

Waterfall for Wonderware Historian & Backfill

Stronger than Firewalls: Secure Integration through Server Replication



Highlighted Features

- Hardware-enforced unidirectional replication of Wonderware Historian data to a corporate historian server
- Unique “Wonderware Backfill” capabilities
- Fully transparent to Wonderware Historian users
- High Availability and 1Gbps options
- Simplifies NERC-CIP, NRC, NIST, CFATS and other regulatory compliance
- Common Criteria EAL4+ certified. Assessed for security by Idaho National Labs

Overview

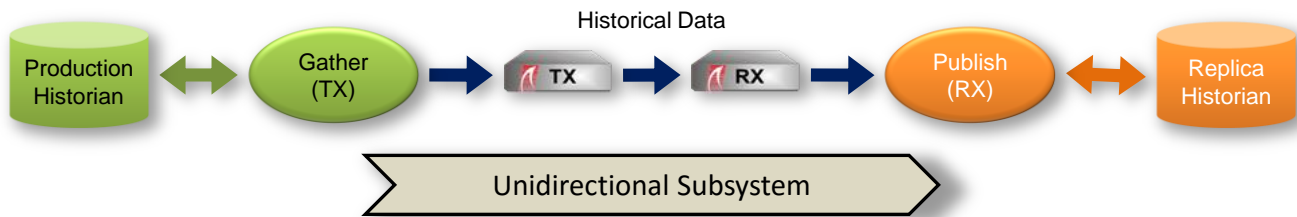
The Waterfall for Wonderware Historian solution securely integrates and protects Schneider Electric’s Wonderware Historians on industrial networks, allowing users and applications on corporate networks to operate as usual using unidirectionally replicated Wonderware Historian data. It also offers backfill capabilities in case of any downtime.

Stronger than Firewalls: Secure Historian Replication

The Waterfall for Wonderware Historian solution is part of the Waterfall Unidirectional Gateway family of products. The gateways are a combination of hardware and software. The transmit gateway hardware contains a laser, and the receive gateway hardware contains a photocell. A fiber-optic cable links the two hardware units. As a result, the transmit gateway can send data to the receive gateway, but the receive gateway cannot send anything back. No online attack originating on an external network can pass back into a protected network through the gateway hardware.

The Waterfall gateway software queries Wonderware Historian servers on an industrial network for data, sends that data across the Unidirectional Gateway hardware to a business network, and uses the data to populate a replica Wonderware Historian servers. Authorized personnel and applications use the replica servers exclusively, never accessing the industrial network. The replica servers are maintained as faithful, synchronized replicas of the original servers on the industrial network. The replicas are so precise that users are often unaware that they are using replica servers.

In addition, business personnel can issue complex, costly queries to the replica database without fear of slowing down critical systems on the industrial control network. Plus there are unique “Wonderware Backfill” capabilities in the case of any downtime.



Available Features

- Real-time replication of tags and values
- Support for numeric, digital, string and timestamp tag types
- Complete or selective database replication
- Optional aggregation of many industrial Wonderware Historian servers into a single enterprise server
- Throughput options ranging from 100Mbps to multiple 1Gbps connections
- High-availability options: any or all of:
 - Wonderware Historian High Availability (HA) on the industrial network,
 - Wonderware Historian HA on the corporate network, and
 - An HA Unidirectional Gateway solution
- Dedicated Backfill channel:
 - Full support of Wonderware's retrieval mode
 - User set periods of time for data retrieval (from to)
 - Tag replication based on search criteria
 - Tags exclusion (for an example, system tags)

Waterfall's management applications enable straightforward product installation as well as real-time monitoring of availability and performance. Comprehensive diagnostics include real time alarms that alert the user of fault conditions via email, SNMP traps, Syslog, filesystem logging and Windows logging.

Regulatory Compliance and Certifications

No misconfiguration of Unidirectional Gateway replication software can impair the security provided by the gateway hardware. This results in dramatically reduced perimeter operating costs and costs of compliance with NERC-CIP, NRC, CFATS, NIST, ISA-SP99 and other standards, guidance, and regulations.

The gateway solution is certified Common Criteria EAL4+, resistant to high attack potential. Waterfall's Unidirectional Gateways are only unidirectional solution to pass a cyber-security assessment by Idaho National Labs.

Waterfall's Unidirectional Gateway solution was the first unidirectional solution to be successfully assessed by Idaho National Labs in 2009. INL concluded that "The physics of the system prevent any data transmission from the low security enclave to the high security enclave."

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