WATERFALL®
Stronger Than Firewalls

Waterfall Application Data Control

Doing What Industrial Firewalls and Next-Gen firewalls Were Supposed to Do

- Additional layer of security
- Policy-driven application data control filters
- Optional in-line anti-malware scanning
- Optional encryption and digital signatures
- Protection from insider-planted Trojans and malware calling out
- Supports files, industrial applications, industrial protocols, and IT protocols and applications

Overview

Waterfall's Application Data Control is a new layer of security applicable throughout Waterfall's market-leading, stronger-than-firewall Unidirectional Security Gateway and FLIP product lines. Application Data Control manages application layer data, by applying rules, policies and verification tests to apply to data passing between information technology (IT) business networks and operational technology (OT) industrial networks. Application Data Control addresses the risks both of data exfiltration attacks and of targeted, cyber-sabotage attacks against industrial networks.

IT/OT integration, remote services and the trend towards industrial cloud services all require integration between OT networks and IT networks. Commonplace "connect through a firewall and add encryption" approaches to perimeter security have proven inadequate. Firewalls always introduce cyber-sabotage risks and so impair the safety and reliability of industrial networks, firewalls always introduce data exfiltration risks and so put confidentiality and privacy at risk, and new industrial firewalls and next-gen firewalls that claim to inspect "deep" into various protocols are in practice only marginally better.

Unidirectional Security Gateways, Waterfall Security's flagship technology, and the FLIP, Waterfall's reversible Unidirectional Gateway, truly harden industrial cyber perimeters. Waterfall's Unidirectional Gateways are being used by industrial sites, utilities and critical infrastructures worldwide, as an alternative to firewalls. Local and international regulations and guidelines are embracing and endorsing Unidirectional Gateways in order to promote strong security.

Application Data Control Features

Application Data Control adds to Waterfall's existing products a layer of sophisticated policy-based controls for industrial application data. Application Data Control is an option for every Waterfall industrial connector in all of the product lines in Waterfall's entire spectrum of stronger-than-firewall security solutions. Application Data Control rules, policies and verifications can be applied to any data passing through Waterfall's unidirectional products, including all Waterfall-supported IT and industrial server replications and protocols, including even proprietary, undocumented and encrypted IT and OT data formats and protocols.

Available features include:

- Star names and regular expressions limiting which fields, points, tags and values are permitted to pass through Unidirectional Security Gateways,
- Modifying, deleting and/or alerting on unauthorized fields and values in flight,
- Bounds checking, range-limiting and sanity-checking values in flight,
- Support for all of Waterfall's unidirectional server replications, IT and industrial protocols, and other connectors,
- Support for even encrypted, undocumented, and proprietary IT and OT protocols in real time.

Application Data Control provides data exfiltration control over which values leave OT networks, and ensures that information entering OT networks complies with safety, reliability and security policies.

Evolving Best Practices

Cyber threats only become more sophisticated over time, and so best practices for cyber defenses must evolve as well. Firewalls are software. ISA, DHS, ENISA, NRC, NEI, NERC CIP and other authorities all describe and recommend Unidirectional Security Gateways as stronger, hardware-enforced alternatives to firewalls. Owners and operators are taking this guidance and are increasingly concluding that their workers, their equipment, and the reliability of their critical industrial processes are all too important protect with only software-based security technologies. Unidirectional Security Gateways are stronger than firewalls.

Supported Application Control Replication Solutions

Leading Databases/Applications/Historians

- OSIsoft PI, PI AF, GE iHistorian, GE iFIX, AspenTech
- Scientech R*Time, Instep eDNA, GE OSM
- Siemens WinCC, SINAUT/Spectrum, Emerson Ovation
- Matrikon Alert Mgr, Wonderware Historian, ClearSCADA
- SQLServer, MySQL, Postgres, Oracle, SAP

Leading IT Monitoring Applications

- Log Transfer, SNMP, SYSLOG CA Unicenter, CA SIM
- HP OpenView, HP ArcSight, McAfee ESM & ePO

File/Folder Mirroring

- Local folder, tree mirroring, remote folders (CIFS)
- FTP/FTFS/SFTP/TFTP/RCP/Rsync/SMB

Leading Industrial Protocols

- Modbus, OPC (DA, HDA, A&E, UA)
- DNP3, ICCP, IEC 60870-104

Remote Access

- Remote Screen View™, Secure Bypass

Other connectors

- UDP, TCP/IP, NTP, SNTP, Multicast Ethernet
- Video/Audio streams, Netflow, SMTP
- IBM MQ, Tibco, Microsoft MQ, Active MQ
- AV updater, patch (WSUS) updater, OPSWAT
- Remote print server

For further information, please contact us or visit our website: www.waterfall-security.com

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