

Owl Communication Card Kits

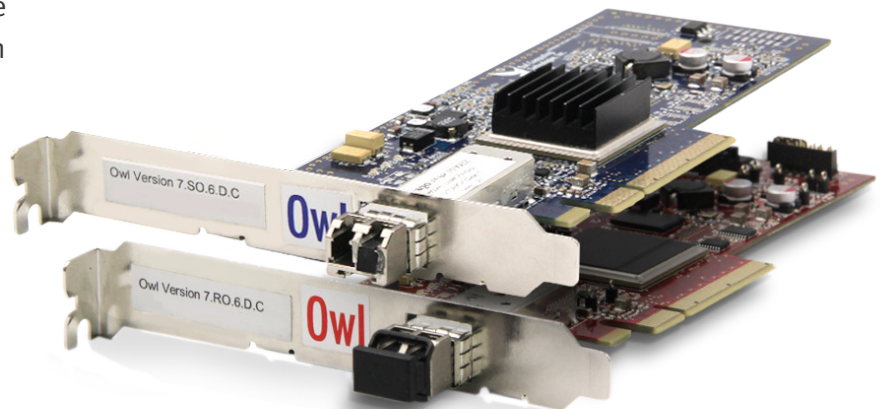
Version 7

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 range of max bandwidths, these three unique Card Kits comprise the fastest and most versatile data diode solutions available on the market. Featuring for the first time variable bandwidth licensing, the V7 Communication Cards allow customers to buy for current needs and upgrade bandwidth at any time with a simple license key. All V7 Card Kits also 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

Supporting up to 10,000 Mbps, the High Capacity Card Kit establishes a new benchmark for full line rate, one-way transfer requirements. Geared toward bandwidth-heavy applications, such as network monitoring, the High Capacity tier features upgradeable bandwidth rates of 5,000 Mbps or 10,000 Mbps.

• OWL V7 - MID-RANGE

The Mid-Range 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-range tier features upgradeable bandwidth rates of 1,250 Mbps or 2,500 Mbps.

• OWL V7 - STANDARD

The base V7 Card Kit, the Standard tier supports most operational requirements found in the field today. Engineered to meet the strictest security standards, the Standard tier features upgradeable bandwidth rates from 26 Mbps up to 1,000 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/Single 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 Speed (Gbps)	Diode Rate Reservation Speed (Mbps)	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	5000 Mbps	OM3 Multimode LC/LC	300 m	8	32	1.6	0 to 40	-40 to 70	5-90% Non Condensing
V7 MC Commercial	2.5 Gbps	1250 Mbps	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	2.5 Gbps	1250 Mbps	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	1 Gbps	26, 52, 104, 155, 310, 630 Mbps	OM2 Multimode LC/LC	1 km	4	8*	1.4	0 to 40	-40 to 70	5-90% Non Condensing
V7 SC Industrial	1 Gbps	26, 52, 104, 155, 310, 630 Mbps	OM2 Multimode LC/LC	1 km	4	8*	1.4	-40 to 60	-40 to 85	5-95% 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).



Owl ScanFile Management System

OSMS

OSMS is intended for file transfer applications which require malware scanning, such as “low-to-high” transfers from untrusted to trusted security networks. The application performs a malware scan on files submitted and reports the results prior to the actual transfer of the file across the data diode. OSMS is also interoperable with all major malware scanning software products and allows user-defined scanning routines.



TCP Packet Transfer System

TPTS

TPTS supports the transfer of TCP/IP data streams across Owl data diode Communication Cards. TPTS allows data to enter the send side data diode as a TCP data stream and terminate at the TCP/IP socket-based proxy there. Payloads from the TCP/IP packets then cross the one-way data diode and are re-established as a new TCP/IP data stream by the proxy on the receive side of the data diode, and then sent on to the final destination.



Network Packet Transfer System

NPTS

Intended for secure one-way transfer for Ethernet packets across Owl data diodes, NPTS is typically used as a solution for monitoring network traffic at full line-rate. NPTS listens for and processes all raw Ethernet packets on the source network, sending them across the data diode one-way path. On the destination network, NPTS restores the traffic to native Ethernet packet format for processing by a client IDS monitoring system or other application.



Secure Network Transfer System

SNTS

Unlike Owl's other Transfer Applications, which are intentionally restricted to a single data type or a single data flow, SNTS provides a variety of transfers by allowing simultaneous, continuous data flows of multiple protocols, including UDP (multicast, broadcast, and unicast), TCP, and Files. For file transfers, SNTS leverages the Owl RFTS application.



UDP Packet Transfer System

UPTS

UPTS is a single protocol solution that allows for the secure transfer of UDP data streams (unicast, broadcast, and multicast) to support applications like streaming video, Syslog messages, and SNMP. UPTS provides a UDP application-level protocol bridge across Owl's patented, hardware-based data diode security platforms to support one-way communications.

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. New, and available only in V7 Card Kits, variable bandwidth licensing provides an easy upgrade path for increased bandwidth when you need it. 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 certified for quality assurance.



COMMON CRITERIA
EAL CERTIFIED

EAL4+ Certified

Product	Max Throughput	Recommendation	Replaces
V7 High Capacity	5,000 - 10,000 Mbps	Use for extremely high bandwidth requirements – e.g. full network monitoring or multiple video streams	None (New)
V7 Mid-Range	1,250 - 2,500 Mbps	Use for mid-to-high capacity bandwidth requirements – e.g. full motion video or regular large file transfers	Owl V6 Card Product Line
V7 Standard	26 - 1,000 Mbps	Use for standard operational requirements – Infrequent or small file transfers, data replication and backup	Owl V4 Card Product Line

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 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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