DATA SHEET

OWL Cyber Defense

Secure Distribution of Vessel Operations Data

KEY FEATURES

- Owl's hardware-enforced security technology is now available as an add-on module for the integrated switch and router, RUGGEDCOM MX5000RE, from Siemens
- 1 Gbps input with two individually isolated outputs
- Secure, one-way transfer (OWT) of critical navigational data
- Hardware-enforced filtering of OD-12 and OD-19 message formats
- Low SWaP-c (size, weight, power, and cost)
- Low latency – less than 5 milliseconds, close to realtime
- Supports a wide temperature range of -40°C to + 85°C

Maintaining Operational Integrity Across Shipboard Networks

Shipboard networks need to securely share information in order to maintain operational readiness. Best practices for cybersecurity dictate a combined use of hardware-enforced One-Way-Transfers (OWTs). However space is at a premium aboard Navy vessels. Rack space in a ship's Afloat Datacenter is so limited that retrofitting the vessel with a separate security system is a challenge.

To solve this problem Owl and Siemens have teamed up to create a miniaturized, low-cost, tactical OWT that inserts as a module within the MX5000RE chassis, providing secure one-way distribution of navigational data to multiple, isolated shipboard networks.

Owl's Miniature Tactical Data Diode

Owl's miniature tactical data diode expands the capabilities of the MX5000RE switch with a new hardware-enforced OWT capability. This technology incorporates the unique option of a single-input, multi-output OWT with diode-isolated destination ports to deliver critical navigation data to independent, isolated networks. With one input and two OWT isolated outputs, data can be shared without cross-pollination of threats. This technology applies hardware-enforced filtering of the OD-12 and OD-19 navigational data message formats. With limited space on Navy vessels, Owl's plug-in technology adds a whole new cybersecurity capability to the MX5000RE without taking up any additional space.

MX5000RE Chassis

RUGGEDCOM MX5000RE is a high-port density ethernet routing and switching platform designed to operate in harsh environments with up to two 10GE uplinks and 24GE ports. The MX5000RE has an IP30 degree of protection, does not use internal fans for cooling, can withstand high levels of electromagnetic interference and a wide temperature range of -40°C to + 85°C. This platform was designed to meet the challenging climatic and environmental demands of Navy vessels.

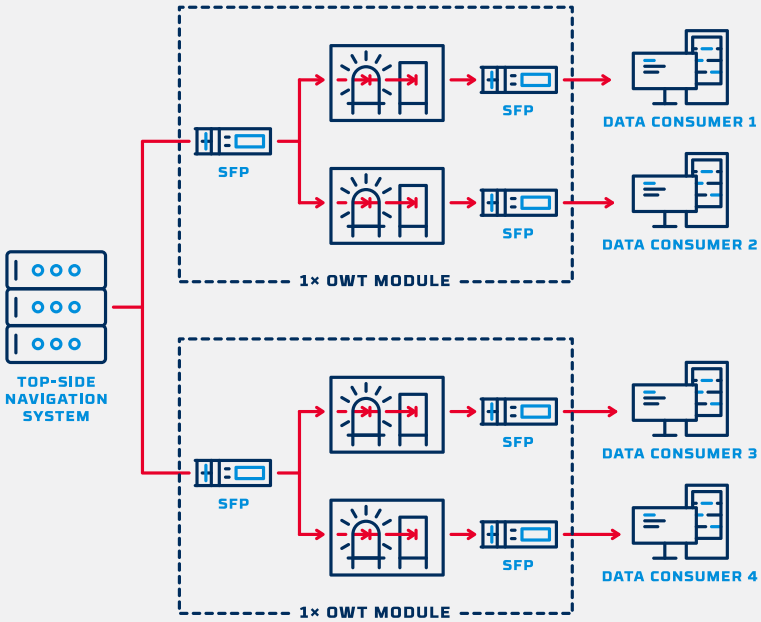
Integrated Solution for Navy Vessels

The combination of miniature tactical OWT technology and the RUGGEDCOM MX5000RE from Siemens provides an extremely secure, tactical, compact and low cost cybersecurity solution for Navy vessels. This solution can be seamlessly installed on Navy vessels and provides secure, OWT and filtering capabilities to protect against threats, while safely distributing navigational data. Owl's technology is trusted by the NavSea team and has been adopted for use on the U.S. aircraft carrier fleet.

USE CASE

NAVIGATION DATA DISTRIBUTION

- In this example, a single secure data source feeds four independent data consumers
- Each consumer is on an isolated sub-net, there is no risk of a threat from one consumer network impacting the source or any other data consumer
- Each OWT module delivers two diode isolated copies of the source data
- Multiple OWT modules can be mounted in a single MX5000RE chassis



MX5000RE Technical Specifications

OPERATING CONDITIONS
- -40°C to + 85°C
- Max Heat Dissipation: 375 BTU/hr
- Degree of Protection: IP30

POWER SUPPLY
- Dual-redundant power supplies
- **Range:** 88-300VDC or 85-264 VAC
- **Consumption:** 110W
- Screw terminal

THROUGHPUT
- 10Gbps
- SPF+, up to 80km

CHASSIS DIMENSIONS
- 440 x 176 x 220 (mm)
- 17.3 X 6.9 X 8.6 (in)
- **Weight:** 16kg

CONSOLE AND MANAGEMENT
- DB9 console
- RJ45 management
- USB
- Support for up to 98 ports and up to 6 line modules

NETWORK CONNECTIVITY
- LC, RJ45, SM/MM, LC/ST/ SC/MTRJ and SFPs

Owl OWT Technical Specifications

THROUGHPUT
- Maximum of 1 Gbps

NETWORK CONNECTIVITY
- **Input:** RJ45
- **Output:** 100/1000 Mbps SFPs, SM/MM

SUPPORTED PROTOCOLS
- UDP (Unicast, Multicast)
- TCP/IP

OPERATING CONDITIONS
- -40°C to + 85°C

MODULE DIMENSIONS
- 1.5” x 3”

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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