OWL Cyber Defense

NETWORK SECURITY SOLUTIONS

Natural Gas Company Enables Secure Transfer of Production Data to HQ for Remote Monitoring

CASE SUMMARY:

INDUSTRY:
Natural Gas Production

CHALLENGE:
Malware breach destroyed operations data, causing company to disconnect operational and business networks.

SOLUTION:
Owl EPDS data diodes deployed along with OPTS PI System historian replication application.
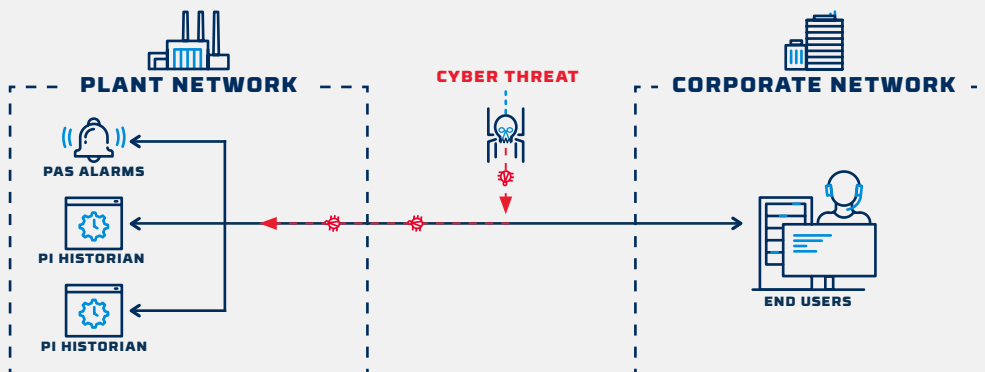
BENEFITS:
Deterministic, one-way data flow of PI System/OT data into HQ enabled increased visibility without increased risk to production facilities. Restored remote alarm monitoring to corporate IT.

Company Overview

A liquefied natural gas producer, with total annual capacity of over 36 million tons.

Cybersecurity Challenge

A malware breach destroyed data and application servers, severely impacting daily operations. In response, the company disconnected their operational technology (OT) network from their corporate IT network. While disconnecting electronic communications with the plant prevented malware proliferation, it led to loss of business continuity and lack of visibility into plant operations.
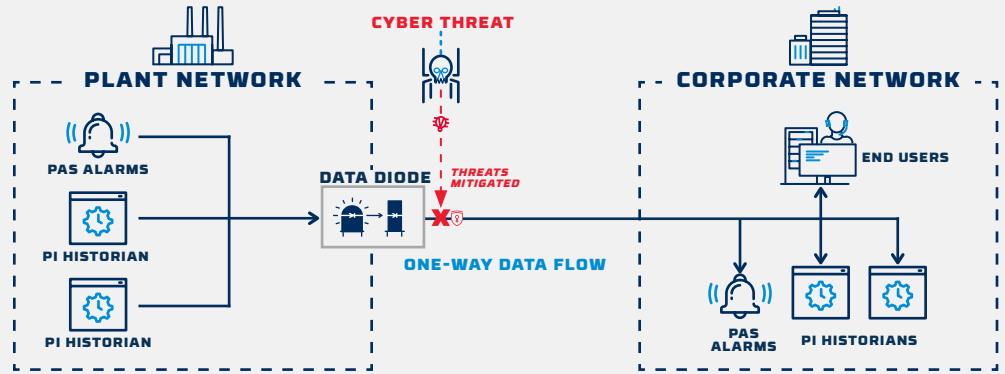
REQUIREMENTS:

1. Restore business continuity and operational visibility

2. Maintain a "disconnected" or segmented cybersecurity architectur

3. Enable OSIsoft PI System historian replication from OT network to corporate IT network

4. Allow remote alarm monitoring from corporate network operations center

PLANT NETWORK

CYBER THREAT

CORPORATE NETWORK

PAS ALARMS

PI HISTORIAN

PI HISTORIAN

END USERS

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Our team is always available to meet your cybersecurity needs

SOLUTION

Owl data diode technology (EPDS) was selected for effective network segmentation, and secure one-way data transfer, including IT syslog flow from plant assets to the corporate HQ. OSIsoft® PI System historian replication (OPTS) was also added to enable transfer of OT data to the HQ.

PLANT NETWORK
CYBER THREAT
PAS ALARMS
PI HISTORIAN
PI HISTORIAN
DATA DIODE
THREATS MITIGATED
ONE-WAY DATA FLOW
CORPORATE NETWORK
END USERS
PAS ALARMS
PI HISTORIANS

Deployment

EPDS

Enterprise Perimeter Defense Solution

Data diode communication card pair, mounted on independent, send-only and receive-only commercial servers, for network segmentation and deterministic, one-way data transfer.

INTERFACE MODULES

Owl PI Transfer Service (OPTS)

Specialized software developed specifically for secure replication and transfer of OSIsoft® PI System historian data across network boundaries.

Results

1 Provided network cybersecurity with effective segmentation of the plant OT network, helping to prevent malware breach and proliferation

2 Permitted deterministic outbound OT data flows from the plants into the corporate data stores

3 Replicated PI System data historians allowing full production data use and visibility from within the HQ

4 Restored alarm data flow from plant assets to corporate users

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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