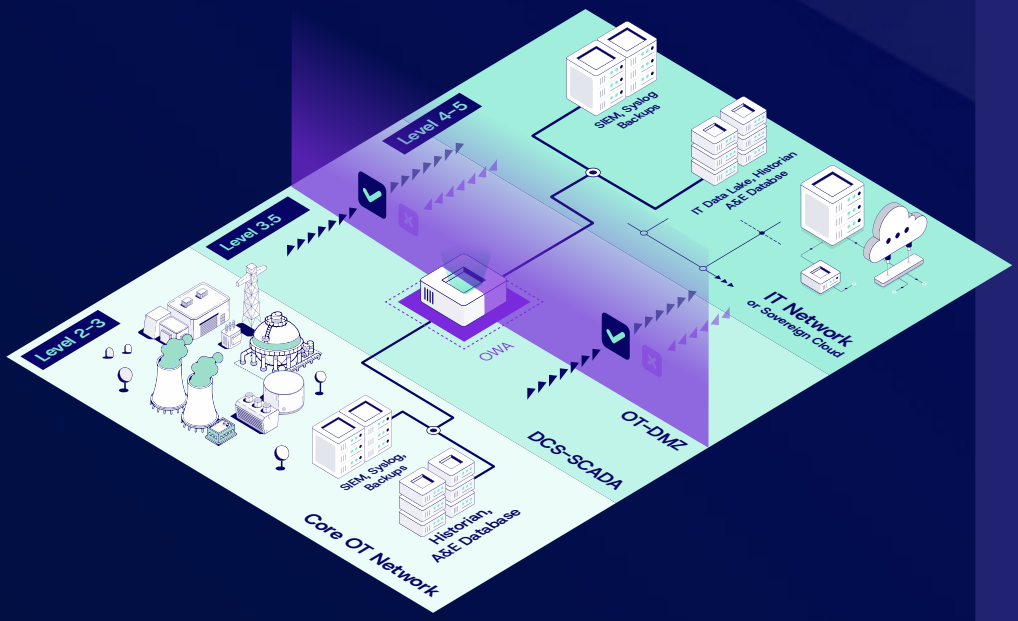
Cyberium

Unidirectional Network Segmentation



Hardware Data Diode protection for your Critical Networks from Network outsider threats.

What is OWA-1U-500M/1G

OWA-1U-500M/1G **OT Edition** is a compact, hardware-enforced security gateway designed to allow strict unidirectional data flow from 500 Mbps to 1 Gbps (same hardware). By creating a physical barrier between IT and OT domains, it ensures **airgap-grade separation** of critical operational systems — **far beyond what firewalls can offer**. Its secure-by-design architecture enables both real-time transfer of OT data (SCADA, DCS, Historian) to IT or cloud systems and safe delivery of alarms and events— without exposing critical assets to outsider cyber threats. It enforces a physical **separation of duty** between production (OT) and supervision (IT) layers.

Built for **compliance with** the most stringent security frameworks such as **IEC 62443** and **NIS2**, Cyberium's OWA product line enables secure convergence of IT/OT systems without compromising the integrity, availability, or safety of industrial operations.

OWA-1U-500M/1G

DATASHEET
OT EDITION

KEY CHARACTERISTICS

Complete Physical Separation
- Upstream and downstream proxies physically separated within a single 1U
- Independent power supply per proxy
- Front-panel network connections

Strict Unidirectionality
No return data link, not even on a separate channel for data flow

True Bandwidth
500 Mbps / 1 Gbps sustained on a single link, optimized for file and multi-protocol transfer

Absolute Reliability
0-packet loss, 0-file loss, and 0-file corruption

Built for Resilience
- Active/Active High Availability (P) (1)
- Automatic failover in case of system failure (1)
- Automatic traffic recovery upon downstream (IT) unavailability

Simplified Compliance with
IEC/ISA 62443 FR 5 Restricted Data Flow SL-C 4, NERC CIP version 5, NIS2 & NEI 08-09

OT Systems Compatibility
A vast range of protocols and systems through additional Agents software and native connectors... See a full list at the back

Seamless Deployment
Transparent to end-users. No network changes required. Simplified administration. High MTBF.

(1) Requires an additional OWA Product. 1U HA is subject to eligibility - please get in touch with us.

Technical Specs

HARDWARE APPLIANCE

Ordering SKU	OWA-1U-500M or OWA-1U-1G
Mounting	19" Rack Mounting, 1U Rack Space for the two proxies 1U Rack kit included, Static rails
Dimensions & Weight In total, for the two proxy servers	H 44 mm W 479 mm D 420 mm 12 Kg / 26,5 Lb
Operating T°	10 °C to 35 °C (50 °F to 95 °F) with no direct sunlight on the equipment
MTBF	> 50 000 hr
Electrical / Power In total, for the two proxy servers	100-240 V AC - Avg consumption: 250 W 2× 400 W PSU

NETWORK & CONNECTIVITY

Port / Interfaces In total, for the two proxy servers	2 × 1/10 Gbps (Copper), 2 × 10/25 Gbps (SFP+) Front-panel cabinet for visual inspection
USB / Other In total, for the two proxy servers	2× 1 USB-port, 2× 1 VGA-port
Max end-to-end Throughput	500 Mbps or 1 Gbps (depending on the chosen version). True deliverable capacity
File Sending Benchmark	Above 1000 files of 125 KB sent /sec at 1 Gbps in FTPS

SECURITY COMPONENTS

Optical Link	Standard Optical Link Isolator
OS	Hardened OS based on AlmaLinux SE

PROTOCOLS & OT SYSTEMS COMPATIBILITY

Industrial Protocols	MQTT, OPC UA/DA, Modbus, DNP3, IEC.104
Historians and similar OT systems	AVEVA Pi2Pi Replication AspenTech (InfoPlus21) Bently Nevada (S1) Emerson (AMS Optics) GE (OSM: On-Site Manager) Honeywell (Uniformance PHD) Yokogawa (Data Historian)
Centralized Monitoring	Cisco Splunk (extended API integration) ArcSight (via SYSLOG) Generic SIEM integration (via SYSLOG) Generic SNMP Traps Screen view (via HDMI replicator)
Alarms & Events	Hexagon (PAS) Emerson (DeltaV AgileOps)
IT Protocols	UDP, HTTP/S API, SMTP
Files	Direct File Channel: Supports SFTP, FTP/S/ES MS Windows File Transfer Agent (via Files Channel)
Generic Database Replicator for DCS/ SCADA applications	Simple SQL DB Full/Incremental Backup Replicator (Oracle / MS SQL) Advanced SQL DB Granular Change Replicator (Oracle / MS SQL)

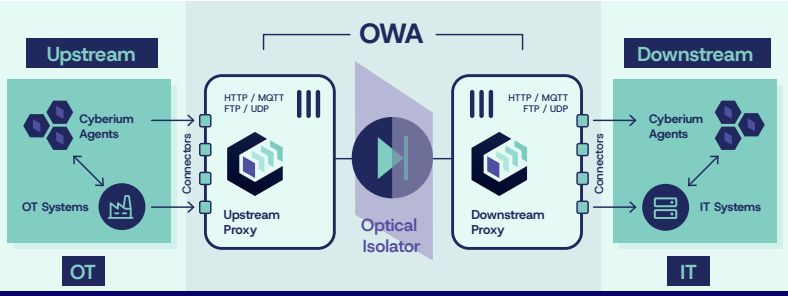
MANAGEABILITY & RESILIENCE

High Availability	Active/Active - automated fail-over with the purchase of a second OWA appliance + High Availability Option subject to eligibility
Traffic Buffering	Up to 1-hour(2) automatic replay of past traffic in case of downstream network unavailability
Solution Monitoring	Either through Syslog OR Web GUI central console enables monitoring of traffic, health and performances, downstream of the proxy appliances
Logging	Every configuration change and every traffic is logged
Administration Account	Separated on the upstream and downstream proxies
Config. saving / restore	Locally, on USB or on the network

How does it work

OWA / AGENTS combined architecture:

OWA-3U-1G/10G is entirely compatible with Cyberium AGENTS, an exclusive Suite of OT/IT Software Replicator Agents
_ See Cyberium OWA AGENTS Datasheet for more details



OT Portfolio Overview

(1) Buffer capacities are calculated based on an average traffic load at 500 Mbps bandwidth.
(2) Not applicable for all agents. Subject to limitations based on desired performance - please consult a Cyberium representative for more details.

	✓ OWA-1U-500M 500 Mbps ✓ OWA-1U-1G 1 Gbps	See also OWA-3U-1G 1 Gbps OWA-3U-10G 10 Gbps
19" Rack Mounting	**1U** Rack Space Single Power Supply per proxy	**2U or 3U** Rack Space Redundant Power Supply per proxy
Security Isolation in-between proxies	Unidirectional Optical Link	**2U:** Unidirectional Optical Link **3U:** Optical & Passive (no power) Data Diode option **with certification ANSSI qualified (FR) or EAL7+**
Capacity	**2 Concurrent Connectors** Up to **1-hour**(1) traffic buffer	**Unlimited Concurrent Connectors** Up to **1-day**(1) traffic buffer - ext. to 1-week(1) *option*
Industrial Protocols	**Off-proxy** appliance Replicator Agents	**On-proxy** appliance Replicator Agents(2)
IT to OT WSUS updates	Not recommended as a Reverse Data Diode No Antivirus control available.	Recommended as a Reverse Data Diode with **Dual Antiviruses option available**

Cyberium

We secure the critical
— connecting what should stay isolated

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