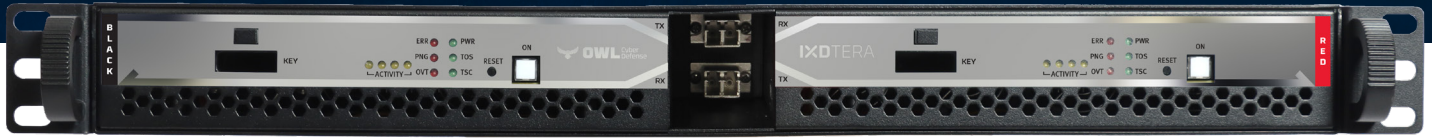**OWL** Cyber Defense

IXD Tera

INDUSTRIAL CROSS DOMAIN SOLUTION

AT-A-GLANCE

- The first cross domain solution developed specifically for critical infrastructure
- Supports both one-way and bidirectional data transfers
- Protect against threat vectors within the data
- Supports multiple protocols and data streams simultaneously in a single 1U 19" rack-mountable appliance
- Customizable content filtering for file transfer and streaming protocols
- Content inspection and XML schema validation
- Whitelisting and blacklisting of commands and file types
- Supports a maximum throughput of 10G
- High availability solution

Take Industrial Cybersecurity to the Next Level

Cross domain solutions (CDS) are a specialized class of security technology, used by military and intelligence organizations to protect critical data and networks. Cross domain solutions are traditionally only available to military and intelligence organizations and this technology has never been available for commercial use in the past.
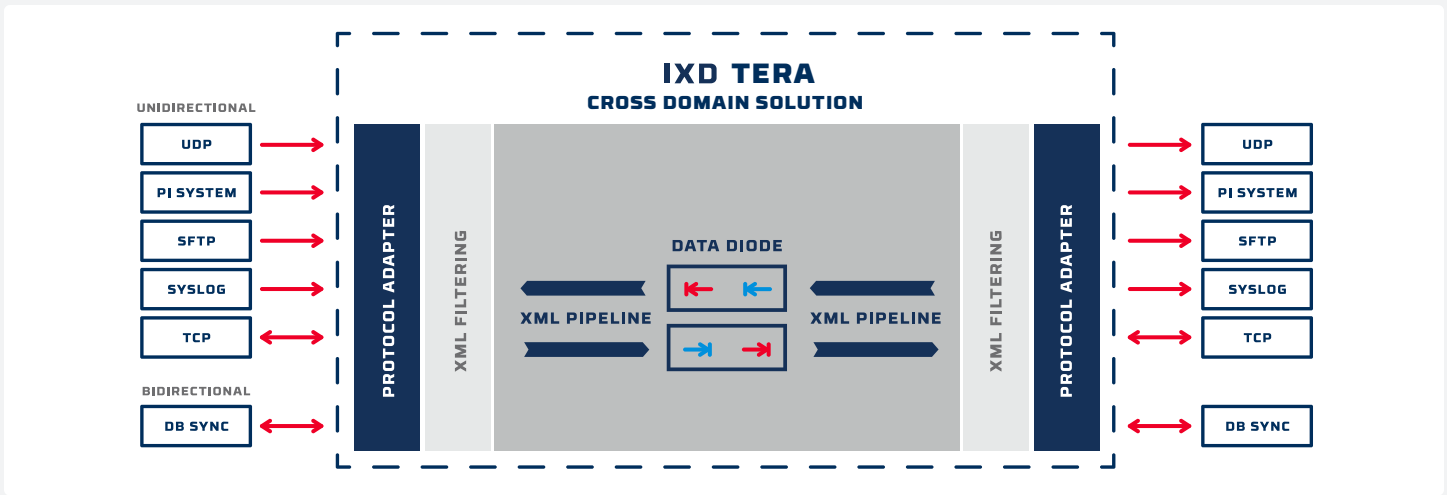
However, just like defense and intelligence organizations, critical infrastructure operations must transfer highly sensitive data between networks and systems at different security levels. One could approximate a CDS as a fusion of the content-filtering in software guards, the data flow restriction in next-generation firewalls, and the hardware-enforced separation in data diodes, in one hardened solution. Cross domain security provides a comprehensive approach to defending against known and unknown threats at the boundaries of sensitive networks. As a trusted security provider of cross domain solutions to the U.S. government and intelligence agencies for over twenty years, Owl has developed IXD Tera, the first cross domain solution developed specifically for critical infrastructure.

Secure One-Way & Bidirectional Data Transfers

IXD Tera is a high availability, hardware-enforced cross domain solution, developed specifically for critical infrastructure networks. IXD Tera takes hardware-enforced cybersecurity to the next level for industrial networks, providing high availability, support for multiple simultaneous, one-way and bidirectional communications and protocols, and content inspection and filtering.

IXD Tera is an integrated hardware and software solution that delivers the benefits of data diode technology, while also protecting against threat vectors inside the data itself with content inspection and XML schema validation. IXD Tera supports both unidirectional and bidirectional transfer modes, ensuring fast, effective, and secure data transfers between systems of differing security levels.

IXD Tera's protocol adapters interface with the organization's networks in each domain. As it is passed between security domains, data is normalized and filtered against schemas and other security criteria to ensure compliance with the organization's policies. IXD Tera supports multiple, simultaneous data streams and protocols, all in a single, 1U, 19", rack-mountable appliance.

IXD TERA
CROSS DOMAIN SOLUTION

UNIDIRECTIONAL
- UDP
- PI SYSTEM
- SFTP
- SYSLOG
- TCP

BIDIRECTIONAL
- DB SYNC

PROTOCOL ADAPTER | XML FILTERING

DATA DIODE

XML PIPELINE | XML PIPELINE

XML FILTERING | PROTOCOL ADAPTER

- UDP
- PI SYSTEM
- SFTP
- SYSLOG
- TCP
- DB SYNC

Use Case

In their efforts to improve their NERC CIP security posture, an energy provider needed to securely transfer files (SFTP) and OSIsoft PI System data, one-way, from eight production high availability clusters to two geographically separated data centers. In addition, they needed to secure several bidirectional database and HTTPS communications that could not be converted to one-way. Their previous approach, firewalls, did not provide hardware-enforced separation, exposing the network to unwanted threats. Threats inside the data were also a major concern. IXD Tera enabled the energy provider to securely transfer multiple protocols and data types simultaneously on a single, 1U appliance in a high availability architecture.

REQUIREMENTS

- Enterprise, high-performance cross domain solution with the flexibility to handle a wide variety of use cases
- A wide range of common ICS protocol support
- Support for multiple protocols on a single appliance
- Support for both one-way and bidirectional data transfers on single appliance
- Content examination and filtering
- High availability
- Up to 10 Gbps throughput performance

Technical Specifications

PHYSICAL CHARACTERISTICS
- Dimensions: 18 ⅞" × 19" × 1.75"
- Weight: 20 lbs
- Power: 70W @ idle, 170W maximum
- Cooling: 580 BTU max and 240 BTU typical
- Power supply voltage: 120 VAC

ENVIRONMENTAL SPECS
- Operating temp range: -10° to 50°C
- Non-operating temp: -40° to 70°C
- Operating humidity: 10 to 90% (non-condensing)
- Non-operating humidity: 10 to 95% (non-condensing)

I/O PORTS
(Front (per side)
- 1x 10G Fiber (Data)
- 1x DataKey (Boot only)

Rear (per side)
- 2xSFP 10G NICs copper or fiber (Data/MGMT)
- 1xRJ45 10/100/1000 copper NIC (OOB MGMT/DCO)
- 3x USB 3.0 (Keyboard/Mouse)
- 1x HDMI (Display)

THROUGHPUT
- Supports a maximum throughput of 10G

SECURITY
- TPM 2.0
- UEFI Secure Boot
- Intel Boot Guard
- RHEL w/SELinux Enforcing Mode

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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