



# Next-Gen High Speed Data Diode Solutions

For Government, Critical Infrastructure  
and Enterprise Applications

## Low Latency, Ultra High-Speed One-Way Transfer

- Transfer speeds up to 100Gbps
- Most Flexible Deployment & Secure Software
- Broadest Range of Capabilities
- Automatic Bandwidth Efficiency
- 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.

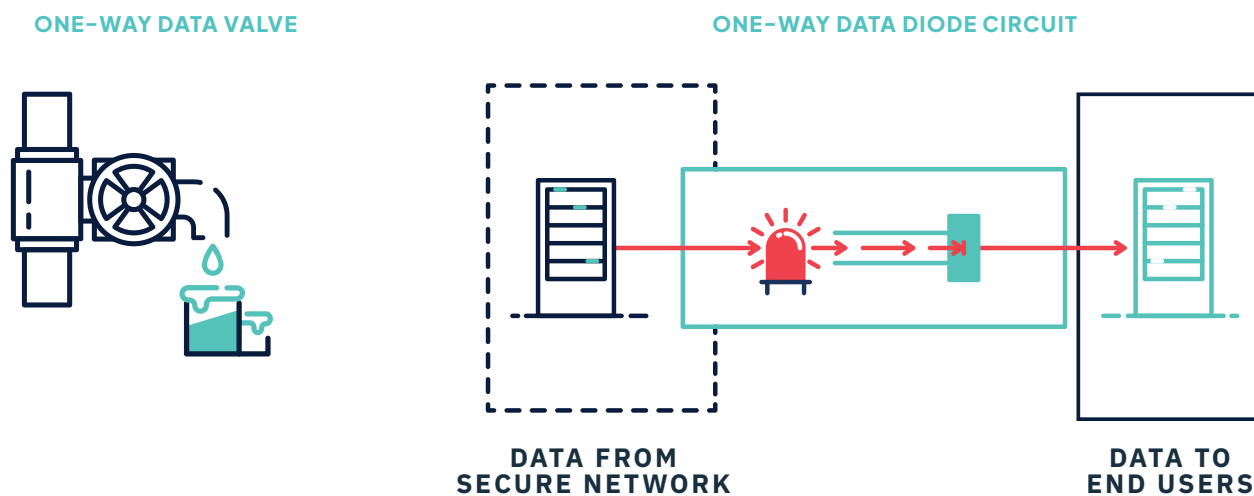


25 years ago, Owl launched the first commercialized data diode to the market. Now, we're reinventing the data diode again with Owl Talon Torrent- Protocol Filtering Diodes offer hardware-enforced, safe, secure one-way transfers at up to 100Gbps.



## What is a Data Diode?

A “**data diode**” is a hardware-enforced device that physically enforces a one-way flow of data. As one-way data transfer systems, data diodes are used as cybersecurity tools to isolate and protect networks from external cyber threats, while still allowing isolated networks to share data with outside users and systems. It is perhaps simplest to think of data diodes as digital one-way valves for data, allowing data to flow out, without a way back in.



Owl represents the gold standard in data diode cybersecurity, designed to support the varied and complex cybersecurity needs within the wide range of critical infrastructure industries. Acclaimed for their unmatched performance, reliability, and ease of use, Owl data diodes protect the operational networks and digital assets of some of the world’s largest critical infrastructure facilities, including power plants, substations, laboratories, oil rigs, and more.

### Protocol Filtering Diodes

Protocol Filtering Diodes (PFDs) are advanced data diodes that perform protocol break and transformation directly in hardware, rather than relying on proxy software. This hardware-based approach provides superior security and

capability compared to “Simple Data Solutions” (SDS), which use software for protocol handling. Recognized by the U.S. Government as the preferred architecture, PFDs minimize software vulnerabilities and deliver high assurance, one-way data transfer, making them ideal for protecting critical networks and meeting stringent security requirements.

Owl protocol filtering diodes represents the gold standard in data diode cybersecurity, designed to support the varied and complex needs within government and critical infrastructure enterprises.

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



# Multiple Use Cases to Fit Your High-Speed Data Transfer Requirements

Agencies and organizations handling massive data transfers require next-gen high speed to ensure secure, one-way movement of sensitive information while preventing cyber threats. **Here are some of the challenges a next-gen high-speed Protocol Filtering Diode can help agencies and enterprises overcome:**



## Sensitive Intelligence Sharing

Agencies that have to transfer vast amounts of classified data—such as satellite imagery, sensor feeds, and reconnaissance reports—to higher or lower classification networks for analysis can leverage Owl Talon Torrent Data Diodes ensures high-speed, secure transfer while preventing unauthorized access or exfiltration.

## Real-Time Threat Intelligence

Power grids and other critical infrastructure providers rely on real-time cyber threat intelligence; Owl Talon Torrent Data Diodes enable the lowest latency secure transfer of security logs and incident data from isolated operational networks to SOCs, ensuring rapid detection and response to cyber threats.



## Big Data & AI Model Training

Organizations that process large AI/ML datasets for applications like autonomous systems, space exploration, and weather forecasting rely on high-speed, one-way data transfer through Owl Talon Torrent Data Diodes to ensure classified research can be securely migrated to unclassified environments for further computing without exposure to cyber risks.

## Secure Data Migration & Cloud Ingestion

Enterprises, government agencies, and research institutions often need to transfer high-throughput data, such as imaging, research archives, or compliance records, to cloud environments. Owl Talon Torrent Data Diodes guarantee secure, regulatory-compliant data migration while blocking cyber threats.





## Owl Talon Torrent Data Diodes

### LOW LATENCY, ULTRA HIGH-SPEED ONE-WAY TRANSFER

Building on a quarter century of one-way networking expertise and customer feedback, the Owl Talon Torrent data diode suite is the latest, revolutionized data diode series Owl's portfolio, representing the pinnacle of performance in data diode technology. With an all-new FPGA-based protocol filtering diode (PFD) architecture designed for low latency, ultra-high data transfer requirements, Owl Talon Torrent data diodes are capable of file transfer at up to 100 Gbps.

#### Security Features

- 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

## Supported Protocols

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

## The Owl Talon Torrent System

### Owl Talon Software Platform



+

### Owl Data Diode Card Pair



+

### Owl/COTS Hardware Platform



## Owl Talon Torrent

### 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. Card kits may be purchased separately with Owl Talon software for self-installation and configuration into customer owned compute platforms.



### 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.

### 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 Software Platform

Owl Talon combines simplicity, security, and adaptability in one smart solution. Its sleek web-based interface is easy to set up, while robust security features and versatile functionality ensure it evolves with your needs.



### 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.






### FLEXIBLE DEPLOYMENT TO MEET YOUR NEEDS

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 Torrent Hardware Platforms

Platform	Form Factor	Diode Card Throughput
<b>Dell R6615</b> 	2x 1U Rackmount	Owl Talon Torrent-P Card Kit <i>Up to 100Gbps</i>
<b>Supermicro Twin SuperServer SYS-120TP-DTTR</b> 	1U Rackmount	Owl Talon Torrent-G Card Kit <i>Up to 50Gbps</i>
<b>Supermicro Twin SuperServer SYS-120TP-DTTR</b> 	1U Rackmount	Owl Talon Torrent-S Card Kit <i>Up to 10Gbps</i>

## Other Data Diode Solutions

Owl specialized data diode products are designed to meet operational needs beyond those of our standard Owl Talon product line. Owl Talon One Protocol Filtering Diodes provide hardware-enforced safe, secure one-way transfers for a wide range of use cases at up to 1Gbps.

Solution	Description	Form Factor
<b>Owl Talon One: 1U</b> 	The Owl Talon One: 1U highly integrated, all-in-one, 19" rack-mountable appliance that leverages the OnLogic® MK100 hardware platform, Owl Talon software platform, and Owl Talon One™ data diode card to provide secure, high speed one-way data transfers at up to 1 Gbps.	1U Rackmount
<b>Owl Talon One: DIN-Rail</b> 	The Owl Talon One: DIN-Rail is an all-in-one, low SWaP DIN-Rail appliance that leverages the OnLogic® HX600 hardware platform, Owl Talon software platform, and Owl Talon One™ data diode card to provide secure, high speed one-way data transfers at up to 1 Gbps.	DIN-Rail





Owl Cyber Defense Solutions, LLC, headquartered in Columbia, MD, leads the industry in data diode and cross-domain network cybersecurity solutions for faster, safer and smarter decision making. We create solutions tailored for high-risk sectors including the military, government and critical infrastructure. Our advanced technologies enable secure, near-instantaneous collaboration, bridging network barriers to protect critical missions. With a focus on scalability and interoperability, Owl ensures that organizations can maintain secure, reliable, and compliant communication channels against evolving cyber threats.

Visit [www.owlcyberdefense.com](http://www.owlcyberdefense.com) or contact us at [info@owlcyberdefense.com](mailto:info@owlcyberdefense.com) for more details.

