OWL Cyber Defense

Data Diode Cybersecurity
For Electric Utilities

The Owl Solution

For over 20 years Owl has been deploying cybersecurity solutions for the nation's intelligence community, U.S. Dept. of Defense, government agencies and labs, and critical infrastructure operators. Now with over 2,500 deployments globally, Owl's patented technology is protecting a range of installations from single facilities to enterprise wide deployments with fully redundant, high availability solutions.

Hardware enforced data diodes represent the best network security short of an air gap. Owl's cybersecurity solutions feature a hardware enforced one-way transfer data diode that absolutely ensures one-way only data transfers and is not subject to compromise as are software firewalls.

1. Numerous Electric Utilities Deployments

2. Substation Protection with Industrial Control Partners

3. Support of GE OSM for Secure Remote Monitoring

4. Lowest Total Cost of Ownership
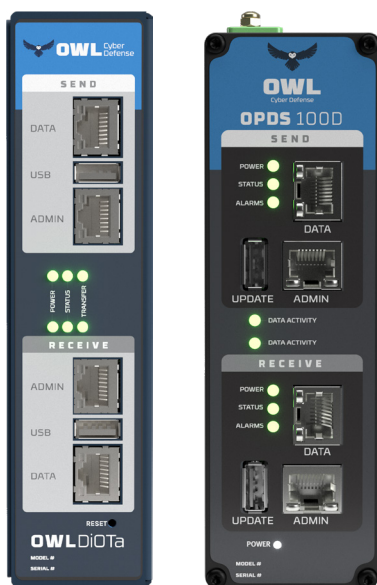
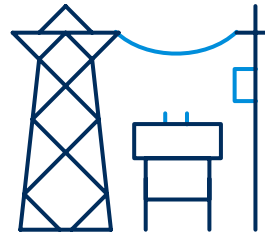"*Hardware enforced data diodes represent the best network security short of an air gap.*"

SUPPORT FOR ELECTRIC GENERATION INDUSTRY

2007	»	Server Based Card Kits
	»	1U All-In One Appliances
	»	Support for OSIsoft® PI
	»	Remote ScreenView
	»	Syslog & Email Transfer
	»	RS232 & RS422 Interfaces
	»	Secure Software Update Solution (SSUS)
	»	Secure Remote Access (ReCon)
2019	»	IIoT Asset Security (DiOTa)

- Over 100 Deployments in the Bulk Electric System

- Protecting Cyber Assets for both Fossil and Hydro Operators

- Transferring Multiple Data Types – Historians, Syslog Performance, Alarms, Events, & Remote HMI

- Products in Use – DiOTa, OPDS-100D, OPDS-100, OPDS-1000, OPTS (PI to PI Replication) & RFTS (Remote File Transfer)

Owl's cybersecurity solutions for electric utilities are non-routable, data diode based products that have met NERC-CIP compliance audits. For U.S. Bulk Electric System (BES) operators, this means that Owl solutions protect operator Cyber Assets and exclude them from being categorized as Critical Cyber Assets.
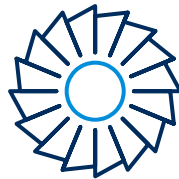
Protecting thousands of digital assets nationwide.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

OWL DiOTa

"Every day, GE collects more than 30,000 operating hours of data from more than 1,600 globally deployed power generation assets."

Owl recently completed initial deployments of our cybersecurity solutions with GE to securely deliver turbine monitoring data to their Monitoring & Diagnostics Center in Atlanta while protecting the turbines from cyber threats and attacks.

1. Integrated with GE's On-Site Monitor (OSM) Service

2. UDP Streaming of Monitoring Data Securely Transferred to OSM Server

3. Solution is Deployed with Both Lab Testing and Field Testing Completed

4. GE Provides Factory Acceptance Testing, Site Installation and Commissioning

OPDS-1000

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Call **203-894-9342** or email **info@owlcyberdefense.com**

Owl data diode products have been deployed by a variety of equipment vendors to satisfy NERC-CIP cybersecurity requirements in substations nationwide.

INDUSTRIAL CONTROL PARTNER DEPLOYMENTS:

- Data Diode Securely Transfers Event and Sensor Data to Remote Vendors for Monitoring

- Protected and Secure Transfer of Alarms and Events to Asset Owners
  + *Example - Devices like Static VAR Compensators*
- Provides Remote Monitoring

- Prevents Unauthorized Access

"The U.S. could suffer a coast-to-coast blackout if saboteurs knocked out just nine of the country's 55,000 electric-transmission substations."

How about one additional server or appliance instead of three or four? How about support for multiple protocols and multiple data flows simultaneously? How about the ability to add new functionality to an existing deployment? **Owl data diode solutions** can be deployed as a single 1U appliance or as two PCI cards installed in new or existing servers.

1. Flanking Servers are **NOT** Needed

2. Pre and Post Processing of Data **NOT** Needed

3. New Protocols/Formats Can Be Added to the Existing Platform with **NO** Additional Equipment.

4. **Support for:** UPD, TCP, files, Email, Syslog, MODBUS, Historian replication (PI System, Rockwell, Wonderware), etc… **All in one Device.**
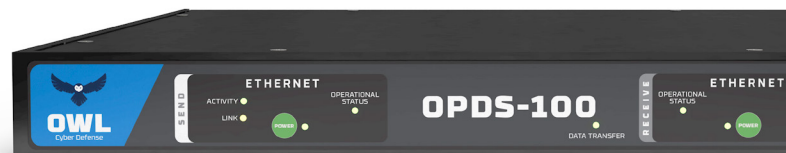
"Clean, simple solution. One device supporting multiple protocols, multiple data formats and multiple data flows simultaneously."

What is a data diode?

A data diode is a cybersecurity device that protects the perimeter (boundaries) of networks with a hardware enforced one-way only flow of data. Using specially designed hardware circuitry, Owl has developed proprietary data diode technology to protect networks from cyber attacks while enabling the secure flow of data between networks. If you can picture a fiber optic cable that only has one LED instead of two and only one photo receiver instead of two, that's the kind of hardware enforcement we are talking about. Data can only physically flow in one direction.

How does it protect power plants and other BES equipment?

With data only flowing in a one-way direction out of the plant network, there is no way a network based cyber attack can be mounted against it. Due to the one-way nature, it is physically impossible to penetrate the plant network through the Owl solution. The industrial controls within the plant remain safe, but monitoring, alarm and event data can be transferred to end users that need it to help run and operate the plant.

DEFENSE IN DEPTH

The hardware-enforcement is the primary protection, but Owl products come with multiple layers of cyber defense. Layered on top of the data diode are an ATM based protocol break, virus/malware detection, checksum/hashing algorithms, role based logins/passwords, and physical separation of admin functionality. During government accreditation, over 200 different security attributes were documented.

DEPLOYMENTS

- DEPARTMENT OF DEFENSE
- GOVERNMENT AGENCIES
- INTELLIGENCE AGENCIES
- AEROSPACE & SATELLITES
- COAL & MINING
- FINANCIAL SERVICES
- FOSSIL FUELS
- HYDRO & DAMS
- OIL & GAS
- PETROCHEMICAL
- NUCLEAR
- MANUFACTURING
- TELECOM
- TRANSMISSION & DISTRIBUTION
- WATER & WASTEWATER

OWL Cyber Defense

Owl Cyber Defense Solutions, LLC leads the world in data diode and cross domain network cybersecurity. With a constant focus on customers in the military, government, critical infrastructure, and commercial communities, Owl develops market-first, one-way data transfer products to meet a variety of operational needs, from entry level to enterprise.

For more information on Owl, or to schedule a demo, visit www.owlcyberdefense.com

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