Certificate Management for OT and IoT Devices

essendi da

Automated Certificate Management for Industrial Environments

Industrial machines, controllers, sensors, actuators, gateways, and other connected equipment rely on digital certificates for secure authentication and encrypted communication. Managing them across heterogeneous OT and IoT environments can be complex. Components from different manufacturers use a variety of interfaces, while segmented networks and fixed maintenance windows add further constraints.

Missing, expired, or incorrectly installed certificates can disrupt communications and affect the operational processes that depend on them.



The Device Adapter **essendi da** connects OT and IoT components from multiple vendors to centralized certificate processes.

The solution automatically deploys digital certificates to connected systems, either **immediately or at defined times**, monitors their validity, and supports coordinated renewal. This enables organizations to manage secure device identities efficiently, even across **distributed** or partially **offline** infrastructures.

Certificate management ranges from centralized administration down to the operational device level.

essendi xc centrally manages the certificate lifecycle, while **essendi da** handles technical deployment and monitoring at the device level.

Flexible Integration Across Heterogeneous Environments

Different device types can be connected using suitable adapters and integration methods. Depending on the system, standardized or extensible interfaces can be used, including OPCUA, SSH/SCP, REST, and CLI. Existing PKIinfrastructures and operational workflows can remain in place.

Benefits You'll Enjoy

Automated Certificate Deployment

Deploy digital certificates reliably and on schedule.

- Automated and scheduled certificate deployment
- Reliable provisioning of OT and IoT devices
- Suitable for industrial environments

Multi-Vendor Integration

Seamlessly integrate OT and IoT components.

- Integration across different vendors
- Connectivity for OT and IoT components
- Consistent workflows across system boundaries

Segmented and Offline Networks

Suitable for isolated or partially offline networks.

- Support for segmented network architectures
- Operation even with limited connectivity
- Suitable for isolated environments

Scalable Device Fleets

Efficiently scale processes across distributed devices.

- Scalable processes for distributed device fleets
- Suitable for large numbers of endpoints and locations
- Centralized control as device fleets grow

Scheduled Maintenance Windows

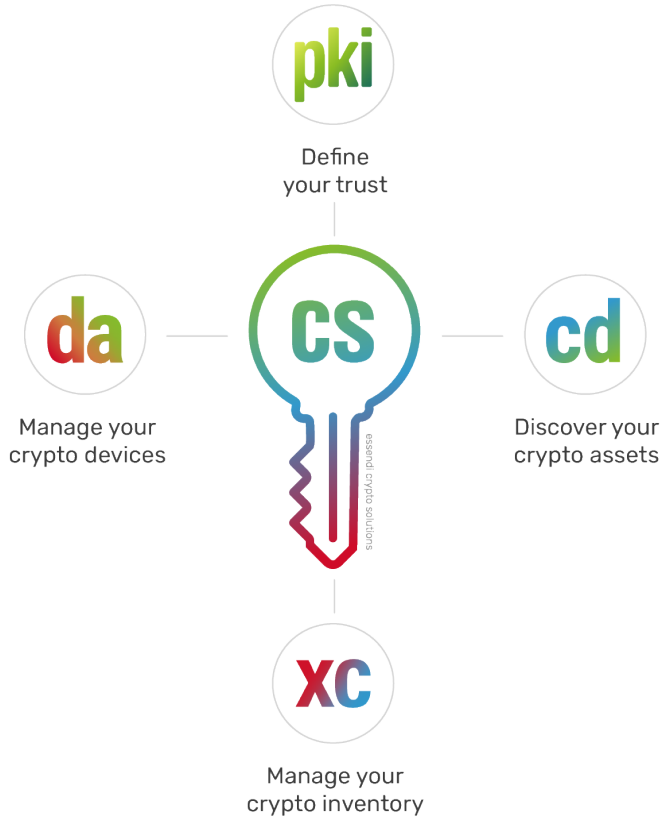
Reduce manual effort in day-to-day operations.

- Less manual effort
- Scheduled maintenance windows
- Better alignment with operating schedules

Secure Communication

Consistent device authentication and encryption.

- Secure device authentication
- Encrypted communication
- Trusted connections in the field



As part of the essendi crypto solutions **essendi da** connects centralized certificate processes with their implementation across OT and IoT environments. Our IoT/OT consulting services support analysis, process design, and integration. Requirements for BACnet/SC environments can also be taken into account.

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