

XD Verge

The Future of Hardware-Enforced
Data Diode Technology is Here



KEY FEATURES

- 1 Gbps throughput with ultra-low latency, up to 150x faster than CPU-based solutions
- Low SWaP-C (size, weight, power, and cost) and ruggedized enclosure for tactical deployment
- FPGA-based technology eliminates need to patch or update software
- Key hardware-based component for Raise-the-Bar (RTB)-compliant cross domain solutions
- Secure Boot and encrypted-at-rest FPGA bitstream

Hardening Networks with Hardware-Enforcement

U.S. Government regulators and Critical Infrastructure operators recognize that inherently vulnerable software must be augmented with less vulnerable hardware-enforced technology. This includes the latest RTB guidelines, which will require nearly all cross domain connections to classified networks to include a hardware-enforced domain separation by 2023.

The Owl Solution

XD Verge provides hardware-enforced network segmentation with an optical or digital isolator and up to 1 Gbps one-way data flow in a low-SWaP-C form-factor. The foundation of XD Verge is the XDE Radium embedded module, a unique, ultra-low latency protocol filtering data diode (PFD) built on revolutionary FPGA-based technology. XD Verge supports IPV4 UDP (Unicast) or ARP messages with line-rate packet filtering up to 150x faster processing than CPU-based solutions. Because it does not feature internal CPUs, it is also invulnerable to CPU-based attacks.

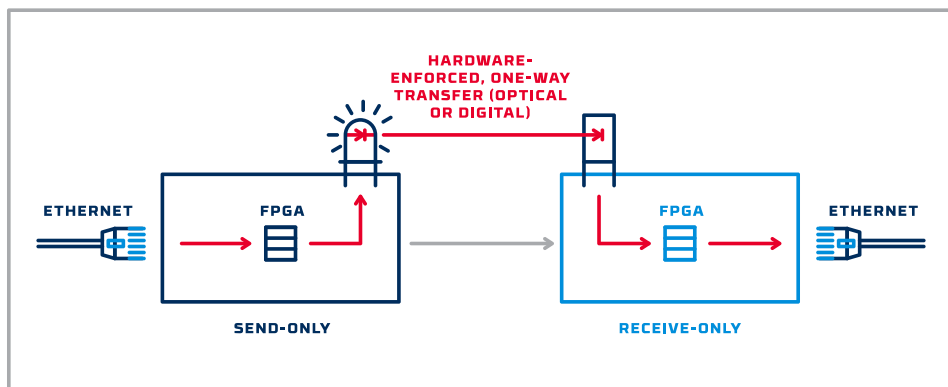
XD VERGE PERFORMS THREE PRIMARY CYBERSECURITY FUNCTIONS:

- Hardware-enforced one-way data flow enforcement to eliminate return channel communication and pinging or probing of the source network
- Packet header validation and whitelisting to verify trusted sources and protocols
- Packet header deconstruction and reconstruction to stop the transfer of malicious (header) code

XD Verge is ideal for government and critical infrastructure implementations where its combination of hardware-based flow enforcement and packet filtering is required for MITRE's D3FEND Network Isolation tactic through Broadcast Domain Isolation and Outbound Filtering techniques.

PACKET FILTERING AND ONE-WAY DATA TRANSFER

- Guaranteed one-way transfer enforced by FPGA and hardware isolators
- Protocol break – no routable information is passed between source and destination networks and packet contents are rebuilt in the receive FPGA
- Packet by packet white list content filtering
- Packets with non-compliant content are dropped by the source-side FPGA before being passed across the hardware isolator



XD VERGE TECHNICAL SPECIFICATIONS

DIMENSIONS

- 7.25" x 4.75" x 1.65"
(184.15mm x 120.65mm x 41.91mm)

WEIGHT

- 3 Lbs.

POWER USAGE

- 6W Max

POWER SUPPLY

- 5V x 2 via onboard headers

COOLING

- Ambient Air

PORTS (PER SIDE)

- 1x 1GbE RJ-45
- 1x Serial

THROUGHPUT (NOMINAL)

- 1 Gbps

PROTOCOLS SUPPORTED

- UDP Unicast, ARP (Source Side)

OPERATIONAL TEMPERATURE

- -40° to 70° C

STORAGE TEMPERATURE

- -40° to 70° C

CERTIFICATIONS

- Common Criteria EAL 4+
- U.S. Government Data Diode Evaluation



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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