Unidirectional Security Gateway and Data Diode Guide

Critical Infrastructure Protection Solutions



Select the Best Unidirectional Security Gateway to Protect your Critical Infrastructure – OPSWAT Unidirectional Security Gateway and Data Diode Comparison Guide

A unidirectional security gateway is a cybersecurity solution combining hardware and software that ensures one way [unidirectional] information transfer between two networks. Unidirectional security gateways, also known as security gateways and unidirectional gateways, are the modern evolution of data diodes. Traditionally relying upon a fiber optic connection to enforce one way data transfers, data diodes may encounter transmission reliability issues and data overruns, while modern unidirectional security gateways include assured delivery mechanisms to overcome these challenges. The solutions have been common for decades in high-security environments, such as defense and intelligence agency facilities.

With the rise of industrial IoT and digitization, unidirectional security gateways are increasingly being deployed by private enterprises to securely transmit data generated by industrial control and safety systems for nuclear power plants and other electrical power generating facilities, manufacturing facilities, and transport systems to other networks (including the public Internet) while protecting the networks containing these systems from attack.

OPSWAT MetaDefender[™] can be easily integrated with OPSWAT's NetWall[™] Unidirectional Security Gateway, as well as solutions from many leading vendors to provide a higher level of security and visibility over the data brought into your organization. Data first enters through MetaDefender Kiosk where a user with predetermined security clearance is allowed to scan data inserted into the Kiosk with MetaDefender Core Multiscanning, Deep Content Disarm and Reconstruction (CDR), Proactive Data Loss Prevention (DLP), and File-Based Vulnerability Assessment technologies.

If no threats are found, the data is allowed to pass through the unidirectional security gateway and enter the secure network where it is stored in MetaDefender Vault. The user can then access the allowed files. Any files brought into the organization are logged in MetaDefender Vault for audit purposes.

The research needed to select the right unidirectional security gateway for your use case and environment can be daunting. To make this process easier, we did the research for you and consolidated it in one place.

This newly updated version of the guide contains comparative information on the features of over 30 industry-leading data diode products, including:

- Product description
- Value proposition
- Technology
- Certifications awarded
- Supported transfer protocols
- Supported encryption standards
- Throughput

- Data masking capabilities
- Physical dimensions
- Sales and support contact information
- Guest user support
- Documented integration with OPSWAT MetaDefender

For more information about MetaDefender Kiosk, MetaDefender Vault, and the Unidirectional Security Gateway and Data Diode vendors integrated with OPSWAT please contact us.

Product	OPSWAT NetWall™ USG [Unidirectional Security Gateway]	ODCIMAT
Technology	Electrical – serial non-networked connection	OPSWAT
Product Description	NetWall USG provides access to real-time OT data and enables secure data transfers to the OT environment without compromising the security and integrity of your critical production systems, providing assured delivery scalability, and ease of deployment.	Technical Support Tampa, FL, USA
Unique value proposition	 Assured delivery mechanism for reliable operation and bandwidth conservation Scalable bandwidth supporting up to 10Gbit/sec using a license upgrade Supports real-time replication of industrial data, Industrial/IT protocols, file transfers Cost-effective, easy to deploy pre-configured platform Available as Hardware as a service: Platinum Support, HW updates every 3yrs 	San Francisco, CA, USA London, UK Europe: France, Hungary, Romania, Spain Israel APAC: Japan, Singapore,
SKU	#NWAPP-50M-UNI, #NWAPP-100M-UNI, #NWAPP-1G-UNI, #NWAPP-10G-UNI	Taiwan, Vietnam
Certifications	 OPSWAT Certifications: Common Criteria EAL, ISO 27001, SOC2, PCI-DSS NetWall Certifications: CE, FCC, EN 61131, EN 60950, C-Tick Approved 62443-4-1; SVV-1, SVV-2, SVV-3a, SVV-3b, SVV-3c, SVV-4, SVV-5 	Sales Contact sales-inquiry@opswat.com +1.415.590.73 Main Markets Served
Transfer Protocols	Industrial Protocols (Modbus, OPC, MQTT-SN), IT Protocols, IT Monitoring Applications [SIEM Integration, Syslog), File Transfers (FTP, Windows File Share, SMB)	Global
Encryption standards	Security Dongles	
Transfer rate	50Mbit/s, 100Mbit/s, 1Gbit/s, 10Gbit/s	
Guest Mode	Yes, compatible with MetaDefender Kiosk Vault guest mode	
Data masking	NetWall utilizes a full protocol break between the networks and removes identifying IP header information from the payload, maintaining the integrity of the OT network.	
MD Kiosk Integration	Fully compatible with MetaDefender Kiosk	
MD Vault Integration	Fully compatible with MetaDefender Vault	
Physical Dimension	Two x 1U rack mounted servers, each: W:19in / 482.6mm x H: 1.75" /44.45mm x D: 22.6in / 584.2mm	
Weight	2 x 27lb / 12.2kg, each	
Voltage	Input: 100-240 VAC, auto-ranging Power supply 250W Estimated consumption 150W (each 1U) 	
Operating temp	 Storage: -40 to +149 F / -40 to +65 C Operating: +50 to +95 F / +10 to +35 C Up to 95% storage humidity, 10% to 80% operating humidity non-condensing 	
Input/output support	Separate Ethernet connections for network traffic and remote administration Physical connectors: 8P8C (RJ45) 	
Content filtering	Full integration with MetaDefender Core – Multi-AV, CDR, DLP, File Vulnerabilities, IP Reputation, URL Reputation, Sandbox, Malware Analysis	
Export restrictions	Global availability	

OPSWAT.

OPSWA	OPSWAT NetWall™ BSG (Bilateral Security Gateway)	Product
UF SWA	Electrical – serial non-networked connection	Technology
Technical Suppo Tampa, FL, US San Francisco, CA, US	NetWall USG provides access to real-time OT data and enables secure data transfers to the OT environment without compromising the security and integrity of your critical production systems, providing assured delivery scalability, and ease of deployment.	Product Description
Europe: France, Hunga Europe: France, Hunga Romania, Spa Isra APAC: Japan, Singapor Taiwan, Vietna	 Assured delivery mechanism for reliable operation and bandwidth conservation Proprietary mechanism to permit data replies for select applications Scalable bandwidth supporting up to 16bit/sec using a license upgrade Supports real-time replication of industrial data, Industrial/IT protocols, file transfers Cost-effective, easy to deploy pre-configured platform Available as Hardware as a service: Platinum Support, HW updates every 3yrs 	Unique value proposition
Sales Conta	#NWAPP-50M-BI, #NWAPP-100M-BI, #NWAPP-1G-BI	SKU
sales-inquiry@opswat.co +1.415.590.731 Main Markets Serve	 OPSWAT Certifications: Common Criteria EAL, ISO 27001, SOC2, PCI-DSS NetWall Certifications: CE, FCC, EN 61131, EN 60950, C-Tick 	Certifications
Glob	Approved 62443-4-1; SVV-1, SVV-2, SVV-3a, SVV-3b, SVV-3c, SVV-4, SVV-5	
	Industrial Historian Replication, Relational Database Replication, Industrial Protocols (Modbus, OPC, MQTT-SN), IT Protocols, IT Monitoring Applications (SIEM Integration, Syslog), File Transfers (FTP, Windows File Share, SMB)	Transfer Protocols
	Security Dongles	Encryption standards
	50Mbit/s, 100Mbit/s, 1Gbit/s, 10Gbit/s	Transfer rate
	Yes, compatible with MetaDefender Kiosk Vault guest mode	Guest Mode
	NetWall utilizes a full protocol break between the networks and removes identifying IP header information from the payload, maintaining the integrity of the OT network.	Data masking
	Fully compatible with MetaDefender Kiosk	MD Kiosk Integration
	Fully compatible with MetaDefender Vault	MD Vault Integration
	Two x 1U rack mounted servers, each: W:19in / 482.6mm x H: 1.75" /44.45mm x D: 22.6in / 584.2mm	Physical Dimension
	2 x 27lb / 12.2kg, each	Weight
	Input: 100-240 VAC, auto-ranging Power supply 250W Estimated consumption 150W (each 1U) 	Voltage
	 Storage: -40 to +149 F / -40 to +65 C Operating: +50 to +95 F / +10 to +35 C Up to 95% storage humidity, 10% to 80% operating humidity non-condensing 	Operating temp
	 Separate Ethernet connections for network traffic and remote administration Physical connectors: 8P8C (RJ45) Supports speeds of: 50Mbit/s, 100Mbit/s, 1Gbit/s, 10Gbit/s 	Input/output support
	Full integration with MetaDefender Core – Multi-AV, CDR, DLP, File Vulnerabilities, IP Reputation, URL Reputation, Sandbox, Malware Analysis	Content filtering
	Global availability	Export restrictions

advenica

Product	SecuriCDS Data Diode DD1000i	Advenica
Diode Technology	Optical. Hardware based optical separation to assure unidirectional data flow. Includes separated proxy servers on up- and downstream sides to handle application level protocols unidirectional.	Technical Support
Product Description	SecuriCDS DD1000i Unidirectional Security Gateway includes integrated server hardware for proxies and can be mounted in a 19" rack system (height: 1U).	Malmö, Sweden
Unique value proposition	Takes data protection to a higher level. Secure data transfer between networks. Proxies are designed and tested for interacting with highly sensitive information.	Sales Contact per.sallstrom@advenica.com +46702030677
SKU	BSF-DD16472	Main Markets Served
Certifications	 Sweden: DD1000i data diodes have received approval for data transfer between networks of different security levels up to and including the level of HEMLIG/TOP SECRET Finland: NCSC-FI determines that the DD1000i data diode can be used for data transfer between networks of different security levels up to and including the level of SALAINEN/SECRET. Austria: DD1000i have received national security accreditation level AUT GEHEIM/ SECRET from the Bundesministerium für Landesverteidigung (BMLV). 	EU & EMEA
Transfer Protocols	 Standard: UDP, TCP, Syslog, NTP File transfer: FTP, SFTP, NFS, SMB Email transfer: SMTP, POP3 	
Encryption standards	 Encryption standard fail over and services/protocols main according to protocol SFTP Certificate handling Signed software 	
Transfer rate	1 Gbps	
Guest Mode	-	
Data masking	Yes, but not 3rd party tested	
MD Kiosk Integration	Yes	
MD Vault Integration	Yes	
Physical Dimension	1U (43.4 mm), 437 x 504 mm	
Weight	9 kg	
Voltage	2x 100-240 V AC, 50-60Hz [Separate power inlets for Upstream and Downstream interfaces]	
Operating temp	+5° - +40°C, 8% - 90% RH non-condensing IEC 60721-3-3 [3K3/3Z1/3B1/3C1/3S1/3M2]	
Input/output support	Network data ports (Upstream + Downstream): 2x Gigabit Ethernet 8P8C (RJ45) Administration (Upstream, Downstream): 2x Gigabit Ethernet 8P8C (RJ45), VGA, USB 2.0	
Content filtering	Sandboxing via OPSWAT, CDR, DLP Check Calle	
Export restrictions	Global availability under certain conditions	

advenica

Advenica	SecuriCDS Data Diode DD1000A	Product
Auvenica	Optical. Pure hardware based data diode with optical separation.	Diode Technology
Technical Support	The DD1000A offers high performance in a small package.	Product Description
Malmö, Sweder	A pure hardware based data diode with optical separation to assure the unidirectional data flow in a small stand alone 1U package.	Unique value proposition
Sales Contact	BSF-DD16473	SKU
+46702030677 Main Markets Served	 Sweden: DD1000i data diodes have received approval for data transfer between networks of different security levels up to and including the level of HEMLIG/TOP SECRET Austria: DD1000i have received national security accreditation level AUT GEHEIM/ SECRET from the Bundesministerium für Landesverteidigung (BMLV). 	Certifications
	 Layer 2 diode e.g. unidirectional protocols, e.g. UDP External proxy servers may be required 	Transfer Protocols
	N/A only HW diode	Encryption standards
	1 Gbps	Transfer rate
	-	Guest Mode
	Yes, but not 3rd party tested	Data masking
	No	MD Kiosk Integration
	No	MD Vault Integration
	1U (43.4 mm), 216 x 167 mm	Physical Dimension
	2.2 kg	Weight
	1x or 2x 12 V DC (Separate power inlets for upstream and downstream interfaces. External power supply included.	Voltage
	0 - +50°C, 20% - 90% RH non-condensing IEC 60721-3-3 (3K3/3Z1/3B1/3C1/3S1/3M2)	Operating temp
	Network data (Upstream + Downstream) 2x Gigabit Ethernet 8P8C (RJ45)	Input/output support
	N/A	Content filtering
	Global availability under certain conditions	Export restrictions

advenica

Advania	SecuriCDS Data Diode DD1G	Product
Advenic	Optical. Pure hardware based data diode with optical separation.	Diode Technology
Technical Support	DD1G series offer high performance and secure data transfer for IT/OT integration.	Product Description
Malmö, Swede	Offers full 1 Gbps data throughput and includes stand alone devices and DIN rail mounting.	Unique value proposition
Sales Contac	BSP-DD18605	SKU
per.sallstrom@advenica.co +4670203067	Under evaluation	Certifications
Main Markets Serve	 Layer 2 diode e.g. unidirectional protocols, e.g. UDP External proxy servers may be required 	Transfer Protocols
	N/A only HW diod	Encryption standards
	1 Gbps	Transfer rate
	-	Guest Mode
	No	Data masking
	No	MD Kiosk Integration
	No	MD Vault Integration
	DD1G: 130x20x150 [WxHxD]	Physical Dimension
	0.6 kg	Weight
	1x or 2x 12 V DC (Redundant power inlets) External power supply included 1x 90-264VAC / 12VDC Depending on your requirements, one or two power supplies may be used to power DD1G	Voltage
	0 - +50°C, 20% - 90% RH non-condensing IEC 60721-3-3 [3K3/3Z1/3B1/3C1/3S1/3M2]	Operating temp
	Network data (Upstream + Downstream) 2x Gigabit Ethernet 8P8C (RJ45)	Input/output support
	N/A	Content filtering
	Global availability under certain conditions	Export restrictions

arbit

Product	Arbit Data Diode 1 Gbps	A
Diode Technology	Optical	
Product Description	The Arbit Data Diode moves data from an insecure network to a secure network - no backflow possible.	
Unique value proposition	Maintains galvanic network separation during seamless manual- and/or automated data exchange between networks of different classification. Several filters and add-ons avaliable.	
SKU	arbitcds.com/sku/arbit_data_diode.jpg	
Certifications	Common Criteria EAL5+, NATO IAPC, DK Center for Cyber Security NATO SECRET / National SECRET, ISO-15408	EMEA,
Transfer Protocols	SMTP, FTP, SFTP, SMB, NFS forwarding and mirroring, NTP, TCP, UDP, REST API Forwarder HTTP and HTTPS, NiFi, SysLog, Windows Share.	
Encryption standards	N/A	
Transfer rate	1 Gbps	
Guest Mode	Yes, if required, standard setup	
Data masking	TEMPEST SDIP-27 level A,B and C on request	
MD Kiosk Integration	Yes	
MD Vault Integration	Yes and even Vault to Vault (documentation not published)	
Physical Dimension	2x1U 19"	
Weight	9.6 Kg	
Voltage	110/220 V AC	
Operating temp	0-35 °C	
Input/output support	Fiber or copper connectors on input / output on req	
Content filtering	OPSWAT Partner, MetaDefender, Deep CDR, Egate,SANDBOX etc. (Windows and LINUX) + any 3rd party filter (REST API integration)	
Export restrictions	N/A	

Arbit Cyber Defence Systems ApS

Technical Support Copenhagen, Denmark

> Sales Contact sep@arbitcds.com +4540433510

Main Markets Served

EMEA, NATO, via partners or on request

arbit

Product	Arbit RUGGEDIZED C4ISTAR Gateway	Arbit Cyber Defence
Diode Technology	Optical	Systems ApS
Product Description	A RUGGEDIZED C4 gateway designed for the battlefield built to withstand the harshest conditions over the long haul.	Technical Support
Unique value proposition	Seamless manual and/or automated release of data between networks of different classification [HIGH=>LOW, LOW=>HIGH, C4ISTAR role]. Several filters and add ons avaliable	Copenhagen, Denmark Sales Contact sep@arbitcds.com
SKU	arbitcds.com/sku/arbit_ruggedized_gateway.jpg	+4540433510
Certifications	Numerous Environmental Specification tests according to MIL-STD	Main Markets Served
Transfer Protocols	All filebased exchange.	EMEA, NATO, via partners or on request
Encryption standards	N/A	
Transfer rate	180 Mbps	
Guest Mode	Yes, if required, standard setup	
Data masking	TEMPEST SDIP-27 level A,B and C on request	
MD Kiosk Integration	Yes	
MD Vault Integration	Yes and even Vault to Vault (documentation not published)	
Physical Dimension	2x1U 19"/2	
Weight	4x 4 kg [4x 8.9 lbs]	
Voltage	12 to 32V DC	
Operating temp	55 °C (131 °F) -40 (-40 °F)	
Input/output support	Fiber-fiber or fiber-copper from HIGH to LOW	
Content filtering	NA OPSWAT Partner, MetaDefender, Deep CDR, Egate,SANDBOX etc. (Windows and LINUX) + any 3rd party filter (REST API integration)	
Export restrictions	N/A	

arbit

Product	Arbit RUGGEDIZED Data Diode1 Gbps	Arbi
Diode Technology	Optical	
Product Description	A ruggedized version of the Arbit Data Diode that moves data from an insecure network to a secure network - no backflow possible.	
Unique value proposition	Maintains galvanic network separation during seamless manual- and/or automated data exchange between networks of different classification. Several filters and add-ons avaliable.	
SKU	arbitcds.com/sku/arbit_ruggedized_data_diode.jpg	
Certifications	Numerous Environmental Specification tests according to MIL-STD	м
Transfer Protocols	SMTP, FTP, SFTP, SMB, NFS forwarding and mirroring, NTP, TCP, UDP, REST API Forwarder HTTP and HTTPS, NiFi, SysLog, Windows Share.	EMEA, N
Encryption standards	N/A	
Transfer rate	1 Gbps	
Guest Mode	Yes, if required, standard setup	
Data masking	TEMPEST SDIP-27 level A,B and C on request	
MD Kiosk Integration	Yes	
MD Vault Integration	Yes and even Vault to Vault (documentation not published)	
Physical Dimension	1U 2x19"/2	
Weight	2x 4 kg [2x 8.9 lbs]	
Voltage	12 to 32V DC	
Operating temp	55 °C (131 °F) -40 (-40 °F)	
Input/output support	Fiber connectors	
Content filtering	OPSWAT Partner, MetaDefender, Deep CDR, Egate,SANDBOX etc. [Windows and LINUX] + any 3rd party filter [REST API integration]	
Export restrictions	N/A	

Arbit Cyber Defence Systems ApS

Technical Support

Copenhagen, Denmark

Sales Contact sep@arbitcds.com

+4540433510

Main Markets Served

EMEA, NATO, via partners or on request

arbit

Product	Arbit TRUST Gateway	Arbit Cyber Defence
Diode Technology	Optical	Systems ApS
Product Description	The Arbit TRUST Gateway is designed to support release of data from High Security networks, supporting organisational procedures.	Technical Support
Unique value proposition	Seamless manual and/or automated release of data between networks of different classification (HIGH=>LOW, LOW=>HIGH,). Several filters and add ons avaliable	Sales Contact
SKU	arbitcds.com/sku/arbit_TRUST_gateway.jpg	sep@arbitcds.com +4540433510
Certifications	Common Criteria EAL5+, ISO-15408	
Transfer Protocols	All filebased exchange.	Main Markets Served EMEA, NATO, via partners or on
Encryption standards	N/A	request
Transfer rate	180 Mbps	
Guest Mode	Yes, if required, standard setup	
Data masking	TEMPEST SDIP-27 level A,B and C on request	
MD Kiosk Integration	Yes	
MD Vault Integration	Yes and even Vault to Vault (documentation not published)	
Physical Dimension	4x1U 19"	
Weight	19.2 Kg	
Voltage	110/220 V AC	
Operating temp	0-35 °C	
Input/output support	Fiber or copper connectors on input / output on req	
Content filtering	OPSWAT Partner, MetaDefender, Deep CDR, Egate,SANDBOX etc. (Windows and LINUX) + any 3rd party filter (REST API integration)	
Export restrictions	None	



Product	DataFlowX 1G	Bilge SGT (Bilge Siber
Diode Technology	Optical	Guvenlik Teknolojileri, LLC)
Product Description	DataFlowX is an information exchange gateway with extensive security and integration feature set. Regarding to the new network-centric era, DataFlowX provides a turn-key solution for cross-domain security by bringing a new perspective to the data diode concept.	Technical Support support@dataflowx.com +90 (800) 888 60 92
Unique value	Policy and rule based file check and tranmission control.	Sales Contact
proposition	 Data classification and tagging by type, content or meta-data. XML, JSON and YAML validation with spesific schemes. One-way Web API mirroring. Data encryption, compression and data masking. 	info@dataflowx.com +90 (800) 888 60 91
	 LDAP integration on both sides. 	Main Markets Served
	 Web based UI for management and file transmission services. Inbound and outbound SMTP integration. Quarantine and Archive feature. VRRP and LACP support. TX and RX Modules can be configured with different security policies. 	EMEA, NATO-Zone, Central Asia, Europe
SKU	DFX-1G-P	
Certifications	Common Criteria EAL 4+ (AVA_VAN.5)	
Transfer Protocols	SFTP/SCP, HTTP/HTTPS, UDP, SYSLOG, SMTP, WSUS Updates, File/Directory Mirroring	
Encryption standards	AES	
Transfer rate	940 Mbps	
Guest Mode	* This feature is under development but not released yet.	
Data masking	Optional	
MD Kiosk Integration	* This feature is not tested yet but seems MetaDefender Kiosk supports sending Processed files via SFTP service of DataFlowX (both with user-prompted logon and predefined credentials)	
MD Vault Integration	No	
Physical Dimension	1U Rack Unit (W7.2", H1.7", D23.5")	
Weight	22.0 kg	
Voltage	 200-240Vac / 4.5 - 3.8A / 50-60Hz Redundant Power Supply 	
Operating temp	10°C ~ 35°C	
Input/output support	 RJ45 Copper SFP SFP+ 	
Content filtering	 Data masking with custom pattern PDF and Microsoft Office files content disarm by JS, Link, Macro, OLE Object removal Embedded multiple antivirus engines. 	
Export restrictions	No	



Product	DataFlowX 10G	Bilge SGT (Bilge Siber
Diode Technology	Optical	Guvenlik Teknolojileri, LLC)
Product Description	DataFlowX is an information exchange gateway with extensive security and integration	Technical Support
	feature set. Regarding to the new network-centric era, DataFlowX provides a turn-key solution for cross-domain security by bringing a new perspective to the data diode concept.	support@dataflowx.com +90 (800) 888 60 92
Unique value	 Policy and rule based file check and tranmission control. 	Sales Contact
proposition	 Data classification and tagging by type, content or meta-data. XML, JSON and YAML validation with spesific schemes. One-way Web API mirroring. Determining comparison and data marking. 	info@dataflowx.com +90 (800) 888 60 91
	 Data encryption, compression and data masking. LDAP integration on both sides. 	Main Markets Served
	 Web based UI for management and file transmission services. Inbound and outbound SMTP integration. Quarantine and Archive feature. VRRP and LACP support. 	EMEA, NATO-Zone, Central Asia, Europe
	TX and RX Modules can be configured with different security policies.	
SKU	DFX-10G-P	
Certifications	Common Criteria EAL 4+ (AVA_VAN.5)	
Transfer Protocols	SFTP/SCP, HTTP/HTTPS, UDP, SYSLOG, SMTP, WSUS Updates, File/Directory Mirroring	
Encryption standards	AES	
Transfer rate	5.5 Gbps	
Guest Mode	* This feature is under development but not released yet.	
Data masking	Optional	
MD Kiosk Integration	* This feature is not tested yet but seems MetaDefender Kiosk supports sending Processed files via SFTP service of DataFlowX (both with user-prompted logon and predefined credentials)	
MD Vault Integration	No	
Physical Dimension	1U Rack Unit (W7.2", H1.7", D23.5")	
Weight	22.0 kg	
Voltage	 200-240Vac / 4.5 - 3.8A / 50-60Hz Redundant Power Supply 	
Operating temp	10°C ~ 35°C	
Input/output support	 RJ45 Copper SFP SFP+ 	
Content filtering	 Data masking with custom pattern PDF and Microsoft Office files content disarm by JS, Link, Macro, OLE Object removal Embedded multiple antivirus engines. 	
Export restrictions	No	



Product	DataBrokerX 1G	Bilge SGT (Bilge Siber
Diode Technology	Optical	Guvenlik Teknolojileri, LLC)
Product Description	DataBrokerX is the unique Procotol Broker for accessing HTTP Services at the external domains via data diodes. By using reverse installed DataFlowX diode sets, DataBrokerX may deliver HTTP requests and fetch responses without using any TCP-related communication.	Technical Support support@dataflowx.com +90 (800) 888 60 92
Unique value proposition	 HTTP/HTTPS protocol breaking and delivering via data diodes without any backward connection ability. Uses DFX diode cards to deliver and fetch data. Supports SSL interception Supports traffic logging 	Sales Contact info@dataflowx.com +90 (800) 888 60 91 Main Markets Served
	 Supports ACLs based on clients, request methods, targets. Traffic matching and content replacement. Supports several instances with different configurations and security policies. VRRP and LACP support 	EMEA, NATO-Zone, Central Asia, Europe
SKU	DBX-1G-P	
Certifications	-	
Transfer Protocols	HTTP, HTTPS, LDAP, LDAPS	
Encryption standards	-	
Transfer rate	900 Mbps	
Guest Mode	N/A	
Data masking	Optional	
MD Kiosk Integration	N/A	
MD Vault Integration	N/A	
Physical Dimension	1U Rack Unit (W7.2", H1.7", D23.5")	
Weight	22.0 kg	
Voltage	 200-240Vac / 4.5 - 3.8A / 50-60Hz Redundant Power Supply 	
Operating temp	10°C ~ 35°C	
Input/output support	 RJ45 Copper SFP SFP+ 	
Content filtering	N/A	
Export restrictions	No	



Product	DataBrokerX 10G	Bilge SGT (Bilge Siber
Diode Technology	Optical	Guvenlik Teknolojileri, LLC)
Product Description	DataBrokerX is the unique Procotol Broker for accessing HTTP Services at the external domains via data diodes. By using reverse installed DataFlowX diode sets, DataBrokerX may deliver HTTP requests and fetch responses without using any TCP-related communication.	Technical Support support@dataflowx.com +90 (800) 888 60 92
Unique value proposition	 HTTP/HTTPS protocol breaking and delivering via data diodes without any backward connection ability. Uses DFX diode cards to deliver and fetch data. Supports SSL interception 	Sales Contact info@dataflowx.com +90 (800) 888 60 91
	 Supports traffic logging Supports ACLs based on clients, request methods, targets. Traffic matching and content replacement. Supports several instances with different configurations and security policies. VRRP and LACP support 	Main Markets Served EMEA, NATO-Zone, Central Asia, Europe
SKU	DBX-10G-P	
Certifications	-	
Transfer Protocols	HTTP, HTTPS, LDAP, LDAPS	
Encryption standards	-	
Transfer rate	3.6 Gbps	
Guest Mode	N/A	
Data masking	Optional	
MD Kiosk Integration	N/A	
MD Vault Integration	N/A	
Physical Dimension	1U Rack Unit (W7.2", H1.7", D23.5")	
Weight	22.0 kg	
Voltage	 200-240Vac / 4.5 - 3.8A / 50-60Hz Redundant Power Supply 	
Operating temp	10°C ~ 35°C	
Input/output support	 RJ45 Copper SFP SFP+ 	
Content filtering	N/A	
Export restrictions	No	



Fox-	DataDiode	Product
FUX-	Our data diode is a pure hardware unit with fiber optical connections to the proxy servers	Diode Technology
Technical Suppo	Cross-boundary network protection for Government, Defence, and Critical Infrastructure	Product Description
Delft, The Netherlan	Protect confidential information, IP and assets. Only worldwide Data Diode with active EAL7+ certification	Unique value proposition
Sales Conta T +31 (0)15 284 79	Call for details	SKU
internationalsales@foxcrypto.co	EAL 7+, NATO, TOP SECRET, NITES	Certifications
Main Markets Serve	SMB/CIFS, [S]FTP[E[S]], SCP, SMTP, NTP, TCP, UDP, Syslog, HTTP, local files, etc.	Transfer Protocols
Glob	All commonly used encryption schemes are supported.	Encryption standards
	1 Gbps or 10 Gbps	Transfer rate
	-	Guest Mode
	Yes. TEMPEST level 27/A.	Data masking
	No	MD Kiosk Integration
	Yes	MD Vault Integration
	19" rack mountable unit. Measures in mm: 482x142x44 [both 1 and 10 Gbps models]	Physical Dimension
	2.05 Kg (both 1 and 10 Gbps models)	Weight
	110-230V AC, 50-60 Hz (both 1 and 10 Gbps models)	Voltage
	-20C to 60C (both 1 and 10 Gbps models)	Operating temp
	Inbound connector: Duplex LC. Outbound connector Simplex LC (both 1 and 10 Gbps models)	Input/output support
	OPSWAT	Content filtering
	Wassenaar Arrangement controlled	Export restrictions



Product	Hub Vault HSM for miniDiode	
Diode Technology	Electrical - unidirectional electrical isolation.	Hub Security Ltd
Product Description	Ultra-secure HSM based embeddable data diode. Made for industrial environment with customizable physical interfaces and protocols.	Technical Support WW from Tel Aviv, Israel
Unique value proposition	Protected within HSM secure enclaves. Identities, Roles and Policies based access control - customizable to control access and data flow; Ultra-low power embeddable to custom form factor. Full secure remote configuration and firmware update. Rechargable battery enables operation without external power.	Sales Contact sales@hubsecurity.io +1-201-285-4957
SKU	HU20VA0P-DD1	Main Markets Served
Certifications	-	Global
Transfer Protocols	TCP, UDP, Streaming data	
Encryption standards	 Hash: SHA-224, SHA-256, SHA-384, SHA-512, SHA3 [Keccak], SHA3-224, SHA3-256, SHA3-384, SHA3-512, BLAKE2b, RIPEMD-160, Poly1305 Symmetric: AES, DES, 3DES, ChaCha20, Camellia Asymmetric: RSA, DSS, DH, EDH, ECDH-ECDSA, ECDHE-ECDSA, ECDH-RSA, ECDHE-RSA Curves: Curve25519, Ed25519, secp256k1, NIST, BRAINPOOL, KOBLITZ Key Derivation: HMAC, PBKDF2 Random: Physical QRNG Supports secure firmware upgrades for any algorithm. 	
Transfer rate	1Mbit/sec	
Guest Mode	Yes	
Data masking	Yes. Fully sealed metal enclosure faraday cage	
MD Kiosk Integration	Νο	
MD Vault Integration	No	
Physical Dimension	7.4" x 4.7" x 2.2"	
Weight	0.5 kg	
Voltage	4.5-72 VDC / 2W	
Operating temp	0-50 C	
Input/output support	USB2.0 Host/Device x1, 100Mbs RJ45 x1, IrDA 100kbs x1 - option, GPI0s configurable communication interface via DB connector (UART, SPI, Parallel,)	
Content filtering	-	
Export restrictions	None	

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Product	Hub Vault HSM for Diode	Hub Security Ltd
Diode Technology	Electrical UniDirection	Hub Security Liu
Product Description	Customizable ultra-secure HSM based data diode server. Optional secure side channel for controlled and limited reverse access (as addt'l HW vault in HSM, or standalone pluggable HW module, or separate standalone solution)	Technical Support WW from Tel Aviv, Israel
Unique value proposition	Protected within HSM secure enclaves; Identities, Roles and Policies based access controlfully - customizable to control access and data flow; Full secure remote configuration and firmware update. Optional ultra secure reverse HW channel	Sales Contact sales@hubsecurity.io +1-201-285-4957
SKU	HU20VA0P-DD2	Main Markets Served
Certifications	-	Global
Transfer Protocols	TCP, UDP, REST API	
Encryption standards	 Hash: SHA-224, SHA-256, SHA-384, SHA-512, SHA3 (Keccak), SHA3-224, SHA3-256, SHA3-384, SHA3-512, BLAKE2b, RIPEMD-160, Poly1305 Symmetric: AES, DES, 3DES, ChaCha20, Camellia Asymmetric: RSA, DSS, DH, EDH, ECDH-ECDSA, ECDHE-ECDSA, ECDH-RSA, ECDHE-RSA Curves: Curve25519, Ed25519, secp256k1, NIST, BRAINPOOL, KOBLITZ Key Derivation: HMAC, PBKDF2 Random: Physical QRNG Supports secure firmware upgrades for any algorithm. 	
Transfer rate	50 Mbit/sec	
Guest Mode	Yes	
Data masking	Yes. Fully sealed metal enclosure faraday cage	
MD Kiosk Integration	No	
MD Vault Integration	No	
Physical Dimension	19" 1U rack appliance. 13.00" L x 16.60" W x 1.75" H	
Weight	6 kg	
Voltage	90-240 VAC, 50-60Hz / 50W Redundant Power Supply	
Operating temp	0-50 C	
Input/output support	1GbE RJ45 x2, USB2.0 type A Host x2, Custom interfaces upon Request	
Content filtering	Can integrate OPSWAT capabilites.	
Export restrictions	None	



Product	Hub Vault HSM for FiberDiode (Coming Soon)	Hub Coourity Ltd
Diode Technology	Electrical UniDirection	Hub Security Ltd
Product Description	High performance, customizable ultra-secure HSM based data diode server. Optional secure side channel for controlled and limited reverse access (as addt'l HW vault in HSM, or standalone pluggable HW module, or separate standalone solution)	Technical Support WW from Tel Aviv, Israel
Unique value proposition	Protected within HSM secure enclaves. Identities, Roles and Policies based access control - fully customizable to control access and data; Full secure remote configuration and firmware update. Accelerated crypto algorithms performance. Optional ultra secure reverse HW channel	Sales Contact sales@hubsecurity.io +1-201-285-4957
SKU	HU20VA0P-DD3	Main Markets Served
Certifications	-	Global
Transfer Protocols	TCP, UDP, REST API (additional protocols to be added)	
Encryption standards	 Hash: SHA-224, SHA-256, SHA-384, SHA-512, SHA3 [Keccak], SHA3-224, SHA3-256, SHA3-384, SHA3-512, BLAKE2b, RIPEMD-160, Poly1305 Symmetric: AES, DES, 3DES, ChaCha20, Camellia Asymmetric: RSA, DSS, DH, EDH, ECDH-ECDSA, ECDHE-ECDSA, ECDH-RSA, ECDHE-RSA Curves: Curve25519, Ed25519, secp256k1, NIST, BRAINPOOL, KOBLITZ Key Derivation: HMAC, PBKDF2 Random: Physical QRNG Supports secure firmware upgrades for any algorithm. 	
Transfer rate	500 Mbit/sec	
Guest Mode	Yes	
Data masking	Yes. Fully sealed metal enclosure faraday cage	
MD Kiosk Integration	No	
MD Vault Integration	No	
Physical Dimension	19" 1U rack appliance. 13.00" L x 16.60" W x 1.75" H	
Weight	6 kg	
Voltage	90-240 VAC, 50-60Hz / 100W Redundant Power Supply	
Operating temp	0-50 C	
Input/output support	10GbE SFP x4, 1GbE RJ45 x2, USB2.0 type A Host x4 Custom interfaces upon Request	
Content filtering	Can integrate OPSWAT capabilites.	
Export restrictions	None	

infodas

Product	SDoT Diode (SDD)	INFODAS
Diode Technology	Software on custom security-by-design hardware platform	INFUDAS
Product Description	The SDoT SDD is a next generation data diode which ensures logical separation of networks without a return channel due to its unique and evaluated security architecture. Side channel attacks are prevented through the minimized kernel. The SDoT diode allows fast and high-performance unidirectional data transfer via numerous protocols in a compact form factor between two security domains. It also offers additional functions such as HTTP response status codes.	Technical Support Cologne, Germany Sales Contact sales@infodas.de
Unique value proposition	Fastest military grade software based data diode in the world with German, EU and NATO SECRET accreditation available in semi-ruggedized 19" 1U or compact housing optimized for use in vehicles / harsh environments.	+49.221.70912.0 Main Markets Served Global
SKU	1510000	Giobai
Certifications	German, EU and NATO SECRET Accreditation, NATO NIAPC, EAL4+	
Transfer Protocols	TCP, UDP, SMTP/S, HTTP/S	
Encryption standards	Any	
Transfer rate	9.1 Gbps	
Guest Mode	No	
Data masking	TEMPEST Zone 1-3 SDIP 27 Level B Zone 2-3 SDIP 27 Level C	
MD Kiosk Integration	No	
MD Vault Integration	No	
Physical Dimension	1U, 19", 438 x 573 x 43.6 mm 0R 300x300x10 mm (COMP-LAND)	
Weight	approx. 9.5 kg / 20.9 lbs	
Voltage	Redundant, 100-240 VAC, 50-60 Hz, 5-3 A	
Operating temp	Designed for harsh environments	
Input/output support	Ethernet RJ45 or Fiber (Any)	
Content filtering	No, this can be done by any firewall	
Export restrictions	Export Control outside of EU, US, Japan	

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infodas

Product	SDoT Security Gateway / Express [SGW / SGW X]	INFODAS
Diode Technology	Software on custom security-by-design hardware platform	INFUDA5
Product Description	Bi-directional security gateway that supports filtering of structured (XML, binary code, JREAP, Profibus, S7 Protocol, Modbus, etc.) and unstructured data objets (e.g. JPEG, DOCX, XLS) between security domains that guarantees a logical separation at all times. It can also be configured as unidirectional data diode.	Technical Support Cologne, Germany
Jnique value proposition	Highly flexible bi-directional Security Gateway with German, EU and NATO SECRET accreditation and EAL4+ certification. Available in semi-ruggedized 19" 1U or compact hoursing optmized for use in vehicles / harsh environments.	Sales Contact sales@infodas.de +49.221.70912.0
SKU	1113111	Main Markets Served
Certifications	German, EU and NATO SECRET Accreditation, NATO NIAPC, CC EAL4+	Global
Fransfer Protocols	TCP, UDP, SMTP/S, HTTP/S	
Encryption standards	SSLv3; up to TLS 1.3; RSA; crypto agile (ECDSA)	
Fransfer rate	Up to 6 Gbps	
Guest Mode	No	
Data masking	TEMPEST Zone 1-3 SDIP 27 Level B Zone 2-3 SDIP 27 Level C	
1D Kiosk Integration	No	
1D Vault Integration	No	
Physical Dimension	1U, 19", 438 x 573 x 43.6 mm 0R 300x300x10 mm (COMP-LAND)	
Veight	approx. 9.5 kg / 20.9 lbs	
/oltage	Redundant, 100-240 VAC, 50-60 Hz, 5-3 A	
Operating temp	Designed for harsh environments	
nput/output support	Ethernet RJ45 or Fiber [Any]	
Content filtering	Yes	
xport restrictions	Export Control outside of EU, US, Japan	

infodas

Product	SDoT Labelling Service (LS)	INFODAS
Diode Technology	Software on custom security-by-design hardware platform	INFUDAS
Product Description	As an element of data centric security (DCS) or data centric audit and protection (DCAP) conepts, the SDoT Labelling Service takes over the role of classifying sensitive data and verifying labels. The XML security labels are cryptographically bound to any structured or unstructured data object. Combined with an SDoT Security Gateway it is possible to model complex cross domain solutions with a broad range of data objects and bi- directional exchange of data between systems, departments, organizations or nations. The SDoT Labelling Services allows manual or automatic data classification with XML security labels. The SDoT Labelling Service is available as a virtual machine or hardware appliance. An open API enables any whitelisted user to classify data with tamper proof labels from any application.	Technical Support Cologne, Germany Sales Contact sales@infodas.de +49.221.70912.0 Main Markets Served Global
Unique value proposition	Application independent data classification with tamper proof, NATO STANAG 4774/8 compliant XML security labels to complement the SDoT Security Gateway for unstructured data filtering between security domains.	
SKU	1215100	
Certifications	German, EU and NATO SECRET Accreditation, NATO NIAPC, EAL4+	
Transfer Protocols	TCP, UDP, SMTP/S, HTTP/S	
Encryption standards	Any	
Transfer rate	9.1 Gbps	
Guest Mode	No	
Data masking	TEMPEST Zone 1-3 SDIP 27 Level B Zone 2-3 SDIP 27 Level C	
MD Kiosk Integration	N/A	
MD Vault Integration	N/A	
Physical Dimension	1U, 19", 438 x 573 x 43.6 mm	
Weight	Approx. 9.5 kg / 20.9 lbs	
Voltage	Redundant, 100-240 VAC, 50-60 Hz, 5-3 A	
Operating temp	Designed for harsh environments	
Input/output support	Ethernet RJ45 or Fiber (Any)	
Content filtering	Yes	
Export restrictions	Export Control outside of EU, US, Japan	



Product	nNetDiode U-type	
Diode Technology	Physical uni-directional network adaptor with optical port between Rx and Tx system	NNSP Co., Ltd.
Product Description	Provide unhackable / impassable physical barrier through physical one-way data transmission network adaptor installed in H/W-enforced system. Patented technology / algorithm for automatic error detection and data re-transmission solves all problems occuring in normal data diode systems.	Technical Support Seoul, South Korea
Unique value proposition	 Automatic error detection on transmitted data, network connectivity, RX and its associated system. Automatic data re-transmission through data buffering when errors occur. 	Sales Contact T +82-2-576-4736 M +82-10-9424-2041
SKU	1	gupark@nnsp.co.kr
Certifications	Common Criteria (EAL2), Good Software (Level1), KC, TTA, Government preferential purchase product (Good invention), Domestic/global patent, ISO, Innobiz	Main Markets Served Global
Transfer Protocols	Industrial protocol IT protocol Other protocols Support more • OPC • File Transfer • NTP, UDP, TCP than 200 known/ • Control system • Remote access • Multicast unknown protocols • [PLC, HMI etc] • Database • thernet • SNMP etc • [Pl, GE, Siemens, Rockwell, Emerson, Honeywell etc] • Applicaton • SNMP etc	
Encryption standards	Sha256, AES256, ARIA256	
Transfer rate	~1Gbps	
Guest Mode	No. Available by highest level of administrator.	
Data masking	Saving the administrator indentification code and perform the data encyption for sensitive data protection	
MD Kiosk Integration	N/A	
MD Vault Integration	N/A	
Physical Dimension	438 × 44 × 480 (W×H×D, mm)	
Weight	7 kg	
Voltage	AC 100 - 240, 5A-3A, 50/60Hz	
Operating temp	0°C - 40°C	
Input/output support	Tx Part Rx Part • 4 x 1Gbps Copper (RJ-45) • 4 x 1Gbps Copper • 2 x USB 3.0 • 2 x USB 3.0 • 1 x Console (RJ-45) • 1 x Console (RJ-45)	
Content filtering	 Malicious code detection and raw packet filtering for network stream (IP, Port, FTP, SFTP, HTTPS(s), Modbus etc) Malicious code detection in the file. Suspicious code analysis through static analysis 	
Export restrictions	N/A	

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Product	nNetDiode P-type		
de Technology	Physical uni-directional network adaptor	with optical port between R	x and Tx system
oduct Description	Provide unhackable / impassable physic transmission network adaptor installed algorithm for automatic error detection occuring in normal data diode systems.	in H/W-enforced system. F	Patented technology /
nique value roposition	 Automatic error detection on transmi associated system. Automatic data re-transmission through the system 		
KU	2		
rtifications	Common Criteria (EAL2), Good Software purchase product (Good invention), Dom		
ansfer Protocols	Industrial protocol OPC Control system (PLC, HMI etc) Control solution (PI, GE, Siemens, Rockwell, Emerson, Honeywell etc) H protocol File Transfer Remote acces Database Applicaton	Other protocols NTP, UDP, TCP Multicast ethernet SNMP etc	Support more than 200 known/ unknown protocols
ncryption standards	Sha256, AES256, ARIA256		
nsfer rate	~1Gbps		
iest Mode	No. Available by highest level of adminis	trator.	
ta masking	Saving the administrator indentification sensitive data protection	code and perform the dat	a encyption for
D Kiosk Integration	N/A		
/ault Integration	N/A		
sical Dimension	Tx system: 438 × 44 × 480 (W×H×D, mm)	, Rx system: 438 × 44 × 48	0 (W×H×D, mm)
ht	Tx system : 7 kg, Rx system : 7 kg		
tage	AC 100 - 240, 5A-3A, 50/60Hz		
erating temp	0°C - 40°C		
put/output support	Tx System 2 x 16bps Optical (Tx only) 4 x 16bps Optical 8 x 16bps Copper(RJ-45) 2 x USB 3.0 1 x Console (RJ-45) 1 x HDMI	Rx System2 x 1Gbps Optical4 x 1Gbps Optical8 x 1Gbps Copper2 x USB 3.01 x Console (RJ-4)1 x HDMI	(RJ-45)
Content filtering	 Malicious code detection and raw par SFTP, HTTPS(s), Modbus etc) Malicious code dection in the file. Suspicious code analysis through sta 	·	tream (IP, Port, FTP,
Export restrictions	N/A		



Product	nNetDiode E-type	
Diode Technology	Physical uni-directional network adaptor with optical port between Rx and Tx system	NNSP Co.,
Product Description	Provide unhackable / impassable physical barrier through physical one-way data transmission network adaptor installed in H/W-enforced system. Patented technology / algorithm for automatic error detection and data re-transmission solves all problems occuring in normal data diode systems.	Technical Sup Seoul, South H
Unique value proposition	 Automatic error detection on transmitted data, network connectivity, RX and its associated system. Automatic data re-transmission through data buffering when errors occur. 	Sales Cor T +82-2-576- M +82-10-9424
SKU	2	gupark@nnsp.
Certifications	Common Criteria (EAL2), Good Software (Level1), KC, TTA, Government preferential purchase product (Good invention), Domestic/global patent, ISO, Innobiz	Main Markets Se G
Transfer Protocols	Industrial protocol IT protocol Other protocols Support more • OPC • File Transfer • NTP, UDP, TCP than 200 known/ • Control system • Remote access • Multicast unknown protocols • [PLC, HMI etc] • Database ethernet • SNMP etc • [Pl, GE, Siemens, Rockwell, Emerson, Honeywell etc] • Honeywell etc) • SNMP etc	
Encryption standards	Sha256, AES256, ARIA256	
Transfer rate	~10Gbps	
Guest Mode	No. Available by highest level of administrator.	
Data masking	Saving the administrator indentification code and perform the data encyption for sensitive data protection	
MD Kiosk Integration	N/A	
MD Vault Integration	N/A	
Physical Dimension	Tx system: 438 × 44 × 450 (W×H×D, mm), Rx system: 438 × 44 × 450 (W×H×D, mm)	
Weight	Tx system : 7 kg, Rx system : 7 kg	
Voltage	AC 100 - 240, 5A-3A, 50/60Hz	
Operating temp	0°C - 40°C	
Input/output support	Tx System Rx System 2 x 10Gbps Optical [Tx only] • 2 x 10Gbps Optical [Rx only] 4 x 10Gbps Optical • 4 x 10Gbps Optical 4 x 10Gbps Optical • 4 x 10Gbps Optical • 4 x 10Gbps Optical • 4 x 10Gbps Optical • 4 x 10Gbps Optical • 4 x 10Gbps Optical • 8 x 10Gbps Copper[RJ-45] • 8 x 10Gbps Copper[RJ-45] • 2 x USB 3.0 • 2 x USB 3.0 • 1 x Console [RJ-45] • 1 x Console [RJ-45] • 1 x HDMI • 1 x HDMI	
Content filtering	 Malicious code detection and raw packet filtering for network stream (IP, Port, FTP, SFTP, HTTPS(s), Modbus etc) Malicious code detection in the file. Suspicious code analysis through static analysis 	
Export restrictions	Ν/Α	



Product	nNetTrust	
Diode Technology	Physical uni-directional network adaptor with optical port	NNSP Co., Ltd.
Product Description	Deliver collected information (data, file, software update, patch, etc.) from external network into internal security network after executing suspicious code analysis and malicious code inspection at clean system	Technical Support Seoul, South Korea
Unique value proposition	 Consists of 3 different proxy servers in one cabinet (Tx, Rx, Clean System). Deliver information safely by an automatic switched turned on by configured schedule. Protect not only the internal security network from external attack but also completely block leakage of internal data due to one-way data transmission function. Key software functions of nNet Diode included such as automatic error detection and smart data re-transmission. 	Sales Contact T +82-2-576-4736 M +82-10-9424-2041 gupark@nnsp.co.kr Main Markets Served
SKU	1	Global
Certifications	Common Criteria (EAL2), Domestic/global patent, ISO, Innobiz	
Transfer Protocols	 Syslog DB [MSSQL/Sybase] UDP, TCP FTP/SFTP/File/Folder SIEM Packet stream 	
Encryption standards	Sha256, AES256, ARIA256	
Transfer rate	~1Gbps	
Guest Mode	No. Available by highest level of administrator.	
Data masking	Saving the administrator indentification code and perform the data encyption for sensitive data protection	
MD Kiosk Integration	N/A	
MD Vault Integration	N/A	
Physical Dimension	438 × 44 × 620 (W×H×D, mm)	
Weight	10 kg	
Voltage	AC 100 - 240, 5A-3A, 50/60Hz	
Operating temp	0°C - 40°C	
Input/output support	Tx System-Collect Rx System-Delivery 1 x 16bps Copper (RJ-45) 1 x 16bps Copper (RJ-45) 1 x 16bps Copper (RJ-45) available for management 1 x 16bps Copper (RJ-45) available for management Clean System 1 x 16bps Copper (RJ-45) available for management 1 x 16bps Copper (RJ-45) available for management 1 x 16bps Copper (RJ-45) available for management	
Content filtering	 Malicious code detection and raw packet filtering for network stream (IP, Port, FTP, SFTP, HTTPS(s), Modbus etc) Malicious code detection in the file. Suspicious code analysis through static analysis 	
Export restrictions	N/A	



Product	DiOTa Optical DualDiode	Owl Cyber Defense
Diode Technology	Owl DualDiode Communication Card (Digital Isolator)	Owl Cyber Defense
Product Description	DiOTa is a compact (DIN rail), scalable, single-purpose data diode that provides secure, one-way data transfers of low volumes of data, with an intuitive user interface.	Technical Support
Unique value proposition	 Single hardware appliance (not multiple, separate components for the complete solution) Compact and scalable Affordable cost 	Danbury, CT, USA Columbia, MD, USA London, UK Abu Dhabi, UAE
SKU	Single Purpose	Sales Contact
Certifications	 FCC Class B compliance CE mark 	sales@owlcyberdefense.com [203] 894-9342
	 CB certificate IEC/EN 62368-1 CAN/CSA-C22.2 62368-1:2014 VCCI TUV Based on EAL certified technology 	Main Markets Served Global
Transfer Protocols	One of: TCP, UDP, SNMP Traps, or Syslog	
Encryption standards	N/A	
Transfer rate	5 Mbps	
Guest Mode	No - only one Admin account is available.	
Data masking	Owl utilizes a protocol break between the networks and removes identifying IP header information from the payload, maintaining the integrity of the OT network.	
MD Kiosk Integration	Yes	
MD Vault Integration	Yes	
Physical Dimension	1.75"W x 6.75"H x 5.75"D / 4.44 cm x 17.15 cm x 14.48 cm	
Weight	1 lb / 0.45 kg	
Voltage	 Input: 9-25V DC Estimated normal operating usage: 10W total 	
Operating temp	 4° F to +113° F / -20° C to +45° C 5% to 90% humidity non-condensing 	
Input/output support	 Separate ethernet connections for network data and administrative functions Physical connectors: 8P8C (RJ45) Supports 10BASE-T, 100BASE-TX 	
Content filtering	N/A	
Export restrictions	Must comply with U.S. Export Administration Regulations (EAR), 15 C.F.R. Parts 730-772	



Product	OPDS-100D	Quel Cuber Defense
Diode Technology	Owl DualDiode Communication Card (Digital Isolator)	Owl Cyber Defense
Product Description	Designed specifically for industrial control deployments in harsh environments, the compact (DIN rail) OPDS-100D provides secure, simultaneous, one-way data transfers of low to medium volumes of data.	Technical Support Danbury, CT, USA Columbia, MD, USA
Unique value proposition	 Scalable and compact Designed specifically for harsh industrial environments and supports extreme temperatures and shock vibration 	London, UK Abu Dhabi, UAE
SKU	Multi-Purpose	Sales Contact
Certifications	FCC Class A compliance w	sales@owlcyberdefense.com (203) 894-9342
	 CE Mark CB Certificate: Report 31780392.001 EN 60950-1:2006 +A11:2009 A1:2009 A1:2010 + A12:2011 + A2:2013 UL 60950-1:2007 R10.14 CAN/CSA-C22.2 N0.60950-1- 07+A1:2011+A2:2014 International Common Criteria Certification - EAL Certified VCCI 	Main Markets Served Global
Transfer Protocols	UDP, TCP/IP, SNMP, SMTP, NTP, and FTP	
Encryption standards	N/A	
Transfer rate	104 Mbps	
Guest Mode	Yes - with limited access, specified by the admin	
Data masking	Owl utilizes a protocol break between the networks and removes identifying IP header information from the payload, maintaining the integrity of the OT network.	
MD Kiosk Integration	Yes	
MD Vault Integration	Yes	
Physical Dimension	1.92" W x 6.132" H x 5.5" D / 4.88 cm x 15.58 cm x 13.97 cm	
Weight	2 lbs, 7 oz /1.1 kg	
Voltage	 Input: 9-36V DC Estimated Normal Operating Usage: 10-15W per side Max. 20W Per Side Optional AC Power Brick (not provided) 	
Operating temp	 -40°F to +140°F / -40°C to +60°C 5% to 90% humidity non-condensing 	
Input/output support	Separate ethernet connections for network data and administrative functions	
	 Physical connectors: 8P8C (RJ45) Supports 10BASE-T, 100BASE-TX 	
Content filtering	N/A	
Export restrictions	Must comply with U.S. Export Administration Regulations (EAR), 15 C.F.R. Parts 730-772	



Product	OPDS-100	Owl Cyber Defense
Diode Technology	Owl DualDiode Communication Card (Digital Isolator)	
Product Description	The OPDS-100 is a standard, all in one, 1U rack-mountable data diode that provides a deterministic, one-way link with an absolute protocol break, ensuring the highest level of security available to address applications requiring low to moderate data throughput.	Technical Support Danbury, CT, USA Columbia, MD, USA
Unique value proposition	 All-in-one, standard, 1U appliance (smaller than most competitors and all components are in a single unit) Supports protocols like MQTT, OPC UA, and other commonly used protocols) Flexible bandwidth upgrading if requirements increase and large range of throughput options 	London, UK Abu Dhabi, UAE Sales Contact sales@owlcyberdefense.com
SKU	Multi-Purpose	[203] 894-9342
Certifications	 FCC Class A compliance CE Mark CB Certificate: 72161659 UL 60950-1:2007 R10.14 CAN/CSA-C22.2 N0.60950-1-07+A1:2011+A2:2014 International Common Criteria Certification - EAL Certified VCCI 	Main Markets Served Global
Transfer Protocols	UDP, TCP/IP, SNMP, SMTP, NTP and FTP	
Encryption standards	N/A	
Transfer rate	104 Mbps	
Guest Mode	Yes - with limited access, specified by the admin	
Data masking	Owl utilizes a protocol break between the networks and removes identifying IP header information from the payload, maintaining the integrity of the OT network.	
MD Kiosk Integration	Yes	
MD Vault Integration	Yes	
Physical Dimension	 16.5" W x 1.75" H x 13" D 41.91 cm x 4.5 cm x 33 cm 	
Weight	7.92 lbs./3.6 kg	
Voltage	Input: 75-230 VAC, Estimated normal operating usage 10-16 W per side Max. 20W per side 	
Operating temp	 32°F to +110°F 0°C to +43.33°C 5% to 90% humidity non-condensing 	
Input/output support	 Ethernet connection for network traffic Physical connectors: 8P8C (RJ45) Supports speeds of: 10 Mbps, 26 Mbps, 52 Mbps, & 104 Mbps 	
Content filtering	N/A	
Export restrictions	Must comply with U.S. Export Administration Regulations (EAR), 15 C.F.R. Parts 730-772	



Product	OPDS-1000	Quel Cyber Defense
Diode Technology	Owl DualDiode Communication Card (Optical)	Owl Cyber Defense
Product Description	The OPDS-1000 supports secure, one-way data transfers of multiple data types and formats concurrently. Optimized for more demanding industrial control applications, it supports link rates of 104 Mbps, 155 Mbps, 310 Mbps, 630 Mbps, or 1 Gbps.	Technical Support Danbury, CT, USA Columbia, MD, USA
Unique value proposition	 All-in-one, standard, 1U appliance (smaller than most competitors and all components are in a single unit) Supports protocols like MQTT, OPC UA, and other commonly used protocols) Flexible bandwidth upgrading if requirements increase and large range of throughput options 	London, UK Abu Dhabi, UAE Sales Contact sales@owlcyberdefense.com
SKU	Multi-Purpose	[203] 894-9342
Certifications	 FCC Class A compliance CE Mark CB Certificate: 72161659 UL 60950-1:2007 R10.14 CAN/CSA-C22.2 N0.60950-1-07+A1:2011+A2:2014 International Common Criteria Certification - EAL Certified VCCI 	Main Markets Served Global
Transfer Protocols	UDP, TCP/IP, SNMP, SMTP, NTP, SFTP and FTP	
Encryption standards	N/A	
Transfer rate	1000 Mbps	
Guest Mode	Yes - with limited access, specified by the admin	
Data masking	Owl utilizes a protocol break between the networks and removes identifying IP header information from the payload, maintaining the integrity of the OT network.	
MD Kiosk Integration	Yes	
MD Vault Integration	Yes	
Physical Dimension	 16.5" W x 1.75" H x 13" D 41.91 cm x 4.5 cm x 33 cm 	
Weight	7.92 lbs./3.6 kg	
Voltage	Input: 75-230 VAC, Estimated Normal operating Usage 10-16 W/side Max. 20W per side 	
Operating temp	 32°F to +110°F 0°C to +43.33°C 5% to 90% humidity non-condensing 	
Input/output support	 Separate Ethernet connections for network traffic and remote administration Physical connectors: 8P8C (RJ45) Supports speeds of: 104 Mbps, 155 Mbps, 310 Mbps, 630 Mbps, & 1 Gbps 	
Content filtering	N/A	
Export restrictions	Must comply with U.S. Export Administration Regulations (EAR), 15 C.F.R. Parts 730-772	



Product	EPDS	Oud Cyber Defense
Diode Technology	Owl DualDiode Communication Card (Optical)	Owl Cyber Defense
Product Description	Consisting of a pair (2) Dell PowerEdge servers, EPDS maintains process control network isolation, while enabling critical information sharing with networks outside the electronic security perimeter. Supports link speeds of 155 Mbps, 1.25/2.5 Gbps, and 10 Gbps.	Technical Support Danbury, CT, USA Columbia, MD, USA
Unique value proposition	 Supports high link speeds Utilizes 2 dell servers and maintains process control network isolaton 	London, UK Abu Dhabi, UAE
SKU	Multi-Purpose	Sales Contact
Certifications	For V7 Card only International Common Criteria Certification - EAL Certified Enterprise server certification is provided by the server manufacturer 	sales@owlcyberdefense.com (203) 894-9342 Main Markets Served
Transfer Protocols	UDP, TCP/IP, SNMP, SMTP, NTP, SFTP and FTP	Global
Encryption standards	N/A	
Transfer rate	1000 Mbps	
Guest Mode	Yes - with limited access, specified by the admin	
Data masking	Owl utilizes a protocol break between the networks and removes identifying IP header information from the payload, maintaining the integrity of the OT network.	
MD Kiosk Integration	Yes	
MD Vault Integration	Yes	
Physical Dimension	Dependent on servers selected	
Weight	Dependent on servers selected	
Voltage	Dependent on servers selected	
Operating temp	Dependent on servers selected	
Input/output support	Dependent on servers selected	
Content filtering	N/A	
Export restrictions	Must comply with U.S. Export Administration Regulations (EAR), 15 C.F.R. Parts 730-772	



Bayons	Kindi DataDiode	Product
Rovenn	Electrical	Diode Technology
Technical Supp Ankara & Turi	With the hardware-based Kindi Data Diode, critical networks are isolated and the transmission of cyber threats from open ports is physically prevented.	Product Description
Sales Conta	Thanks to its chip-based structure, it is not affected by zero-day threats, can't be re- configured with any SW attack. Bandwidth is 10Gbps and can use %99.8 of it.	Unique value proposition
sales@rovenma.c +90 (312) 397 54	DataDiode10G	SKU
	Common Criteria EAL4 + certification is in the approval process.	Certifications
Main Markets Serv Global, EMEA, UE, Turkic Cour	UDP, TCP/IP, SNMP, SMTP, NTP, SFTP and FTP	Transfer Protocols
	AES 256bt GCM mode (Line Encryption Support)	Encryption standards
	99.8% in 10 Gbps	Transfer rate
	-	Guest Mode
	Fiber optic, no shield	Data masking
	No	MD Kiosk Integration
	No	MD Vault Integration
	1U (Rackmount): 482.5x 375 x 44 (±0.5 mm) (WxDxH) Desktop: 230 x 250x 44 (±0.5 mm) (WxDxH)	Physical Dimension
	1U (Rackmount): 6 kg mechanical weight / 11 kg weight including electronics Desktop: 3 kg mechanical weight / 10 kg weight including electronics	Weight
	12 V	Voltage
	Operating Temperature of 0 ° C to + 50 ° C Storage Temperature -10 ° C to + 80 ° C	Operating temp
	Ethernet (RJ45) RS232, SFP	Input/output support
	N/A	Content filtering
	-	Export restrictions

SIEMENS

Product	CoreShield Data Capture Unit (DCU)	Ciamona Mability (mbl.)
Diode Technology	Electromagnetic induction	Siemens Mobility GmbH
Product Description	Worlds first industrial grade data diode with a safety assessment and security level 3 [SL3] certification (IEC 62443). Designed and made by SIEMENS in Germany.	Technical Support USA: 1-800-793-SAFE Global: +49 531 226 4613
Unique value proposition	Security level 3 (SL3) - IEC 62443 Safety assessment for mission and safety critical applications High reliability Long lifecycle support	sc-railinfrastructure.mobility@ siemens.com dcu.mobility@siemens.com
SKU	A2V00002748719	Sales Contact
Certifications	Security level 3 (SL3) - IEC 62443 Safety assessment	Andres G. Guilarte andres.guilarte@siemens.com
	CB scheme	Main Markets Served
	CE	North America, LATAM, EMEA, APAC
Transfer Protocols	OPC UA, Modbus, OPC Foundation (DA, A&E), FTP, PCAPng, DNP3, TCP, UDP, SMTP, NTP, Syslog, REST API	
Encryption standards	-	
Transfer rate	20-200-1000 Mbps	
Guest Mode	No	
Data masking	Optional	
MD Kiosk Integration	Not yet	
MD Vault Integration	Not yet	
Physical Dimension	60 x 167 x 110 mm or 19" x 1U	
Weight	0.8 Kg / 18 lbs or 1.5 Kg / 33 lbs	
Voltage	24 - 110 V DC or 100 - 240 V AC	
Operating temp	-40° - 70° C	
Input/output support	Ethernet RJ45	
Content filtering	Not yet	
Export restrictions	None	



Product	Binary Armor	Sierre Nevede Corporation
Diode Technology	Electical / software	Sierra Nevada Corporation
Product Description	Binary Armor is an endpoint cybersecurity solution that provides bi-directional security and content filtering across all communications layers.	Technical Support Rvan Baumann
Unique value proposition	Binary Armor automatically responds to the state of your system, adjusting its deep content inspection and filtering based on changes in operational and risk posture	ryan.baumann@sncorp.com 1-720-572-2597]
SKU	7000-SNC-001	Sales Contact
Certifications	Comon Criteria, DISA APL, FIPS 140-2, UL 61010 for Ordinary Environment, UL 121201 for Class I and Class II, Division 2 and Class III, Divisions 1 and 2 Hazardous Locations	Peter Fischer peter.fischer@sncorp.com
Transfer Protocols	HTTP, FTP, SMTP, NTP, XML, DNP3, Modbus, EtherNet/IP, ROC Plus, BACnet, IEC-61850, FMV (MISB KLV and MPEG-2, Cursor on Target (CoT), NMEA 0183, Google Protobuf, Custom Binary, custom ASCII	1-303-347-7176 Main Markets Served North America, USG, EU
Encryption standards	TLS 1.2, DTLS 1.1	
Transfer rate	Up to 400 Mbps, depending on use case	
Guest Mode	Yes	
Data masking	Traffic anonymization via extension	
MD Kiosk Integration	No	
MD Vault Integration	No	
Physical Dimension	3.66" x 3.37" x 2.32 "	
Weight	1.32 lb	
Voltage	12-48 VDC	
Operating temp	-40 to +85 C	
Input/output support	Ethernet (RJ45) x2, RS-232 (DB9) x1, TTL GPI0 x2	
Content filtering	Deep content inspection validates every bite of every message, filtering all data in transit	
Export restrictions	EAR	



Terafer	Vsecure	Product
lefater	Proprietary hardware based "diode" like functionality	Diode Technology
Technical Supp support@terafence.c	Providing Air-Gap level security for CCTV assets isolating them from any form of Cyber or Networ/Cloud based attacks	Product Description
Sales Cont	Air-Gap level of protection while maintaining CCTV end-device functionality by allowing heavily filtered commands to reach the end-device without compromising the Air-Gap isolation.	Unique value proposition
Main Markets Serv	Vsecure-20, Vsecure-50	SKU
Global, North America, EMEA, AF	-	Certifications
	RTSP/TCP	Transfer Protocols
	None	Encryption standards
	1 Gbps	Transfer rate
	No	Guest Mode
	None	Data masking
	No	MD Kiosk Integration
	No	MD Vault Integration
	Wx403, Hx44, Dx360 (mm)	Physical Dimension
	ЗКд	Weight
	12VDC	Voltage
	0-70C°	Operating temp
	2xRJ-45	Input/output support
	None	Content filtering
	None	Export restrictions



MBse	cure+	Terafence
Propri	etary hardware based "diode" like functionality	Terarence
	ding Air-Gap level security for ICS/SCADA assets isolating them from any form of or Network/Cloud based attacks	Technical Support support@terafence.com
	ap level of protection while maintaining ICS process functionality by allowing ly filtered commands to reach the end-device without compromising the Air-Gap ion.	Sales Contact info@terafence.com
MBsed	cure+	Main Markets Served
-		Global, North America, EMEA, APAC,
Modb	us/RTU, SYSLOG, SMTP, MQTT	EU
s None		
1 Gbps	\$	
No		
None		
No		
No		
Wx290	0 , Hx50 , Dx230 (mm)	
450gr		
12VDC	2	
0-70C	0	
2xRJ-	45	
None		
None		



Terafenc	A4Gate	Product
	Proprietary hardware based "diode" like functionality	Diode Technology
Technical Support@terafence.cc	Providing Air-Gap level security for Industry 4.0 assets isolating them from any form of Cyber or Network/Cloud based attacks	Product Description
Sales Conta	Cyber Security for Industry 4.0 applications allowing data upload to cloud applications without exposing the network to any from of Cyber or network/Cloud based attacks	Unique value proposition
info@terafence.co	A4Gate	SKU
Main Markets Serve	CC, CE	Certifications
Global, North America, EMEA, APA I	HTTP/S, ALL SCADA PROTOCOLS	Transfer Protocols
	None	Encryption standards
	1Gbps	Transfer rate
	No	Guest Mode
	None	Data masking
	No	MD Kiosk Integration
	No	MD Vault Integration
	Wx250, Hx71, Dx159 (mm)	Physical Dimension
	2.1Kg	Weight
	12-48VDC	Voltage
	[-40] - 85C°	Operating temp
	2xRJ-45	Input/output support
	None	Content filtering
	None	Export restrictions

Product	VADO Data Diode	VADO Security
Diode Technology	Optic based data diode. TX Hardware unit, TX Hardware unit & software Agents	Technologies
Product Description	VADO Data Diode hardware is composed of a TX hardware unit and an RX hardware unit. The units are connected to servers on each side via Ethernet cables and connected to each other (TX to RX) via a single fiber optic cable.	Technical Support Oren Shani +972-54-7662225
Unique value proposition	Patent panding for Full VM support & Webservice transfer one way	oren@vadosecurity.com
SKU	5007422	Sales Contact
Certifications	NISA	0ren Shani +972-54-7662225
Transfer Protocols	AES, RSA	oren@vadosecurity.com
Encryption standards	1 Gbps	Main Markets Served Global
Transfer rate	Yes	Giobai
Guest Mode	-	
Data masking	No	
MD Kiosk Integration	No	
MD Vault Integration	No	
Physical Dimension	426 X 260 X 44 mm	
Weight	1.5 kg	
Voltage	100V-240V AC redundent	
Operating temp	0° - 40° C	
Input/output support	Ethernet RJ45, Single SC MM Connector	
Content filtering	File Typ & size filtering, XML filtering, Web service filtering + External CF Integrations	
Export restrictions	None	

Product	File transfer Agent	VADO Security
Diode Technology	-	Technologies
Product Description	File transfer Agent allows secure transfer of any type of file or folder one way over the VADO data diode. The files are transferred from external folders located outside of the secured network, to the secure network folders.	Technical Support Oren Shani +972-54-7662225
Unique value proposition	-	oren@vadosecurity.com
SKU	5008045	Sales Contact
Certifications	-	0ren Shani +972-54-7662225
Transfer Protocols	-	oren@vadosecurity.com
		Main Markets Served
Encryption standards	-	Global
Transfer rate	-	
Guest Mode	-	
Data masking	-	
MD Kiosk Integration	No	
MD Vault Integration	No	
Physical Dimension	-	
Weight	-	
Voltage	-	
Operating temp	-	
Input/output support	-	
Content filtering	-	
Export restrictions	-	

Product	SMTP Agent	VADO Security
Diode Technology	-	Technologies
Product Description	SMTP is transferred from an external unsecured server to an internal secured server. Once SMTP is sent from an external server to the internal one, it is possible to receive the mail in a plain and simple secured way	Technical Support Oren Shani +972-54-7662225
Unique value proposition	-	oren@vadosecurity.com
SKU	5003820	Sales Contact
Certifications		0ren Shani +972-54-7662225
		oren@vadosecurity.com
Transfer Protocols	-	Main Markets Served
Encryption standards	-	Global
Transfer rate	-	olobal
Guest Mode	-	
Data masking	-	
MD Kiosk Integration	No	
MD Vault Integration	No	
Physical Dimension	-	
Weight	-	
Voltage	-	
Operating temp	-	
Input/output support	-	
Content filtering	-	
Export restrictions	-	

Product	FTP Agent	VADO Security
Diode Technology	-	Technologies
Product Description	FTP transfer Agent allows secure transfer of any type of file or folder VIA FTP, one way over the VADO data diode. The files are transferred from external folders located outside of the secured network, to the secure network folders	Technical Support Oren Shani +972-54-7662225
Unique value proposition	-	oren@vadosecurity.com
SKU	5004077	Sales Contact
Certifications		0ren Shani +972-54-7662225
Transfer Protocols		oren@vadosecurity.com
		Main Markets Served
Encryption standards	-	Global
Transfer rate	-	
Guest Mode	-	
Data masking	-	
MD Kiosk Integration	No	
MD Vault Integration	No	
Physical Dimension	-	
Weight	-	
Voltage	-	
Operating temp	-	
Input/output support	-	
Content filtering	-	
Export restrictions	-	

OPSWAT. Trust no file. Trust no device.

About **OPSWAT**

OPSWAT is a global leader in critical infrastructure cybersecurity that helps protect the world's mission-critical organizations from malware and zero-day attacks. To minimize the risk of compromise, OPSWAT Critical Infrastructure Protection solutions enable both public and private organizations to implement processes that ensure the secure transfer of files and devices to and from critical networks.

More than 1,000 organizations worldwide spanning Financial Services, Defense, Manufacturing, Energy, Aerospace, and Transportation Systems trust OPSWAT to secure their files and devices; ensure compliance with industry and government-driven policies and regulations, and protect their reputation, finances, employees and relationships from cyber-driven disruption.



For more information on OPSWAT, visit <u>opswat.com</u>. Also visit us on <u>LinkedIn</u>, <u>Twitter</u>, <u>Facebook</u>, and <u>YouTube</u>.