



Data Diode Solutions

Beyond One-Way Transfer for Operational Resilience

The Trusted Leader

- Highest Performance
- Most Flexible Deployment
- Broadest Range of Capabilities
- Most Secure Software
- Easy to Use & Configure

Secure Data Availability for Critical Networks

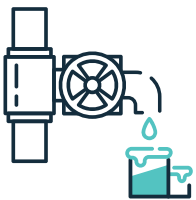
From industrial control system monitoring and CCTV feeds to IoT and mobile devices, every new connection introduces a new vector for cyberattack, and the surface area for such vulnerabilities has exploded. As such, there is a pressing, global need for more effective tools to protect critical networks from attacks that might cause severe financial, physical, or personal damage.

Best practices for protecting these networks involve simplifying, reducing, and isolating network connections, including segmenting networks from one another by creating either a virtual or physical separation between them. However, this separation can prevent data from getting to the systems and users that need it. The challenge has been how to limit access, minimize risk, and keep these networks secure while getting valuable operational data to authorized users when it's needed.

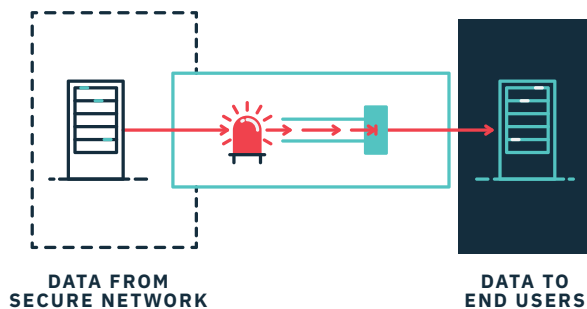
Data Diodes Explained

A data diode is a hardware-enforced device that physically ensures data can flow in only one direction, acting as a digital one-way valve. These systems are essential cybersecurity tools, providing network isolation to protect sensitive environments from external threats while still enabling secure data sharing with external users and systems.

ONE-WAY data valve



One-Way Data Diode Circuit



While simple diode solutions (SDS) offer basic one-way data transfer, Owl sets the industry benchmark with advanced Protocol Filtering Diode (PFD) solutions. PFDs not only enforce unidirectional flow but also disassemble incoming data packets, passing just the payload data over the diode and reassemble outgoing packets in-line at the hardware level, ensuring that malformed packets, incorrect headers, and other related vulnerabilities are physically unable to pass over the diode, greatly reducing the attack surface for threat actors. This approach delivers a level of security and operational assurance recognized by the U.S. Government as superior to SDS, and is trusted by some of the world's largest critical infrastructure operators—including power plants, substations, laboratories, and oil rigs. With unmatched performance, reliability, and compliance, Owl data diode, including PFDs combine secure one-way transfer with deep protocol filtering to defend against sophisticated threats.

To learn more about data diode technology, download the free eBook, “The Definitive Guide to Data Diodes” at: whatisadatadiode.com.



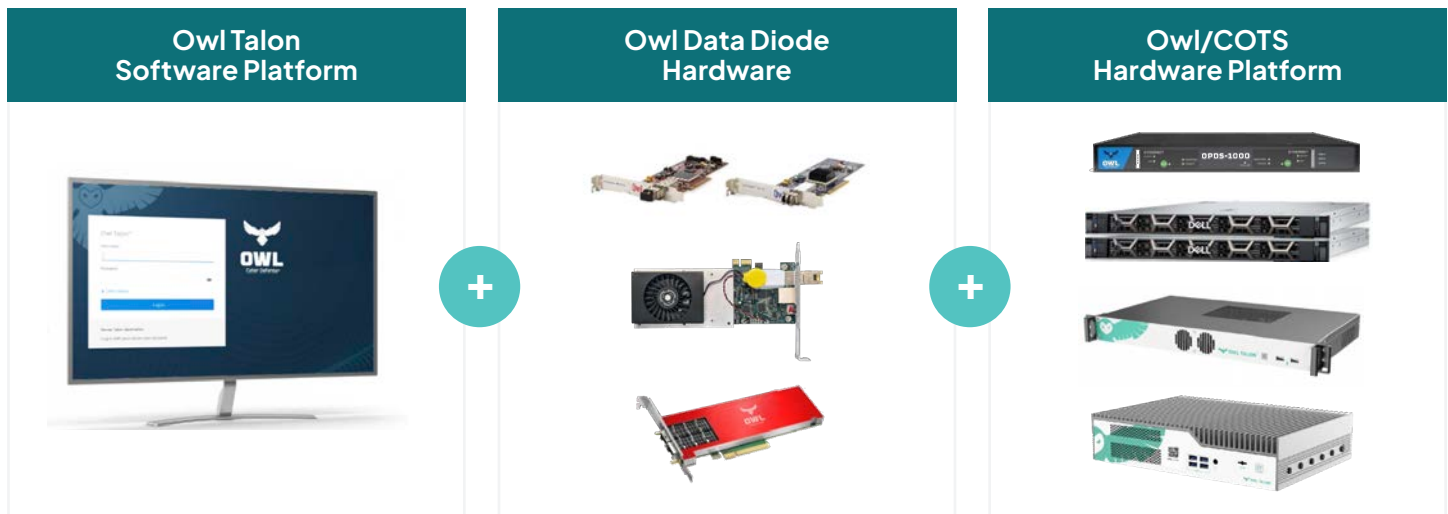
Owl Talon™ Data Diode Platform

THE DATA DIODE, REINVENTED

25 years ago, Owl launched the first commercialized data diode to the market. Now, we're reinventing the data diode again with Owl Talon.

Building on a quarter century of one-way networking expertise and customer feedback, Owl Talon is the latest, revolutionized iteration of Owl's award-winning, NSA-approved data diode platform. By deconstructing the traditional data diode appliance, you can now seamlessly connect and enable one-way transfers of both one-way and two-way data types and protocols with unmatched ease of use, reliability, and time to value. Owl Talon is the future of secure data mobility, from systems monitoring to cloud connectivity.

The Owl Talon System



Unmatched Ease of Use

Featuring a modern, web-based user interface, Owl Talon is extremely easy to set up and configure in just a few clicks, getting you up and running faster than ever before.



Maximum Security Features

Improved security features, including a STIG-compliant OS, enhanced SELinux enforcement with access and permission controls, a BIOS password, AIDE to detect unauthorized activities, and disk encryption for added protection.



Multiple Uses, One Device

Owl Talon can “do it all” with multiple, simultaneous protocols and dataflows on one device, allowing you to save space and leverage the same system as your use case needs evolve.



Owl Talon

V3 SOFTWARE PLATFORM

Developed using the Microsoft Secure Development Lifecycle process, the Owl Talon software platform has an all-new, web-based user interface and improved security features, making it more secure and easier to deploy than ever before.

To save you additional time, space, power, and cost, Owl Talon can support multiple, simultaneous data flows and protocols on one device. In the future, Owl Talon will bring the ability to enable your custom or pre-developed applications or filters.

Software Tiers

The Owl Talon Software Platform is offered at three tiers to provide the highest possible value to you at the lowest viable cost, based on your use case and system requirements.

Base	Multiple streams of 1 Data Type (Owl Pi Transfer Service, OPC UA not supported)
Multi-Purpose	Multiple streams of 3 data types (Owl Pi Transfer Service, OPC UA are supported but require an add-on charge)
Enterprise	Multiple streams of ALL Data Types & Applications



Key Features

Supported Protocols

- UDP (unicast, multicast, broadcast)
- TCP
- Syslog
- SMTP (email)
- SNMP Traps
- Virtual Screen View
- NTP
- File Transfer (RFTS)
- OPC (DA/A&E)
- Owl Pi Transfer Service (OPTS)
- Bi-directional Remote Desktop

Enhancements

- Enhanced SELinux enforcement with access and permission controls
- A BIOS password to prevent unauthorized access and modifications
- AIDE to detect unauthorized activities
- Disk encryption for added protection
- STIG compliance, security report (SCAP/AIDE) interface
- Penetration tested

Coming Soon (2025)

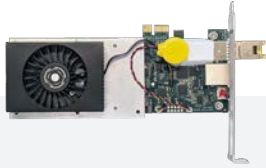
- High Availability
- MQTT, HTTPS Protocol Support
- SFTP
- And More!



Owl Talon

DATA DIODE CARDS

Owl data diode cards are the hardware-based components which enforce one-way data flow. They are typically provided pre-installed into a hardware platform and require Owl Talon software as a part of a complete Owl Talon solution. All Owl data diodes are tested and approved for use in U.S. Government, intelligence, and defense networks.



Owl Talon One Data Diode Card

The Owl Talon One (OTO) data diode card is a single PCIe card with a built-in Owl Radium protocol filtering diode. Rather than designing for custom Owl appliances, the Owl Talon One card is hardware-independent and is intended to be compatible with a variety of COTS hardware platforms.

Speed

Up to 1 Gbps

Platforms

OnLogic HX600,
OnLogic MK100



Owl V7 Data Diode Card Kits

Owl V7 Data Diode Card Kits are comprised of two purpose-built network interface cards (one send, one receive) connected via a fiber optic cable. Each individual card is installed on a separate host server in a PCIe slot. Owl V7 cards facilitate high bandwidth, low latency one-way transfer.

Speed

Up to 10 Gbps

Platforms

OPDS-1000 (V7t),
Dell R660



Owl Talon Torrent Data Diode Card Kits

Owl Talon Torrent Data Diode Card Kits are a protocol filtering diode comprised of two purpose-built cards (one send, one receive) connected via a fiber optic cable. Each individual card is installed on a separate host server in a PCIe slot. Owl Talon Torrent cards are designed for low latency, ultra-high data transfer requirements.

Speed

Up to 100 Gbps

Platforms

Supersmicro Twin SuperServer,
Dell R6615









Warranty & Maintenance

The Owl Talon software platform is compatible with the full range of data diode cards and support is provided for both the Owl software and data diode cards. As a part of annual warranty & maintenance, Owl consistently provides quarterly releases for Owl Talon software, including security updates (as needed), new features, and other improvements. Due to 3rd party components, warranty and maintenance for COTS Owl Talon hardware platforms is sold separately.



Owl Talon Hardware Platforms


We are excited to offer Owl Talon on a range of hardware compute platforms, featuring DIN rail and data center options. Owl Talon is also backwards compatible with the latest of Owl's legacy hardware platforms for existing OPDS-1000, XD Prism MPP, ReCon and EPDS customers.

Platform	Form Factor	Diode Card Throughput	Use Case
OnLogic HX600 	Compact, DIN Rail Compatible	Owl Talon One Card <i>Up to 1 Gbps</i>	Industrial Environments
OnLogic MK100 	1U Rackmount	Owl Talon One Card <i>1 Gbps</i>	Most use cases with standard rackmount availability STIG-compliant requirements
OnLogic MK100 Bidirectional Configuration 	2X 1U Rackmount	Owl Talon One Card <i>1 Gbps</i>	Secured single channel Bidirectional remote command & control Remote help desk / diagnostics
Dell 660 	2x 1U Rackmount	V7 Cards <i>10 Gbps</i>	High throughput requirements STIG-compliant requirements
Supermicro Twin SuperServer SYS-120TP-DTTR 	1U Rackmount	Owl Talon Torrent Cards <i>Up to 50Gbps</i>	High throughput requirements STIG-compliant requirements
Dell R6615 	2x 1U Rackmount	Owl Talon Torrent Cards <i>Up to 100Gbps</i>	High throughput requirements STIG-compliant requirements



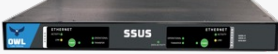
Owl Talon v2.x Legacy Platforms

For customers with use case requirements not yet met by Talon v3.x, Talon v2.x platforms are available to meet your project requirements and are fully upgradeable to Talon 3.x when the required feature sets are released.

Platform	Form Factor	Diode Card Throughput	Use Case
OPDS-1000 	1U Rackmount	V7t Cards <i>26 Mbps (SC)</i> <i>1 Gbps (HC)</i>	PI System, OPC UA, Modbus, MQTT, & S/FTP transfer Upgradeable to Owl Talon v3.x for systems sold 2021 and later.

Other Data Diode Solutions

Owl specialized data diode products are designed to meet operational needs beyond those of our standard Owl Talon product line. These products include specialized hardware and/or software to provide unique capabilities and enable secure data mobility for a wider variety of use cases.

Solution	Description	Form Factor	Key Features
SSUS 	Secure Software Update Solution (SSUS) is a specialized appliance designed to scan and transfer software updates and other executables or files into a secured network.	1U Rackmount	<ul style="list-style-type: none"> • Low-to-High File Validation & Transfer into Secure Networks • Transfer Updates or other Executables • AV Scan and Multiple File Checks



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.

