



WATERFALL AND W-INDUSTRIES SECURE OFFSHORE PLATFORMS



PARTNERING WITH GLOBAL SYSTEMS INTEGRATOR TO SECURE CRITICAL PRODUCTION PROCESSES

End Customer	Offshore Oil & Gas Producer
Customer Requirement	Secure safe and continuous operation of offshore platforms from remote cyber attacks, while enabling reliable real-time monitoring and reporting of production data and the status of essential platform systems.
Waterfall's Unidirectional Solution	Secures the platform control system network perimeter from external threats with Unidirectional Security Gateways, enabling real-time enterprise monitoring and third-party monitoring and diagnostics, while creating fully operational Wonderware PCS, OPC-DA, power turbine monitoring and file server replicas.

OFFSHORE PRODUCTION MODERNISATION AND CONTAINING REMOTE CYBER THREATS

The energy industry is the second most prone critical infrastructure to cyber attacks with nearly three-quarters of U.S. oil & gas companies experiencing at least one industrial cyber incident annually. Remote cyber attacks targeting offshore oil platforms can result in severe consequences to human and environmental safety. Waterfall partnered with W-Industries, a leading global systems integrator for the offshore industry, to secure a fleet of offshore platforms and operational processes from cyber attacks.

THE CHALLENGE

Production platform control systems are essential for the safe and effective operation of modern offshore platforms. Real-time data produced by these control systems is essential to the efficient and profitable operation of modern businesses.

Using firewalls to allow real-time data flows from a control network to an enterprise network introduces unacceptable risks to safe, correct, continuous and efficient operation of platform control networks.



WATERFALL SOLUTION

Waterfall Unidirectional Gateways were deployed, both on the platform and in onshore facilities. Each gateway is the only point of connection between IT and OT networks, replicating information from control networks to the enterprise network.

A central OSIsoft PI enterprise server served as a repository for analyzing operations data, company-wide. An OPC-DA server in each control network pulls real-time data from industrial servers.

The Waterfall Gateway replicates OPC-DA servers to platform and onshore IT networks. The enterprise PI server pulls data from the Waterfall OPC-DA replicas and makes it available enterprise-wide for reporting, analysis and optimization planning.

BENEFITS

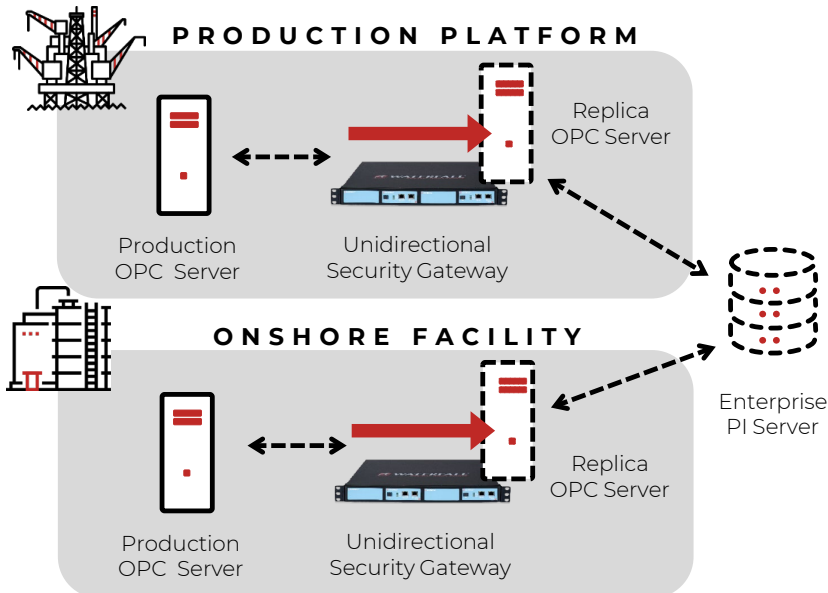
Security: Absolute protection from online attacks originating on the IT network, and from Internet-based attacks which might breach the enterprise network.

Visibility: Online access to real-time operations data, with no change in end-user or business application-integration procedures.

Cost: Reduced training, admin, audit, testing, and monitoring costs when compared to a conventional firewall-based solution.



THEORY OF OPERATION



Waterfall Unidirectional Security Gateways replace firewalls in industrial network environments, **providing absolute protection to control systems and industrial control networks from attacks emanating from external less-trusted networks.** Waterfall Gateways contain both hardware and software components. The hardware is physically able to send information in only one direction. The software replicates servers and emulates devices. The gateway software produces an accurate, timely replica of a production OPC server. Enterprise applications and users interact normally with the replica server.

Unidirectional Gateways **enable control-system intrusion detection, vendor monitoring, industrial cloud services, and visibility into operations** for modern enterprises and customers. The gateways replicate servers, emulate industrial devices

and translate industrial data to cloud formats. Unidirectional Gateway technology represents a plug-and-play replacement for firewalls, without the vulnerabilities and maintenance issues that accompany firewall deployments. Replacing at least one layer of firewalls in a defense-in-depth architecture breaks the attack path from the Internet to critical systems.

UNIDIRECTIONAL SECURITY GATEWAYS BENEFITS

- » Safe, continuous monitoring of critical systems
- » Protects product quality and the safety of personnel, equipment and the environment
- » Simplifies audits, change reviews, and system documentation
- » Disciplined, on-demand and scheduled updates of plant systems, without introducing firewall vulnerabilities
- » Replaces at least one layer of firewalls in a defense-in-depth architecture, breaking the chain of infection and preventing pivoting attacks

“Using the Waterfall Gateways gave our customer the assurance of true unidirectional server replication from the control network to the business network.”

Greg Hanson, W-Industries

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ABOUT WATERFALL SECURITY SOLUTIONS

Waterfall Security Solutions is the OT security company, producing a family of Unidirectional Gateway technologies and products that enable enterprise-wide visibility for operations, with disciplined control. Waterfall products represent an evolutionary alternative to firewalls. The company's growing list of customers includes national infrastructures, power plants, nuclear plants, off and on shore oil and gas facilities, refineries, manufacturing plants, utility companies, and many more. Deployed throughout North America, Europe, the Middle East and Asia, Waterfall products support the widest range of leading industrial remote monitoring platforms, applications, databases and protocols in the market. For more information, please contact: info@waterfall-security.com

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