Company Overview

Fortune 500 leader in oil drilling and energy production technologies, with an established presence across the world.

Cybersecurity Challenge

In the wake of the Deepwater Horizon disaster in 2010, the Bureau of Safety and Environmental Enforcement (BSEE) released new regulations to monitor well equipment and help prevent future disasters. These new regulations required the company to gather, store, and transmit real-time data from blowout preventers (BOP) and other well systems at offshore well rigs to onshore monitoring facilities.

In order to meet the new requirements, the company required a secure way to continuously collect and transmit this data without opening a possible cyber attack vector back to the rig. They also required a solution that would not require heavy ongoing maintenance or additional specialized cybersecurity resources on the rig.
SOLUTION

Through consultations with various cybersecurity experts, the Owl data diode solution was selected due to its fit-for-purpose one-way data transfer design for secure remote monitoring. Owl data diodes enabled the company to collect and transmit real-time BOP and well equipment monitoring data to the offshore monitoring facility without opening cyber attack vectors into the offshore rig network or systems.

1. Air-gap level network/system segmentation and security
2. Deterministic one-way transfer of BOP and well equipment monitoring data
3. “Plug and play” deployment allowed easy integration into existing systems
4. Extremely high reliability dramatically reduced the need for security maintenance resources

Results

1. Extremely secure high-speed remote data monitoring solution meets BSEE requirements
2. Real-time monitoring data is reliably collected and transferred offshore
3. Eliminates IP probing and all external cyber attack vectors through data diode
4. Far less management overhead compared to standard software firewall
5. Hardware-based enforcement provides future-proof security to increase sustainability