BxC | SECURITY

IDIAL

Leave the pain of managing your certificates in OT environments manually behind you and focus on what really matters: YOUR BUSINESS.

As industrial organizations embrace digital transformation, their operational technology ecosystem continues to grow more complex and interconnected. From smart manufacturing equipment and automated production lines to industrial IoT sensors and edge computing devices, businesses are managing an ever-expanding network of connected industrial assets. Each component in this sophisticated operational landscape requires a unique, verifiable identity to ensure secure and trusted interactions.

Digital certificates form the foundation of machine identity management in industrial environments, enabling trusted authentication across plant systems and equipment. However, inadequate certificate management practices and limited visibility create significant vulnerabilities - from unexpected production line failures to security breaches when compromised certificates go undetected across industrial control systems. The challenge of tracking and securing these machine identities has become critical as industrial infrastructures grow increasingly interconnected.

Automation for a better future

IDIAL is a containerized identity automation solution purpose-built for industrial operations. It enables secure communication with OT assets—such as PLCs and process components—and automates certificate enrollment, renewal, and distribution without local agents.

By implementing OPC UA GDS Push and integrating with REST-based CMDBs and asset repositories, IDIAL ensures every connected industrial asset maintains a valid, verifiable identity. Changes in asset state are detected and handled automatically, eliminating manual intervention and reducing downtime risk.

This frees your operators to concentrate on high-value tasks instead of repetitive, low-impact operations like manual certificate requests.

Key Benefits

Zero-footprint certificate lifecycle automation for OT networks

Containerized deployment for secure, scalable rollouts in industrial segments

Continuous identity assurance across PLCs, controllers, gateways, and field assets

Automatic detection of asset changes; trigger enrollments and renewals

Unified integration with enterprise PKI and identity processes

Reduced operations effort and fewer outages from expiring certificates

Use Cases

Secure Machine-to-Machine Communication (OPC UA)
Enables automatic certificate provisioning and trust synchronization for authenticated, encrypted OPC UA sessions without manual intervention.

Certificate Automation for PLCs and Controllers
Automates enrollment, renewal, and revocation of PLC and controller certificates via standard PKI protocols like SCEP and EST.

Certificate-Based Trust for Edge & IIoT Nodes
Issues unique device identities to secure communication and authentication across distributed edge and IIoT systems.

Asset Inventory–Driven Lifecycle Enforcement
Links certificate management to asset inventory systems to enforce real-time updates and prevent trust drift in industrial networks.

Touchless Cloud Certificate Lifecycle (Azure IoT, AWS IoT)
Integrates with cloud IoT platforms for automated, policy-driven device certificate onboarding and renewal across hybrid infrastructures.

Enabling for Zero Trust

Effective industrial identity management is foundational to Zero Trust in OT. IDIAL establishes verifiable machine identities across PLCs, controllers, gateways, and edge systems so every interaction is authenticated and authorized.

By automating the full certificate lifecycle and integrating with existing PKI and asset sources, IDIAL closes visibility gaps, reduces manual work, and supports continuous compliance and resilient operations.

Personalize to your demands

Industrial operations face strict process-driven constraints — from safety-critical PLC networks and deterministic control loops to tightly scheduled maintenance windows and segmented infrastructures. These realities demand identity workflows that can adapt without interrupting production or violating compliance rules.

IDIAL provides granular, policy-based controls and scripting capabilities that let security teams and engineers define exactly when and how certificate lifecycle events occur. Custom renewal intervals, condition-based triggers, and coordinated actions aligned with maintenance schedules ensure that certificate updates happen seamlessly and safely. This operational flexibility allows organizations to maintain continuous trust and compliance across complex industrial systems — maximizing security outcomes without compromising uptime or process integrity.

Frictionless certificate activation

IDIAL's ability to trigger post-enrollment actions streamlines operational workflows by pushing updated certificates to target PLCs and systems or scheduling activation during planned downtimes. This automation eliminates manual handoffs, reduces operational overhead, and lets operators orchestrate deployments to fit operational requirements.

VISIT US AT

https://www.bxc-security.com/

Discover how IDIAL enables zero-touch identity automation.
Contact us for a **demo**, **technical deep-dive**, or **offer tailored to your OT infrastructure**.

Features

No software installation on endpoint required

Implements OPC UA GDS Push for distributed certificate lifecycle

Containerized runtime (e.g., Docker/Kubernetes) for isolated, scalable deployment

Integrates with REST-based CMDBs and asset repositories

Enrollment, renewal, and revocation **without local agents on devices**

Secure connectivity to PLCs and OT endpoints **via standard protocols**

Certificate validity is performed by **OCSP** with low endpoint and network load

Automatic discovery of new or changed assets triggering certificate operations

Automated reconfiguration after certificate issuance in **microservice** architectures

Policy-driven configuration aligned with enterprise PKI and security standards

Modern and legacy cryptographic algorithms, i.e. RSA and ECC allow the use on **endpoints of various age**

Certificate validation through implicit or explicit **trust anchor** databases

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