

CYLUS AND WATERFALL SECURITY SOLUTIONS

LEADING CYBERSECURITY FOR RAIL CRITICAL NETWORKS

Rail digital systems are increasingly interconnected, and the need to share rail operational and signaling system data to non-secure business networks is also increasing. To meet the need for digital integration of critical rail networks, rail system operators urgently need cybersecurity solutions that are both stronger than firewalls and tailored to the rail industry.

Continuous security monitoring and threat management of critical operational technology ("OT") and IT networks is essential to detecting and addressing cybersecurity threats before harm is caused. Many rail automation systems are complex, however, and cannot be modified due to rigorous safety requirements and SIL certifications. This means that security solutions must collect and monitor data passively without affecting operations or introducing new vulnerabilities to the network.

A combined solution offering the best of both worlds:

CylusOne provides a complete, real-time, passive view of the entire network for rail companies, offering detailed information across all network levels. This in-depth visibility into operational networks eliminates blind spots, reveals asset connections, and classifies redundant connections. By monitoring the network, CylusOne uncovers cases where safety and security requirements have been breached and where service availability can be affected.

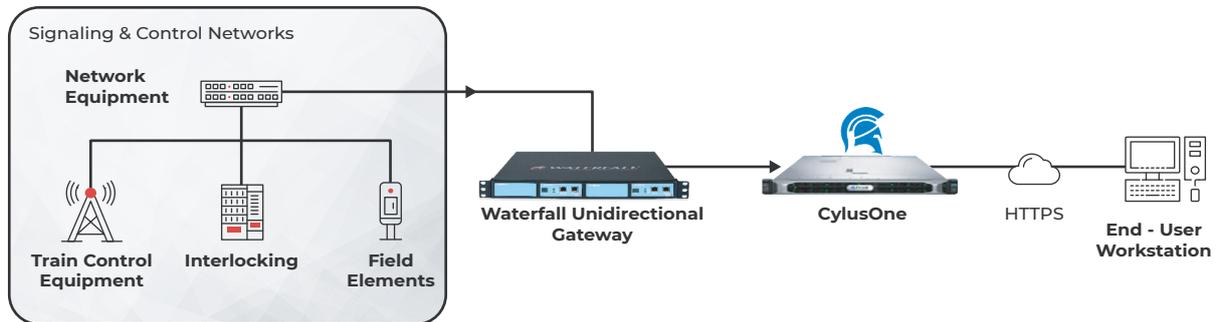
In addition, Waterfall for Intrusion Detection Systems (IDS) enables 100% secure monitoring of OT networks. Waterfall for IDS is a hardware-based solution that unidirectionally emulates OT mirror ports, thus enabling secure integration with CylusOne's packet inspection and cybersecurity analysis tools within the OCC or SOC. Additionally, Waterfall Unidirectional Security Gateways enable safe IT/OT integration by unidirectionally replicating OT servers, devices and databases to IT networks. IT users and applications use the replicas normally and bi-directionally. Waterfall's hardware-enforced solutions enable safe, 100% secure IT/OT integration and OT system monitoring without risk to physical operations.

Together, CylusOne and Waterfall products provide real-time and in-depth visibility of all data and systems on critical OT networks, while maintaining the strongest physical, hardware-based protections possible for rail system operations. By integrating Waterfall's Unidirectional Security Gateway with CylusOne, critical rail infrastructure is physically inaccessible from the external network, while all infrastructure is monitored and secured by CylusOne. Together, Waterfall and Cylus constitute safe IT/OT integration, with deep enterprise wide IT and OT network monitoring and intrusion detection.

Use Cases:

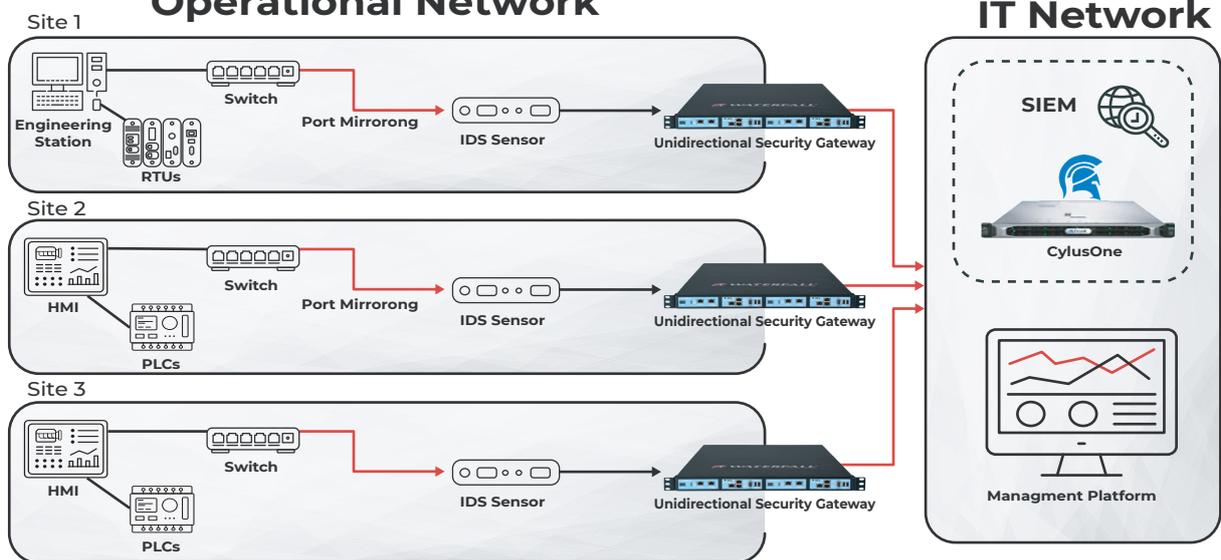
1. Signaling:

Signaling Use Case



2. Distributed Critical Operational Network Monitoring

Operational Network



About Cylus:

Cylus, the global leader in rail cybersecurity, helps mainline and urban railway companies avoid safety incidents and service disruptions caused by cyber-attacks. Cylus developed CylusOne™, the first-to-market solution designed to meet the unique cybersecurity needs of the rail industry. CylusOne detects cyber threats on the signaling and control networks, trackside and onboard, facilitating a timely and effective response. Led by veterans from the Israel Defense Forces' Elite Technological Unit together with top executives from the railway industry, Cylus combines deep expertise in cybersecurity and rail.

About Waterfall Security Solutions:

Waterfall Security Solutions' unbreachable OT cybersecurity technologies keep the world running. For more than 15 years, the most important industries and infrastructure have trusted Waterfall to guarantee safe, secure and reliable operations. The company's growing list of global customers includes national infrastructures, power plants, nuclear generators, onshore and offshore oil and gas facilities, refineries, manufacturing plants, utility companies, and more. Waterfall's patented Unidirectional Gateways and other solutions combine the benefits of impenetrable hardware with unlimited software-based connectivity, enabling 100% safe visibility into industrial operations and automation systems.