OWL Cyber Defense

MBTS

Modbus Transfer Service
Software Module

Modbus Transfer Service

Modbus is a communications protocol and de facto standard developed for use with Programmable Logic Controllers (PLCs), SCADA systems and other industrial devices. Owl's Modbus Transfer Service (MBTS) is a software application that allows real-time data to be collected from industrial control systems within a plant and securely transfer it across the Owl data diode platforms to end-users (operations, production, maintenance, etc.) outside the security perimeter of the plant. The data diode protects the plant from cyber attacks while securely transferring data outside of the plant.

The Owl Solution

MBTS has two components, a "Master" and a "Slave". The Master runs on the send side of the Owl platform and interfaces with industrial control systems in the plant, collecting register data from them and transferring it across the data diode to the destination side. The Slave runs on the receive side of the Owl platform, receiving the register data and providing it to any "Masters" operating outside the security perimeter of the plant. MBTS is a non-intrusive solution working within the existing architecture, becoming an additional Master collecting data and a new Slave to collect register data from.

OMBI Monitor/Read

At the Owl/process control network interface, MBTS Send either directly communicates with, or "reads" register values from a Modbus enabled device, or monitors & intercepts existing Modbus master/slave communications. In either case, the polled Modbus data is collected in a secure environment, and is sent via UDP datagrams to customer client applications requiring Modbus data. Many Modbus-enabled devices support concurrent master access; operator configurations often exploit this feature. Multiple masters may request the same or different information from a common PLC, for example. MBTS supports such configurations, acting as a gateway between the masters and the physical device.

FEATURES & BENEFITS

- Secure transfer of modbus registers to business networks

- Linux support

- Concurrent masters support

- Non-routable protocol separation of networks with embedded data diodes

- Simple and speedy configuration and operation
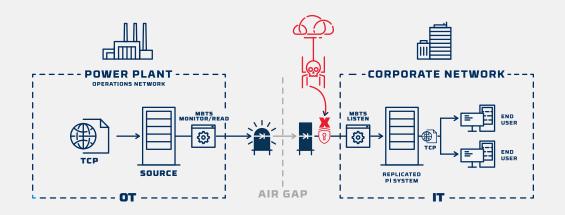
STANDARD CAPABILITIES

Standard units of the Owl Commercial Products family are configured to support the concurrent transfer of files, TCP packets and UDP datagram streams. These products also support file transfer via Owl RFTS (trusted file movement across shared networks) and via common FTP, along with secure transfer of syslog messages, e-mail, and SNMP traps.

The integrated servers within Owl products employ the CentOS Linux operating system, "locked down" from technical guidance taken from US government-formulated Security Technical Implementation Guides (STIGs) and satify the Center for Internet Security guidance.

MBTS LISTEN

At the Owl/business network interface, MBTS Receive "listens" for the transferred poll results from MBTS Send. Polled data is sent to MBTS Receive immediately, with all poll record data refreshed every 30 seconds. MBTS Receive provides business network modbus clients with the configured modbus register values.

Defense-in-Depth Technology

Owl's proprietary technology is built around patented circuitry which physically only allows data to flow in one direction, thereby preventing all network-based cyber attacks. The design also includes a protocol break which terminates all Ethernet traffic, transfers the payload via the ATM protocol and then converts it back to Ethernet. This has the unique benefit of removing all the IP and MAC address information from the outside world and preventing any probing of the network. This technology comes in different form factors depending operational environment.

Compatible Platforms

OPDS-100D
OPDS-100
OPDS-1000

OWL ENTERPRISE
CROSS DOMAIN SOLUTION (ECDS)

Owl uses a pair of Dell PowerEdge servers or equivalent.

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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