Sign to publicly recognized trust services via proprietary or standardized interfaces (CSC).

With keyon true-Sign and the remote signature services of our partners DigiCert or SwissSign, electronic signatures can be created on the go, without a smart card or USB token. The private keys are stored securely with the trust service provider, and the qualified signatures are legally equivalent to handwritten signatures.

### Process connections

#### Integration

Our solutions offer various interfaces.

Keyon true-Sign can be integrated with other applications and platforms via the existing REST and SOAP interfaces. Fat clients or scripts can integrate keyon true-Sign via a command line interface. true-Sign V provides the signature functionality via KSP, CSP, PKCS#11, or as a virtual smart card.

### Legal recognition

#### Legal certainty

In collaboration with our partners, we create electronic signatures that meet the highest standards. Legally secure and recognized worldwide.

Keyon true-Sign supports advanced and qualified electronic signatures in accordance with ZertES, eIDAS, and GeBüV, as well as common standards for long-term archiving (LTV). In addition, the signatures comply with FDA and eSIGN Act requirements.



#### Integrations:

- **Remote signature services**  
Cloud Signature Consortium (CSC)  
DigiCert, SwissSign
- **Signature cards**  
D-Trust
- **Microsoft PKI**
- **true-CA**
- ...

## Archiving

### Immutability of data

#### Integrity

When storing and archiving data, its integrity and the time of storage must be ensured in the long term.

Digital signatures enable these requirements to be applied efficiently to large amounts of data. Keyon true-Sign enables the secure and legally valid storage of large amounts of data on cost-effective storage devices and allows simple backup, restore, and deletion processes to be implemented.

Keyon true-Sign signs individual documents and entire folder structures.

### Auditability

#### Logging

Keyon true-Sign creates comprehensive and clear audit log files

The logs can be accessed on the server or via the web interface.

### Verifiability

#### Validation

Keyon true-Sign enables the validation of archived data at any time

The authenticity and integrity of archived data can be verified using its signature. Keyon true-Sign generates corresponding reports on request.

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### Time of storage

#### Time stamp

Keyon true-Sign and true-Time add a timestamp to your data.

The timestamp documents the time of storage and extends the validity of the signature beyond the validity of the signature certificate. Keyon true-Sign can integrate both internal and external timestamp services.



#### At a glance:

**true-Sign can be efficiently integrated into applications and workflow processes and supports the following standards:**

- ETSI TS 102 778-1-5: PAdES-LTV, XAdES-A, CAdES-A
- RFC 6283: XMLERS
- RFC 4998: ERS
- RFC 3161 Timestamp Protocol

### Variety of formats

#### File formats

For archiving purposes, keyon true-Sign signs data regardless of the file format.

By creating generic CMS signatures, keyon true-Sign can sign and validate all file formats, enabling format-independent data storage.



## Technical Specification

### Interfaces

- SOAP
- REST
- CLI
- KSP/CSP
- Virtual Smartcard
- PKCS#11

### Document Signatures

- PDF
- PDF/A
- MS Office
- Open Office

### Code signatures

- Microsoft Office macros
- Microsoft Authenticode
- Java
- RPM
- SBOM

### Other signatures

- XML
- EDIFACT
- PKCS#7 / CMS

### Authentication

- OIDC / OAuth2
- Kerberos / Active Directory
- Client Cert
- MFA



### Algorithms

- RSA
- DSA
- ECDSA

### Timestamp

- RFC 3161 Timestamp Protocol
- MS Authenticode

### Systems

- keyon true-Sign V: Windows, Mac
- keyon true-Sign Service: Windows, Linux
- keyon true-Time: Windows, Linux

### Standards, laws, regulations:

- ETSI TS 102 778-1-5: PAdES-LTV, XAdES-A, CAdES-A
- RFC 6283: XMLERS
- RFC 4998: ERS
- RFC 3161 Time Stamp Protocol
- FIPS and CC certified hardware security modules
- ZertES, eIDAS, eSIGN Act

### PDF signatures

- PAdES-B
- PAdES-T
- PAdES-LT
- PAdES-LTA

### Revocation

- OCSP
- CRL

### Hardware security modules

- Thales Luna
- Thales PSE
- Securosys

### Learn more about our offerings:

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### Other offerings from our Applied Crypto Solutions:

- **keyon true-CA:** Sophisticated certification authority
- **keyon true-Xtender:** Extensive, automated management of X.509 certificates
- **PKI Consulting:** Benefit from our decades of experience in the enterprise PKI environment

