

Owl Communication Card Kits

Version 7



Advanced, Customizable Data Diode Solutions

Owl Communication Cards comprise the core technology of Owl data diode products. Each Communication Card Kit is comprised of two purpose-built network interface cards (one send, one receive) a fiber optic cable, and a specialized **Transfer Software Application**.

Each individual card is installed on a separate host server in a PCI Express slot and they communicate in a single direction over a fiber optic cable via the asynchronous transfer mode (ATM) protocol. ATM serves two purposes – the first is to “break” the protocol of the original transfer for additional security, the second is to facilitate a high bandwidth, low latency one-way transfer using a protocol specifically designed for it.

Each card is color-coded: Blue for send, and red for receive. The send card resides in a designated send server (blue) on the source network, and only has electronic components, including an LED, for transmitting information. The receive card resides in a designated receive server (red) on the destination network, and only has electronic components, including a photodetector, for receiving information. The hardware design of these cards physically enforces deterministic, one-way only data transfers.

Owl V7 Communication Cards

The Owl V7 Communication Card Kit family represents the pinnacle of performance in data diode technology. Each supporting a different configuration capacity, these three unique Card Kits comprise the fastest and most versatile data diode solutions available on the market. All V7 Card Kits come equipped with an Owl application-specific Transfer Software Application to transfer any variety of data types and sizes, and have the ability to be configured with up to 32 discrete data transfer channels. Owl V7 Card Kits have been Common Criteria certified at EAL4+.

- **OWL V7 – High Capacity**

The high capacity card kit establishes a new benchmark for full line rate, one-way transfer requirements, geared toward traffic-heavy applications, such as network monitoring. The high capacity configuration supports up to 10 Gbps.

- **OWL V7 – Mid-Capacity**

The mid capacity card kit allows customers to deploy one-way cross-domain solutions and secure data transfer applications that meet or exceed some of the largest and most stringent application demands. The mid capacity configuration supports up to 1 Gbps.

- **OWL V7 – Standard Capacity**

The standard capacity card kit supports most operational requirements found in the field today. Engineered to meet the strictest security standards, the standard capacity configuration supports up to 300 Mbps.

TECHNICAL SPECIFICATIONS

OPERATING SYSTEMS

- RHEL®

SOFTWARE

- Owl Secure Transfer System Drivers
- Send/Receive Installation Software
- Owl Transfer Applications for: *Files, Directories, TCP/IP, UDP, Syslog, SNMP Traps*

CONNECTION

- Fiber Optic Multi-Mode/ Simple Mode
- LC-LC Cable
- Seamless 10/100/1000/10G Integration

COMPATIBILITY

- PCI Express (PCI SIG Compliant)
- Dell PowerEdge, Sunfire & Sun Blade, HP
- Proliant (For other platforms, contact Sales)

Product	Max Diode Speeds (Gbps)	Fiber Type	Max Distance	PCIe Lanes	Max Channels	Power Usage (w)	Operational Temperature Range (In C)	Storage Temperature Range (In C)	Humidity
V7 HC SFP+	10 Gbps	OM3 Multimode LC/LC	300 m	8	32	1.6	0 to 40	-40 to 70	5-90% Non Condensing
V7 MC Commercial	1 Gbps	9/125 Single mode LC/LC	2 km	4	16	1.4	0 to 40	-40 to 70	5-90% Non Condensing
V7 MC Industrial	1 Gbps	9/125 Single mode LC/LC	2 km	4	16	1.4	-40 to 60	-40 to 85	5-95% Non Condensing
V7 SC Commercial	300 Mbps	OM2 Multimode LC/LC	1 km	4	8*	1.4	0 to 40	-40 to 70	5-90% Non Condensing

Owl Transfer Software Applications

Owl Data Transfer Applications are the software that serves as the protocol proxy component of an Owl Communication Card Kit, interfacing with the source and destination networks. They are designed to either support a specific, individual protocol (i.e. UDP or file transfer only) or multiple protocols/formats simultaneously

Customers can select the appropriate Data Transfer Application(s) from those listed below based on the type(s) of data that needs to be transferred (UDP/IP, TCP/IP, raw Ethernet packets, files, directories), the protocols being used and whether or not data scanning is required.

All Owl Communication Card Kits come with one of the following Owl Transfer Software Applications:



Directory File Transfer System DFTS

Designed to perform file-based one-way-only data transfers, DFTS supports any file type with no size limitations. It is capable of navigating file directories on the source network, identifying files that need to be transferred, transferring the files across the Owl data diode, replicating the original directory file structure on the destination network, and populating the directory with the transferred file(s).



Secure Network Transfer System SNTS

Unlike competing unidirectional transfer software, which are restricted to a single data type and/or a single data flow, SNTS can provide a variety of simultaneous, continuous data flows of multiple protocols, including UDP (multicast, broadcast, and unicast), TCP, and Files.

For file transfers, SNTS leverages Owl RFTS software. Users can utilize a single Owl data diode implementation to achieve multiple data transfer goals rather than requiring another data diode for each protocol or data stream.



Card Kit Buying Guide

Typically, Owl Communication Card technology is used by sophisticated end users (Intelligence agencies, large defense contractors) to build custom cybersecurity solutions, most commonly cross domain solutions, for specific projects, programs or missions. For customers that aren't looking to build their own solution, we recommend one of our all-in-one, off-the-shelf data diode solutions – such as the OPDS-1000 or the OCDS-1000 – that readily install into an existing cybersecurity infrastructure.

Owl V7 Card Kits are designed to replace and surpass previous versions of Owl Card Kits. As with all Owl data diode products, V7 Communication Card Kits are compatible with all Owl software modules and data transfer applications, and are EAL 4+ certified for quality assurance.



COMMON CRITERIA
EAL CERTIFIED

EAL4+ Certified

Product	Max Capacity	Recommendation	Replaces
V7 Standard Capacity	300 Mbps	Use for standard operational requirements – infrequent or small file transfers, data replication and backup	Owl V4 Card Product Line
V7 Mid Capacity	1 Gbps	Use for mid-to-high capacity bandwidth requirements – e.g. full motion video or regular large file transfers	Owl V6 Card Product Line
V7 High Capacity	10 Gbps	Use for extremely high bandwidth requirements – e.g. full network monitoring or multiple video streams	None

OWL COMMUNICATION CARD KIT PREVIOUS VERSIONS

The **Owl V4 Communication Card Kits** were previously used as the controlled interface in transfer solutions, when user applications require the physical security of fiber-optic transport, and moderate-to-high user content throughput levels. They have been replaced by the Owl V7 Standard Communication Card Kit.

The **Owl V6 Communication Card Kits** were designed to securely transfer data between cards on a fiber-optic link at 2.488 Gbps. Deployed in combination with Owl user application-specific software, the Owl V6 series enabled the deployment of one-way cross-domain solutions that meet and exceed large enterprise requirements, as well as the most stringent, government imposed application demands. They have been replaced by the Owl V7 Mid-Range Communication Card Kit.

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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