

ECOS TrustManagementAppliance®

Machine Identities in IT, OT and IoT

Certificates and keys are the building blocks of a strong IT security

- **Certificate lifecycle management**
- **Post-quantum resilience**
- **Security by design**

IT Security Solutions

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ECOS TrustManagementAppliance®

PKI and key management for IT, OT and IoT

IoT devices, machines, services and systems must securely authenticate and encrypt communications to prevent cyber-attacks and industrial espionage.

The prerequisite for secure authentication is the unequivocal identification of a device, service, or system. Certificates provide the foundation for an unambiguous and secure machine identity.

Machine identities—a broad spectrum

Unlike user identities, which, among other things, authenticate people and grant access to device, machine identities are used to securely identify and authenticate technical devices and services as such.

These can be mobile devices connecting to a LAN or WLAN access point, servers or containers exchanging data, or networked machines and devices in the OT & IoT. The need for secure machine identities is particularly acute in the IoT.

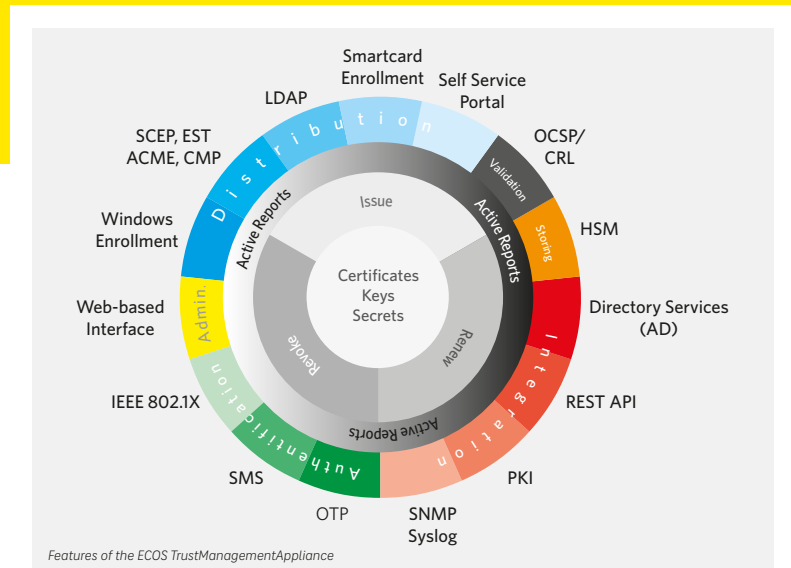
Countless actuators, sensors, measuring and control devices permanently exchange data with each other.

The ECOS TrustManagementAppliance® (TMA) provides a comprehensive management system for issuing, validating and managing certificates and keys for a wide range of different areas. It integrates seamlessly into existing infrastructures and allows you to manage certificates easily.

Certificates, keys and secrets

Certificates are the foundation of secure identities and strong encryption in IT and OT. In addition, symmetric keys are used for IoT devices, especially in areas where computing power is limited.

The TMA supports X.509 certificates in DER, PEM, PKCS#7, PKCS#12 format as well as symmetric and asymmetric keys. Other secrets, such as passwords required by applications to access databases, can also be securely managed.



IT Security made in Germany

With our development, consulting and support services in Germany, we focus on the individual needs of our customers with a solution-oriented approach.

Certificates and keys are the basis for secure authentication and encryption in IT, OT and the IoT

Certificate lifecycle management

Certificates are not just rolled out once, but have a lifecycle of their own. They have a defined lifetime and must be renewed as needed.

Keys need to be regenerated using newer algorithms. Certificates may also need to be revoked. This comes with a number of requirements, including automated certificate rollout and renewal, as well as intelligent reporting.

The ECOS TrustManagementAppliance® (TMA) can automatically roll out and renew certificates to devices and supports a number of standard protocols for this purpose. As it is also essential to keep track of all certificates, keys and their lifecycles, the TMA's Active Reports also provide a continuous, enterprise-wide overview of all certificates, their properties and validity periods with automatically generated e-mail reports.

Code signing

Developers must ensure that the code they create cannot be altered by third parties or even infiltrated with malware. The code should therefore be signed with a certificate before the software is released.

Code signing protects the integrity of both office applications and software designed to control machines and IoT devices.

Workflows

Depending on the area of application, certificate requests require internal approvals. The TMA maps the corresponding approval processes and thus simplifies the integration into established workflows.

Open interfaces

The TMA allows a seamless integration into existing IT systems thanks to open interfaces such as a REST API, AD synchronization, SNMP and Syslog. The integration into an already existing PKI as root or as sub CA is also possible.

Certificates can be rolled out automatically using the standard protocols SCEP, EST, ACME, CMP or LDAP. In addition, it is possible to integrate the TMA into your own processes using the extensive REST API.

Integration with production environment

Certificates and keys are already deployed in the production process of smart and IoT devices. In addition to the Trust Management Appliance's open interfaces, ECOS offers the ability to integrate it into almost any production environment through customization.





safe and smart

Security by design

Protection against cyberattacks should always be incorporated during the design process of IoT devices, as retrofitting IT security is either unaffordable or downright impossible.

ECOS offers consulting support in the planning phase regarding secure machine identities and implementation of the technologies needed in conjunction with the ECOS TMA.

Post-quantum resilience

IoT and OT devices often operate for 20 years or more. With the rapid development of quantum computing, it is essential to consider future requirements as early as today. Cryptoagility is the key word. With the TMA, ECOS already paves the way for easy migration to new quantum-resistant algorithms and supports hybrid certificates.

Main features at a glance

- ◆ Issuing, renewing, revoking certificates
- ◆ Certificates, secrets and symmetric keys
- ◆ Configurable key lengths and signature algorithms
- ◆ Configurable and assignable metadata
- ◆ Automatic certificate renewal
- ◆ Certificate validation by CRL or OCSP
- ◆ Optionally secure storage in hardware security module
- ◆ Coupling with AD or other metadirectory
- ◆ Control & configurability of all functions per REST-API
- ◆ Autoenrollment with SCEP, ACME, EST or CMP
- ◆ Integration into existing PKI, as sub or root CA
- ◆ Automated connection to public CAs
- ◆ Cluster operation, also cross-site
- ◆ Multilevel root and sub CAs
- ◆ SNMP interface for connection to monitoring systems
- ◆ Syslog interface for connection to SIEM systems
- ◆ Central administration of tenant-specific root CAs
- ◆ Predefined reports and report editor
- ◆ Automatic notification system via Active Reports

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