# Entrust Timestamping Authority

## On-premises timestamping server

### HIGHLIGHTS

Electronic timestamping is the only way to guarantee that a transaction occurred or that an electronic document was signed at a given time. Entrust TSA (Time stamping Authority) is designed to:

- Guarantee, objectively and precisely, the registering of the moment a transaction occurs

- Protect the timestamp records

- Integrate easily and securely to your organization's control systems, minimizing installation and maintenance costs

### BENEFITS

- Aligned with ETSI standards that define the requirements for qualified timestamps in the eIDAS Regulation

- Defines the roles and events required to operate the TSA service according to the CEN standard

- Supports separation of roles between the security operator, system administrator, and system auditor

- Incorporates a data protection system and an emergency system that ensures logs cannot be lost

- Supports selecting automatic events and defining manual events

- Meets the highest load requirements, can be integrated in high availability architectures, and guarantees the fastest-possible transactional response times

- Includes a workflow engine to define the interaction with information systems

## HOW IT WORKS

### Functionality

The main functions of Entrust TSA are to:

- Receive timestamp requests via the Internet from users and service providers that want to add timestamps to electronic documents or transactions

- Generate a digitally signed timestamp that includes the time of the request, the information that securely binds the stamp to the electronic document, and a unique registration number for auditing purposes

- Generate audit logs so operators can monitor the status of the system, its security, and to what extent the corporate specifications are being met

- Optionally, keep track of and limit each client's use of the timestamping service. To do this, Entrust TSA assigns a service usage quota or restricts use for a specific time period (i.e., billing)
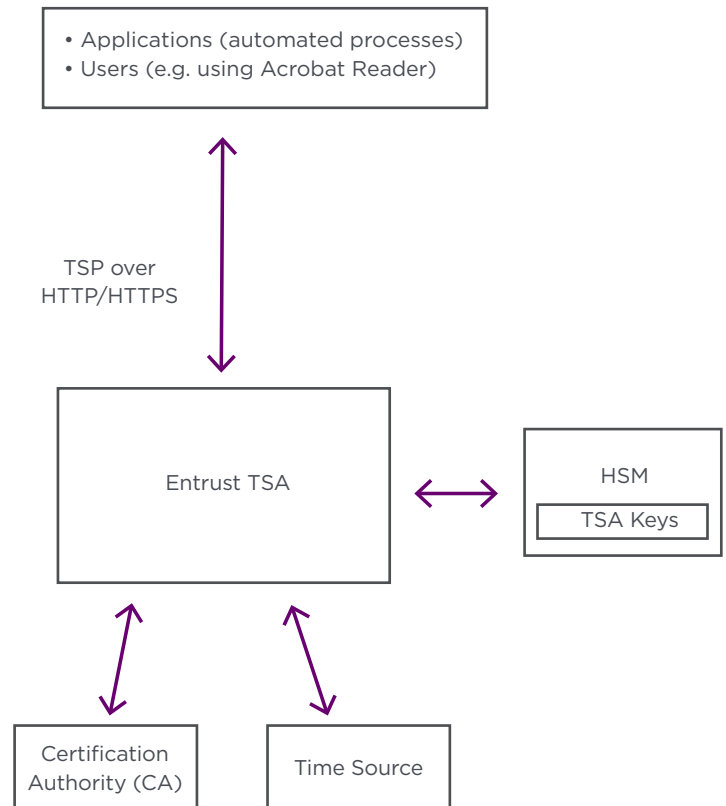
### Architecture

The following figure illustrates the general architecture of Entrust TSA and how it interrelates with the network components (under the IETF timestamp protocol). Entrust TSA can operate with an HSM (network or internal) and requires access to a database and a network time source (e.g., via NTP).

- Applications (automated processes)
- Users (e.g. using Acrobat Reader)

TSP over HTTP/HTTPS

Entrust TSA

HSM

TSA Keys

Certification Authority (CA)

Time Source

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## TECHNICAL SPECIFICATIONS

- Timestamp protocols: IETF RFC 3161 and RFC 5816

- Timestamp profile and policies: Aligned with ETSI EN 319 421 (replaces TS 102 023), ETSI TS 319 422 (replaces TS119 422, and TS 101 861), and CEN TS 419 261 (replaces CWA14167-1)

- Cryptographic devices: RSA PKCS#11

- Connectivity: SQL, LDAP/SLDAP, Microsoft Active Directory, HTTP/HTTPS, REST, and SOAP Web Services, POP3 and SMTP

- Event monitoring: SNMP v1, v2c and v3

- SIEM integration and audit: Syslog protocol or Windows Event Log

## SYSTEM REQUIREMENTS

- Operating systems: Windows

- SMTP mail server: Recommended for implementing customized event notification

- Database systems: Oracle, Microsoft SQL Server, PostgreSQL, MySQL, or Maria DB

- HSM support: PKCS#11 devices approved by Entrust

- Time source: Operating System's time synchronized with an external source. NTP required for compliance with ETSI TS 102 023 and ETSI EN 319 421

## ABOUT ENTRUST CORPORATION

Entrust keeps the world moving safely by enabling trusted identities, payments and data protection. Today more than ever, people demand seamless, secure experiences, whether they're crossing borders, making a purchase, accessing e-government services, or logging into corporate networks. Entrust offers an unmatched breadth of digital security and credential issuance solutions at the very heart of all these interactions. With more than 2,500 colleagues, a network of global partners, and customers in over 150 countries, it's no wonder the world's most entrusted organizations trust us.

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