USE CASE

Water/Waste Water Company Implements DHS Defense-In-Depth Cybersecurity Strategies

Industry

Water-Wastewater

Challenge

Company recognized need to improve cybersecurity posture, following guidance from DHS, while retaining business continuity.

Solution

Owl Talon data diodes deployed to transfer reporting & alarming information and provide remote HMI screen replication.

Solution

Deterministic, one-way data flow secured OT network from outside influence or attack, and enabled realtime, remote HMI screen monitoring at HQ.
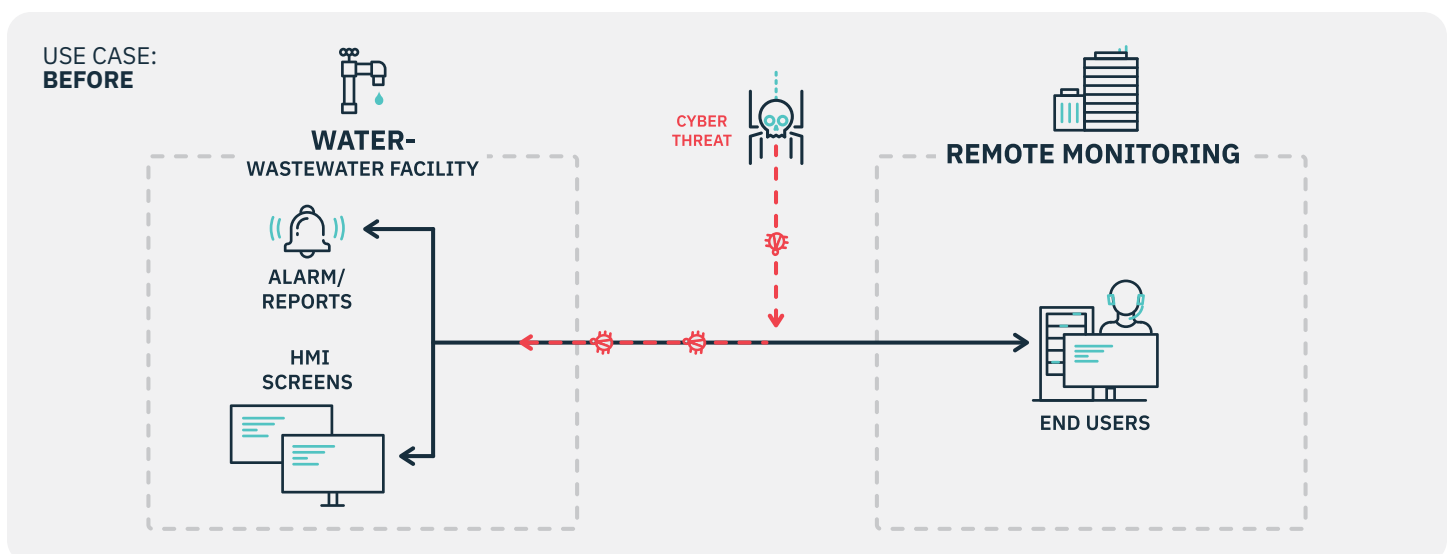
Company Overview

Major regional water/waste water authority serving over 800,000 customers.

Cybersecurity Challenge

In accordance with Department of Homeland Security (DHS) guidance issued in the paper, "Seven Strategies to Defend Industrial Control Systems," the company created a cybersecurity plan to reduce the surface area of their operational technology (OT) networks and create a more defensible environment.
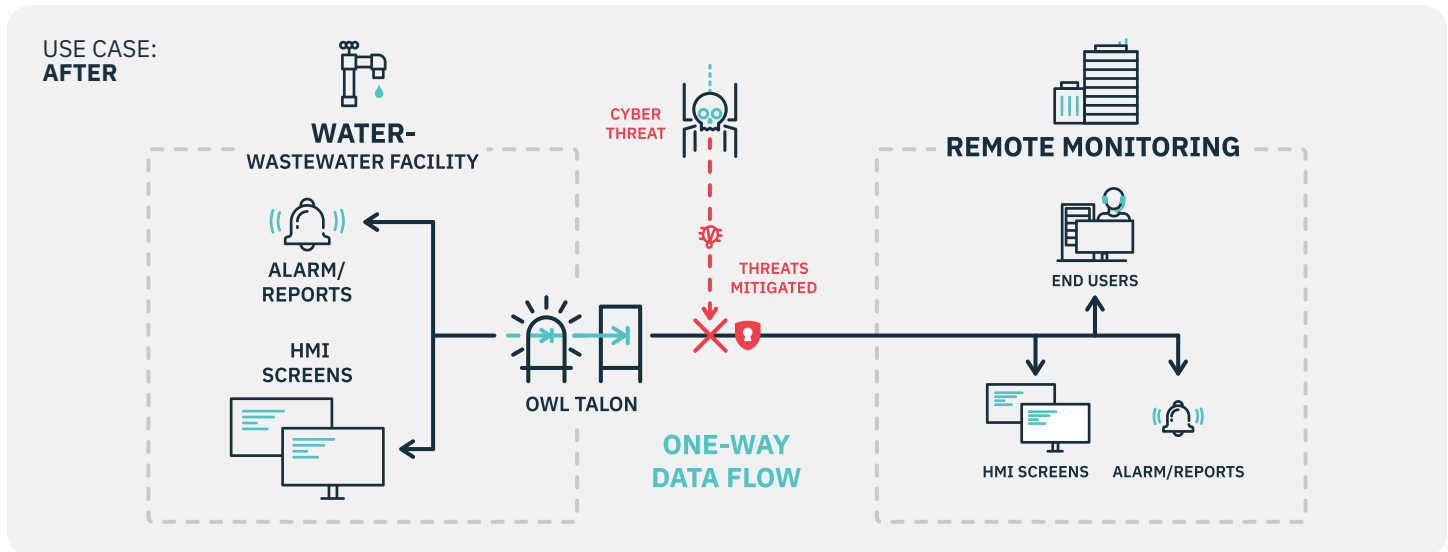
Requirements

→ Change security policy and only execute command and control operations from within the OT/plant network boundary

→ Implement a "disconnected" (segmented) cybersecurity architecture to eliminate all remote access to the OT/plant network.

→ Maintain business continuity through remote-only monitoring policies

→ Enable Human Machine Interface (HMI) screen replication at HQ

USE CASE: **BEFORE**

WATER-WASTEWATER FACILITY

ALARM/ REPORTS

HMI SCREENS

CYBER THREAT

REMOTE MONITORING

END USERS

Solution

Owl data diodes utilizing patented technology (Owl Talon data diodes) was selected to remove remote access to the OT network and provide effective network segmentation, and deterministic, oneway data transfer out of OT network. Along with OV2S application, this provided remote system monitoring, transfer of operational reports and a means to replicate HMI screens at remote locations.

USE CASE: **AFTER**

WATER-WASTEWATER FACILITY · ALARM/REPORTS · HMI SCREENS · OWL TALON · CYBER THREAT · THREATS MITIGATED · ONE-WAY DATA FLOW · REMOTE MONITORING · END USERS · HMI SCREENS · ALARM/REPORTS

Deployment

Owl Talon One

Self-contained 1U data diode, purpose-built for network segmentation and deterministic, one-way data transfer

Interface Modules
Owl Virtiual ScreenView Service (OV2S)

Software protocol adapter that enables secure replication of HMI screens within a plant or facility to a remote location.

Results

→ Improved security according to DHS strategies for defending industrial control systems

→ Removed all inbound communications to OT networks while providing deterministic outbound data flow for monitoring and business continuity

→ Enabled HMI screen replication for real-time offsite monitoring

→ Allowed remote access to operations reports and alarms at HQ
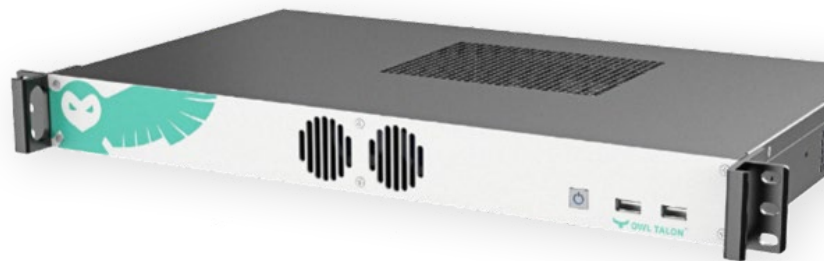
OWL Cyber Defense™

Owl Cyber Defense Solutions, LLC, headquartered in Columbia, MD, leads the industry in data diode and cross-domain network cybersecurity solutions for faster, safer and smarter decision making. We create solutions tailored for high-risk sectors including the military, government and critical infrastructure. Our advanced technologies enable secure, near-instantaneous collaboration, bridging network barriers to protect critical missions. With a focus on scalability and interoperability, Owl ensures that organizations can maintain secure, reliable, and compliant communication channels against evolving cyber threats.

For more information on Owl, or to schedule a demo, visit **www.owlcyberdefense.com.**