

USE CASE

Hardware-Enforced One-Way Security for Electric Utilities

Secure, real-time remote OT access & data transfer for can't-fail operations

Summary

Problem:

OT-to-IT Connectivity Raises Risk

As utilities connect SCADA, sensors, and control systems to IT and cloud platforms, they expose once-isolated OT networks to new vulnerabilities—expanding the attack surface and increasing the risk of ransomware, malware, and operational disruption.

Cause:

Outdated Tools Can't Protect OT

Firewalls and software-based solutions lack the directional control needed to isolate critical assets. Their complexity leaves room for misconfigurations, exploits, and non-compliance—an unacceptable risk under NERC CIP standards.

Benefits:

Future-Proof Security

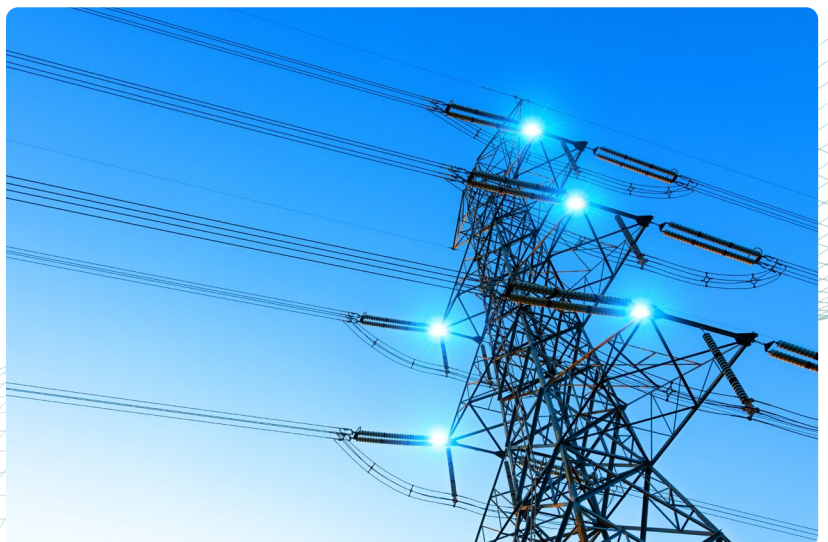
Hardware-enforced security blocks all inbound threats
Real-time data sharing without compromising operations
Simplifies NERC CIP compliance with auditable transfers
Scalable and easy to deploy with multi-protocol support.

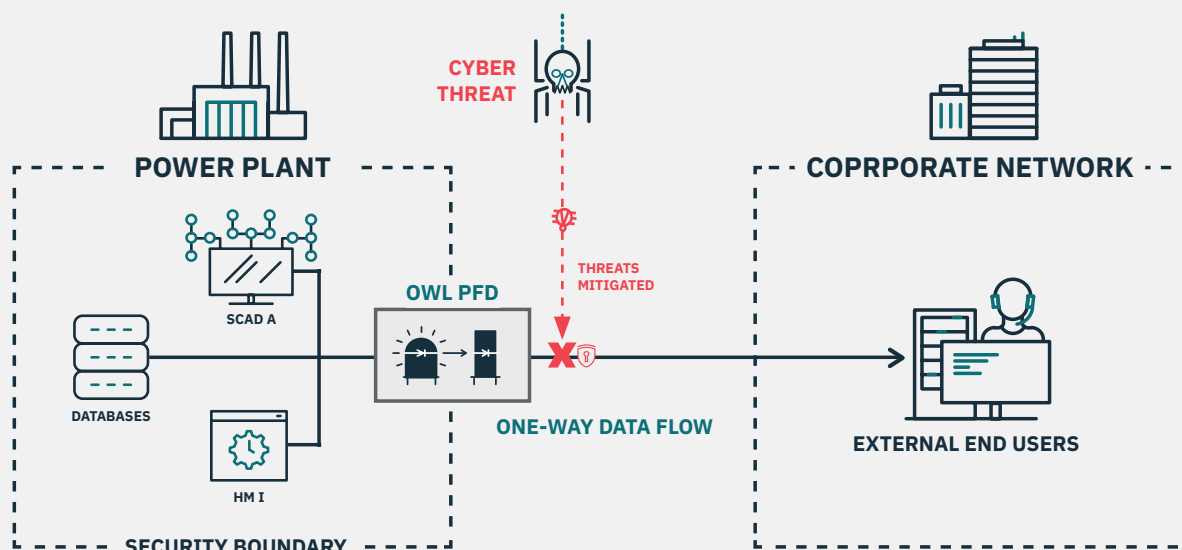
Challenge: Secure OT/IT Integration

Connecting OT systems to IT environments gives utilities the real-time data they need for monitoring, maintenance, and grid optimization. This integration powers smarter decisions and more reliable energy delivery. But it also expands the attack surface—leaving critical infrastructure exposed to ransomware, malware, and cyberattacks that threaten operations and public safety.

Realizing Reliable, Resilient Critical Systems

Owl Talon protocol filtering diodes enforce secure, one-way OT-to-IT data transfer—blocking all inbound threats. With high-speed throughput, deep protocol filtering, and physical breaks, Talon enables real-time monitoring without exposing control systems. It supports NERC CIP compliance and delivers scalable, hardware-enforced protection for today's connected OT environments.





Solution: Owl Talon™ Protocol Filtering Diodes

Building on more than 25 years of one-way networking expertise, Owl Talon™ is the latest iteration of Owl's award-winning, industrial-strength data diode platform, designed for fast and easy configuration with an all new, modern user interface, unmatched interoperability, and secure, reliable operation. To save you additional time and SWaP, Owl Talon One can support multiple, simultaneous data flows and protocols on one device. With an extensible foundation for a broad range of OT and IT protocols and interfaces, Owl Talon enables all your one-way data transfer use cases.

Absolute, hardware-enforced cybersecurity

One-way data flow, physically blocking all inbound threats like malware and ransomware, ensuring OT systems remain isolated and secure during data transfers.

Regulatory Compliance

Meet NERC CIP and industry standards by providing tamper-proof, auditable, and low-maintenance secure data transfer between OT and IT networks.

Operational Continuity

Real-time, secure transmission of OT data for analytics and monitoring, supporting predictive maintenance and rapid response without risking operational disruptions or exposing critical infrastructure to cyber threats.



Owl Cyber Defense Solutions, LLC, headquartered in Columbia, MD, is a pure play cybersecurity company solely focused on purpose-built, made-in-the-USA data diode and cross domain solutions. Trusted to protect the most sensitive government and commercial networks worldwide, our technologies are developed and manufactured to meet the strictest U.S. security standards. Owl enables secure, near-instantaneous collaboration across network boundaries—powering faster, safer, and smarter decisions for military, federal, and commercial critical infrastructure organizations. With a focus on scalability, interoperability, and regulatory compliance, Owl ensures resilient communication in the most high-threat environments. Rigorously tested. Globally trusted.

Visit www.owlcyberdefense.com or contact us at info@owlcyberdefense.com for more details.

