

Use Case: Linear Power Generators

Situation

A leading provider of distributed energy solutions is developing next-generation Linear Power Generators designed for off-grid and backup power scenarios across telecom, construction, and remote industrial operations. These generators are equipped with IoT-enabled communication modules for real-time telemetry and performance monitoring.

To enable seamless integration with Microsoft Azure for device data analytics and operational insights, the company needed a secure, scalable solution to provision, authenticate, and manage its fleet of intelligent generator units. Manual processes were not sustainable as the deployment scaled, and security was critical due to the equipment's role in critical infrastructure.

Solution

Device Authority KeyScaler was selected to deliver:

- Dynamic Device Key Generation (DDKG) for trust anchor creation, securing the communications module in each generator.
- Automated Identity Lifecycle Management for X.509 certificates, covering provisioning, renewal, and revocation.
- KeyScaler Security Suite for Microsoft Azure, including automated onboarding to Azure IoT Hub and integration with Azure Key Vault for secure key storage.
- A zero-touch provisioning workflow to reduce human error and streamline device activation.

Industrial IoT: Linear Power Generators



Conclusion

By automating certificate lifecycle management and enabling zero-touch onboarding to Azure IoT Hub, the customer significantly reduced the complexity of managing device security at scale. The use of KeyScaler's pre-built integrations accelerated product deployment timelines and simplified operational workflows. A strong device root of trust was established using X.509 certificates, ensuring secure, authenticated communication between the generators and the cloud. This provided high assurance for customers relying on consistent and secure power delivery, while also improving operational efficiency across distributed deployment environments.

**DEVICE
AUTHORITY**

www.deviceauthority.com
contact@deviceauthority.com

UK Head Office
Level 2, Thames Tower
Station Road,
Reading,
RG1 1LX

North America Office
12677 Alcosta Blvd
Suite 250
San Ramon, CA 94583
USA