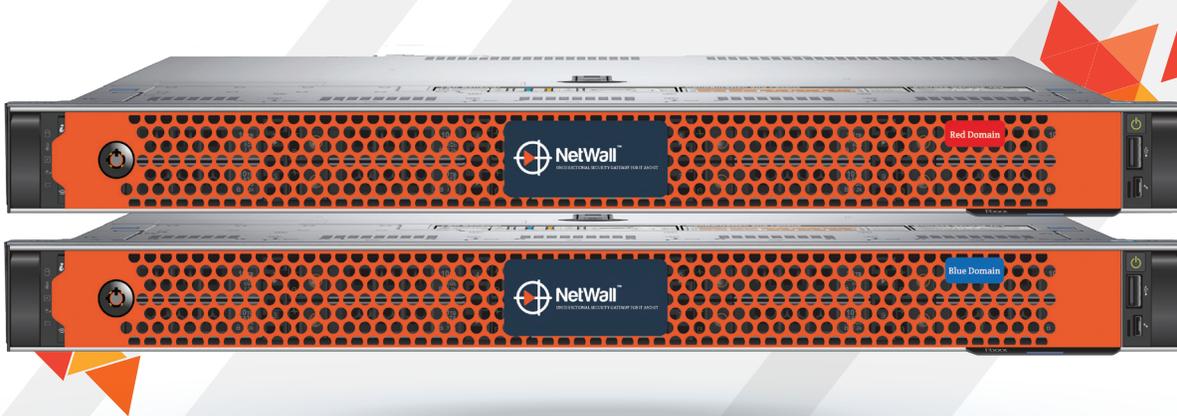# BAYSHORE NETWORKS
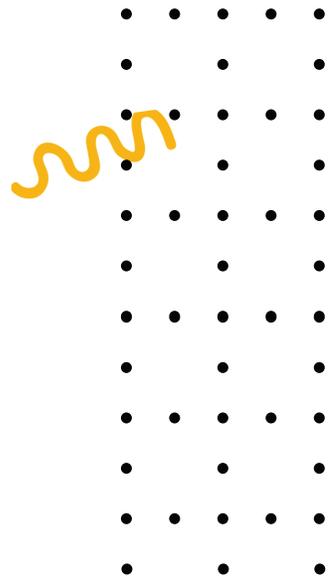## INDUSTRIAL AND IT NETWORK SECURITY

Support for OPC DA, A&E, OPC UA, Modbus/TCP, file transfers, and tcp/udp sockets

NetWall USG 10G™

10 Gbps UNIDIRECTIONAL SECURITY GATEWAY FOR IT AND OT

Datasheet

Process control networks and their critical assets are usually isolated from other networks in an effort to protect them from cyberattack and to protect the sensitive data they contain. Extracting useful data in a controlled fashion from a protected network can prove to be a challenge.

Usually, rules are added to an existing firewall, or a next generation firewall (NGFW) is put into place to facilitate the data transfer. However, any firewall can ultimately be compromised. NetWall was designed to resolve your extraction needs and protect your networks in a way that firewalls never can.

THE SOLUTION

NetWall 10G unidirectional security gateway for IT and OT is a high-speed, hardware and software solution that enforces data transfer in only one direction. No network connection is established between the source and destination. The source network is physically isolated from the destination network, so no connection can be initiated to the source network from the destination network.

NetWall shields and isolates critical assets and sensitive networks from cyberattack and misuse.

NetWall supports real-time file and data replication from the protected network to corporate business systems such as ERP, MES, PLM, PIM and others.

NetWall can securely transfer control system data, log files, database records and other pertinent data to IT data centers, security operations centers (SOCs) and cloud-based data storage.

NetWall's OPC UA support means that popular SCADA systems which use OPC UA as one of their core transport options, such as Inductive Automation's IGNITION platform, can now be replicated from the protected source network to the destination network. The unilateral connection guarantees that the destination network cannot write data back to the SCADA system.

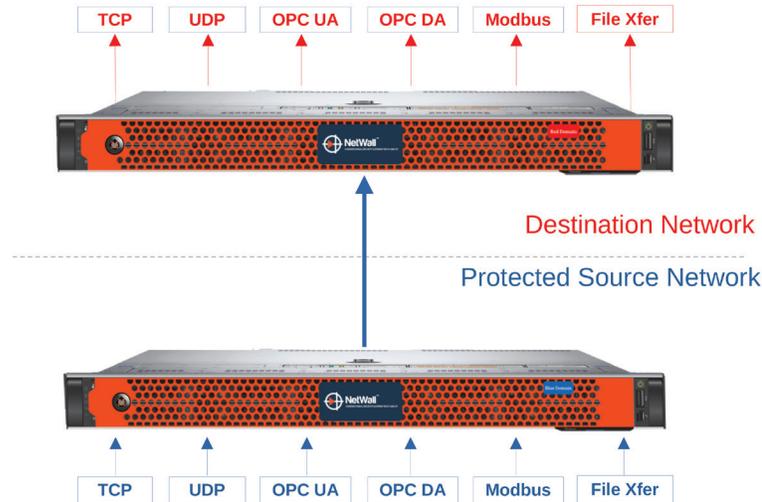### Key Features & Benefits for Corporate IT

- ▶ *Creates an isolated, trusted network segment with a verifiable electronic security perimeter*

- ▶ *Ensures that malware or unauthorized probing and reconnaissance efforts have no chance of entering the segment*

- ▶ *Provides high-speed throughput to replicate data to the external destination segment*

- ▶ *Assures guaranteed delivery without consuming available bandwidth*

- ▶ *Can grow with needs via software licensing*

- ▶ *Delivers budget-friendly lower cost, averaging ~60% less than competing solutions*

Key Features and Benefits for Operations Technology (OT)

- ▶ *Prevents disruption to plant operations through isolating critical assets and processes*

- ▶ *Automates the delivery of key plant data securely to outside, untrusted destinations for business intelligence, analytics and decision-support*

- ▶ *Increases protection of OT assets without increasing workload*

- ▶ *Provides network information to corporate IT one-way for analysis and integration without impacting operations*

NetWall REFERENCE DEPLOYMENT ARCHITECTURE

Simplified Use Cases for NetWall

| TCP | UDP | OPC UA | OPC DA | Modbus | File Xfer |

Destination Network

Protected Source Network

| TCP | UDP | OPC UA | OPC DA | Modbus | File Xfer |

TECHNICAL SPECIFICATIONS

PRODUCT DESCRIPTION

Type	NetWall USG 10G™	
	10 Gbps UNIDIRECTIONAL SECURITY GATEWAY FOR IT AND OT	
NetWall 10G (50 Gbit/sec)	Part # NWAPP-10G	
Description	NetWall 10 Gbps Unidirectional security gateway (hardware and software) - product comes as a pair of systems, 2 19" 1U Rack Mounted servers (2U total), So PowerEdge 340 systems. Includes PCIe cards and data link cable Includes PCIe, security dongles and management console. Product is delivered "appliance style" with software preconfigured and loaded onto the systems. Field upgradable by software licensing.	
Platform	Dell PowerEdge 340 (or equivalent)	
CPU	Xeon E-222864 CPU @ 4.0 GHz	
RAM	16 GB DDR4	
Storage	1TB SATA, 72OO RPM	
Server-to-Server Communication	1 x PCI Express Gen 2 card (in each server) and 1m PCIe serial cable connecting both servers	

ADDITIONAL INCLUDED INTERFACES

USB Interface	1 USB socket on each platform to connect approved USB storage device	
Network Interface	Intel X710 Dual Port 10GbE Direct Attach SFP + Adapter	2 10/100/1000 Mbps Network Interface Controller (NIC) ports
PCIe card	Each NetWall component server has a system with PCIe card and they are connected via an included data link cable.	

SOFTWARE

OS	Hardened Debian / GNU Linux OS	
Management Console	Bayshore NetWall Management Console	Windows 7 SP1 or higher
Diagnostics	LEDs (power, mode, fault, etc)	
Secure Management	Security Dongles	
Event Logging	NetWall reports all events and errors to a filterable Windows event log	

OPERATOR APPLICATION SUPPORT

Server Replications	Native support for real time OPC DA, OPC AE, Modbus, OPC UA, and others
Database Export Replications	CanaryLab historan and more
File Transfers	Native unidirectional file transfer via Windows or FTP shares
Unidirectional TCP or UDP Sockets	Syslog, SNMP Traps, MQTT-SN, UDP streaming video, other UDP-based IoT applications

PERFORMANCE

Data transfer rate	Up to 10 Gbps
Concurrent sessions	Unlimited, subject to max overall throughput
Redundancy	Coming feature

POWER

Power Supply	350W
Voltage	100-240VAC, auto ranging
Power Consumption	300W per NetWall system

AMBIENT CONDITIONS

Temperature	Storage: -40 to +149 deg F / -40 to +65 deg C Operating: +50 to +95 deg F / 10 to 35 deg C
Humidity	Storage: 5 - 95% Relative Humidity Operating: 10 to 80% Relative Humidity

APPROVALS

Declaration of Conformity	CE, FCC, EN 61131, C-Tick, EN 60950
IEC-62443 Certification	Approved, 62443-4-1; SVV-1, SVV-2, SVV-3a, SVV-3b, SVV-3c, SVV-4, SVV-5
Common Criteria and FIPS	Scheduled and being prepared for formal submission

RELIABILITY

MTBF	87,648 hours for System overall (10 yrs) SATA
Warranty	See Support, Warranty is included

CONSTRUCTION

Dimensions (WxHxD) (2 units)	W:19in / 482.6mm x H: 3.5"(2U) / 88.89mm x D: 22.6in / 584.2mm
Weight	2 units @ 27lb / 12.2kg each
Mounting	2 x 1U Rack Mounted

ANNUAL SUPPORT MAINTENANCE

Part # NW10G-Support	NetWall 10G Annual Support, Year 2 & beyond, incl support/updates/HW warranty