



Waterfall Security Solutions Ltd.

Partner Value Profile

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Partner Summary

Waterfall Security Solutions is the provider of security products that meet a variety of industrial security needs. Waterfall products provide 100% secure data transfer, and assist companies in achieving regulatory compliance, such as NERC, NRC, NIST, and others.

The Waterfall for OSISOFT PI solution is part of a product family called Waterfall SCADA Monitoring Enabler (SME) and provides secure data transfer from a PI System (PI) on a secured data network to a PI System on a less secure data network. Waterfall's data transfer gateways for PI consist of combined hardware and software components. The hardware component provides a physical unidirectional connection and proprietary communication protocol between the secure and less secure networks via a fiber optic cable. Reverse data flow (receiver to transmitter) through the Waterfall hardware is not physically possible. The software component has two functions: first, it populates PI data from a secure PI System to the Waterfall transmitter; and second, it takes delivery from the receiver for the receiving PI System.

The initial release of Waterfall for OSISOFT PI was in 2006. Waterfall Security Solutions became an OSISOFT partner in 2009. As an off-the-shelf product, installation, configuration, testing, and training typically take under a week.

Waterfall for OSISOFT PI can be deployed globally and is most used for secure data transfer from a secured LCN PI Server to a general-purpose PI Server on a business network. A second common situation is secure data transfer from a site PI System to a corporate or central PI System. In both cases, the critical need is to protect the sending PI Server and its network from intrusion while allowing data to flow securely from one PI System to another.

Value for PI Customers

OSISOFT PI customers can implement the Waterfall SME/PI solution to maintain isolated security standards of a control system network that incorporates PI. Waterfall SME/PI allows secure data transfer from a secure PI System to a PI System on a less secure business network where the data is needed for more general use. Users can export PI data out of the secure network with confidence that the network has not been compromised or exposed to cyber attacks.

With its high level of protection, Waterfall SME/PI can also be part of a compliance plan that helps OSISOFT customers resolve and fulfill internal and regulatory security needs and requirements for NERC CIP and similar regulations.

Waterfall closely tracks OSISOFT's product roadmap. As OSISOFT continues to enhance the overall security of the PI System, Waterfall incorporates applicable improvements into Waterfall SME/PI.

Partner Value Profile

Industries Served

The Waterfall for OSIsoft PI solution is applicable to all industries that need secure unidirectional PI data transmission, including but not limited to:

- Oil and Gas
- Chemical and Petrochemical
- Pulp and Paper
- Mining and Metals
- Pharmaceutical and Life Sciences

OSIsoft customers in Power Generation, Transmission and Distribution, and Energy Management comprise the majority of Waterfall for OSIsoft PI installations. Waterfall for OSIsoft PI has been deployed in North America and the Middle East, with European and Asian Waterfall for OSIsoft PI implementations expected to expand in the near future.

Product Technical Description

Waterfall for OSIsoft PI is an integrated hardware and software product. The hardware consists of a coupled transmit-only and receive-only device. This device enforces the unidirectionality of the product and enables industrial networks to transmit to external sources without exposing the sending network to threats and risks of online attacks, cyber-terror, and cyber-crime, which might originate from a business network or the internet.

The hardware is combined into a unique, patent-pending technology which incorporates software agents and a proprietary transfer protocol. Waterfall for OSIsoft PI installations provide a zero-maintenance implementation of an electronic security perimeter, requiring a one-time configuration with no need for follow-up configurations, patches, or updates. Thus, overhead and related investments are minimized.

Technical Product Profile

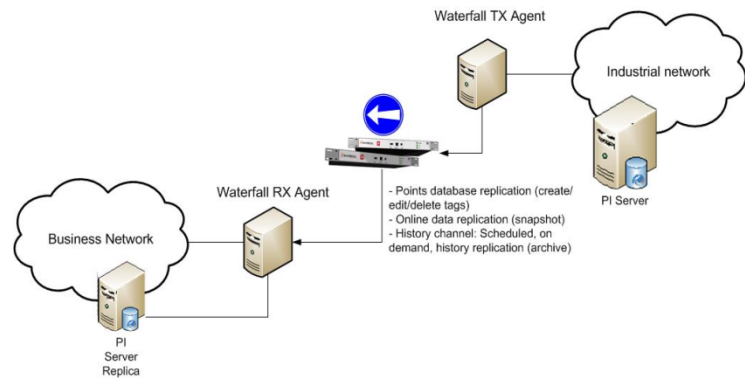
Waterfall for OSIsoft PI enables secure real-time replication of PI server tag data. The product captures all real-time streaming data and configuration changes from one PI System and securely passes them to a replica PI System. This solution is suitable for PI installations of any size, including large PI servers that require monitoring for hundreds of thousands of tags. Even for high-capacity PI servers, the system provides high performance, with negligible latency. The Waterfall solution has been benchmarked for performance and manageability in collaboration with OSIsoft.

Technical Diagram

A variety of industrial secure data transfer needs can be met by implementing Waterfall OSIsoft PI, including the following two typical topologies:

Basic PI / Waterfall topology:

Replicating, in real time, an operational PI server from the industrial control/SCADA network to a replica PI server that resides on an external business network; which is, by definition, less secure.



Many-to-One PI / Waterfall topology:

Replicating, in real time, several PI servers from multiple sites into one PI server that resides on a centralized, less secure business network.

