WATERFALL®
Stronger Than Firewalls

CYBERSECURITY FOR DATA CENTERS

PROTECTING DATA CENTER OPERATIONAL NETWORKS FROM EVOLVING CYBER THREATS

Customer	A large, multi-site data center corporation in Asia Pacific
Customer Requirement	Enable security monitoring and management of multiple segmented operational networks without putting these protected networks at risk.
Waterfall's Unidirectional Solution	The Waterfall Unidirectional Security Gateway enables the safe monitoring and remote management of operational networks without risk that enterprise connectivity will "leak" attacks back into protected operational control networks.

DATA CENTERS GROWING NEED TO PROTECT PHYSICAL OPERATIONS

Data center control systems and building management systems are increasingly subject to targeted ransomware and other advanced cyber threats. Operators must manage this risk in addition to their usual complexities of customer data management, data ownership and data access across multiple sites and partners. Today, operators are faced with the challenge of balancing the risk of OT connectivity with the pressure to scale operations to support business growth. Looking forward, data center operators cannot wholesale converge operational environments with high-risk IT networks as the risk of cyber compromise could cripple the entire business.

THE CHALLENGE

Enable safe access to OT files, OPC-UA data, Syslog alerts, and OT emailed updates for external IT services. Enable the access for an off-site Security Operations Center which the data for security monitoring purposes, and for other IT systems, which use the operations data for a variety of business automation purposes. Enable all of these integrations safely, without risk to physical operations at the data center.

WATERFALL SOLUTION

Waterfall's Unidirectional Security Gateways were deployed to protect building automation, access control and electrical systems at a fleet of data centers. Each gateway protects multiple data center operational networks and replicates OPC UA, Syslog and other data through unidirectional hardware.

In addition, Waterfall's Remote Screen View enables off-site management and updates of OT systems without enabling risky remote desktop connections.
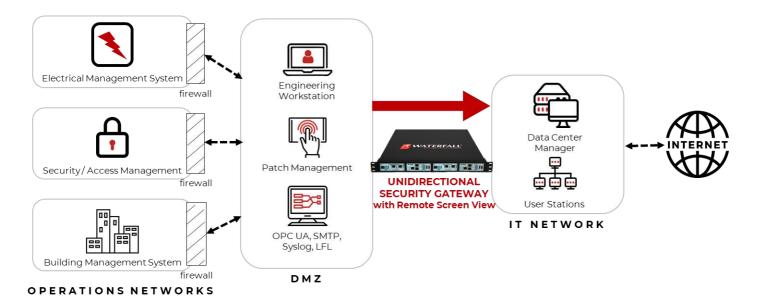
RESULTS & BENEFITS

Security: No attack from any external, third-party or Internet network can leak back into protected operational networks through the unidirectional gateway hardware.

Simplicity: Unidirectional server replication and emulation make Waterfall's gateways easy to use. The unidirectional replicas are normal participants in external IT networks

Efficiencies: By securely enabling access to OT data, the gateways help the business realize SOC-based visibility into OT networks and other business automation and efficiencies – safely.

THEORY OF OPERATION

OPERATIONS NETWORKS

Waterfall Unidirectional Security Gateway solutions replace firewalls in industrial network environments, **providing absolute protection to control systems and operations networks from attacks emanating from external less-trusted networks**. Waterfall Gateways contain both hardware and software components. The gateway hardware can transmit information from an industrial network to an external network, but is physically incapable of propagating any virus, DOS attack, human error or any cyber attack at all back into the protected industrial network. Unidirectional Gateway software makes copies of industrial servers, enabling external IT and Internet users to connect to the replica servers for access to real-time operational information.

At this customer, the Unidirectional Security Gateway copies standard OPC-UA servers, Syslog servers, SMTP servers and file servers from operational networks to the IT network where SOC systems and analysts, as well as other IT business automation systems can access the replicas and their OT data normally. The gateway is also equipped with unidirectional Remote Screen View to enable remote vendor support personnel to see the screen of the Engineering Workstation in order to assist site personnel in diagnosing, adjusting and correcting software and hardware problems.

UNIDIRECTIONAL SECURITY GATEWAY BENEFITS :

» Safe IT/OT integration, providing access to operations data, without risk of compromise of critical data center operations networks

» Safe unidirectional data transfer to offsite or less trusted networks without introducing cyber threats to the OT environment

» Supports 100+ industrial protocols & applications; from legacy systems to cloud-based platforms

» No attack, no matter how sophisticated or malicious, can enter the unidirectionally protected network

» Enables secure deployment of IT and outsourced SIEM, SOC, NOC & security monitoring solutions

ABOUT WATERFALL SECURITY SOLUTIONS

Waterfall Security Solutions is the global leader in industrial cybersecurity technology. Waterfall products, based on its innovative unidirectional security gateway technology, represent an evolutionary alternative to firewalls. The company's expanding portfolio of customers includes national infrastructures, power plants, nuclear plants, offshore oil and gas facilities, rail transport, 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. Please contact: info@waterfall-security.com