



Waterfall® and W-Industries Secure Offshore Platform

Case Study

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 a business network introduces unacceptable risks to the control network's integrity and to the safety of the offshore platforms. Conventional thinking is that businesses must use firewalls, and monitor them closely, and manage them very carefully, to ensure that threats and vulnerabilities do not combine to become safety-threatening incidents. This thinking is increasingly being questioned.

The Solution

This case study details a typical scenario, involving two sites in a large oil & gas exploration and production company. An offshore platform employs both a control network and a conventional corporate business network. An onshore facility contains two networks as well: a control network and a conventional corporate network.

To secure the control network from threats which might be manifest on the corporate network, the control network was isolated, or "air-gapped." To enable business processes which rely on real-time access to operations data, Waterfall Unidirectional Security Gateways™ were deployed, both on the platform and onshore. Each gateway is the only point of connection between its control network and the corporate network, replicating information out of the control network into the corporate network.

A central OSIsoft PI historian located at a central site is designed to receive and process real-time production data. An OPC-DA server in each control network pulls real-time data from industrial control system servers. The Waterfall Gateway replicates these OPC-DA servers to the corporate network, both on the platform and onshore. The central OSIsoft PI is connected to the Waterfall OPC-DA replicas, and receives the real-time data from them into its data repository.

Reducing Management Costs

Modern firewalls are complex software artifacts which must be managed and monitored carefully to ensure they remain reasonably secure. In contrast, the assurances of safety, integrity and availability which Waterfall Gateways provide to the control network cannot be altered or reduced by software configuration. Network security assurances which are impervious to software and configuration errors and omissions simplify audits, change reviews, security system documentation and a host of other aspects of a security program.

W-Industries

W-Industries is a fully-owned subsidiary of CSE Global Limited, a leading systems integrator headquarter in Singapore, with an international presence in 16 countries spanning the Americas, Asia Pacific, Europe, Africa and the Middle East.

Challenge

To protect the safety and integrity of offshore facilities, while still retaining online access to operations data

Solution

Deploy Unidirectional Gateways to replicate servers from control networks to corporate networks.

Benefits

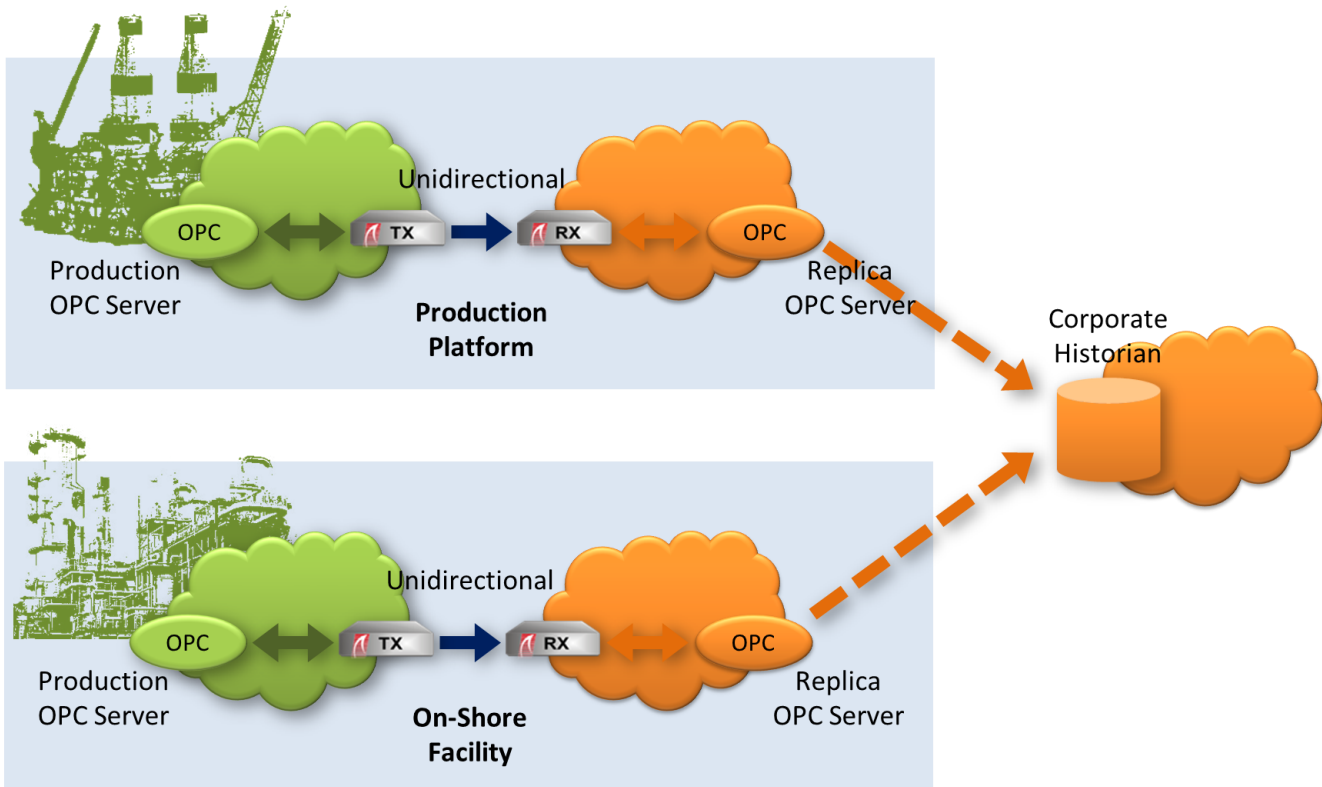
Business: Online access to real-time operations data, with no change in end-user or business application-integration procedures.

Security: Absolute protection from attacks originating on the corporate network, and from Internet-based attacks which might pass through the corporate network.

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



W-Industries excels in delivering reliable and cost effective systems integration services and IT solutions that are customized to meet the stringent requirements of our clients, worldwide.



Oil & Gas Customer Benefits

Waterfall's Unidirectional Security Gateways™ provide business users online access to real-time data without introducing vulnerabilities or attack channels which put safety-critical networks at risk:

- Business users access operations data in the corporate historian in real time, with no change in access or usage procedures.
- Real-time data is available for business applications with no changes necessary in the configuration of those applications or those integrations.
- Control networks are protected absolutely from Denial of Service attacks, worms, corporate insider attacks, corporate user errors and omissions and all other threats originating on the corporate network and the Internet.
- On-going management costs are reduced – to secure modern firewalls, a business must invest continually in training security personnel, training end users on secure remote access procedures, audits, log analysis, and many other labour-intensive activities.

"The Waterfall team was very responsive and easy to work with designing and installing the systems for our customer." reports Greg Hanson of W-Industries. "Traditional firewall technology ultimately still relies on the robustness of software that allows traffic across the network. But using the Waterfall Gateway gave our customer the assurance of true unidirectional server replication from the control network to the business network."