



Protector Series™

Inline Optical Load Balancer

Protector 416 | Protector 2020



Benefits

- Work with any active Inline Tool, e.g.
 - Intrusion Protection System (IPS)
 - Packet Shaper
 - Web Filter
 - other
- Allow use of Gigabit inline tools with 10 GigE Networks
- Spread traffic across multiple instances of same tool
- Direct specific traffic to different tool types
- Enable tool Redundancy (N+N)
- Provide High Availability
- Swap out IPS without Network Downtime or Loss of tool coverage
- Monitor two or more networks with a single inline tool
- Reduce load on inline tools
- Easy to install and manage
- Local and Remote management

Features

- Intelligent Speed Conversion (10 GigE/Gigabit)
- Full line-rate traffic redirection
- Low latency
- Session-aware tool load balancing
- Traffic Grooming on OSI Layers 2-7
- Policy-based action triggering
 - Custom health-check packets
 - Bandwidth utilization checking
- Selective Aggregation
- Intelligent stacking with vStack+™
- Access via Command line, Web browser, and SNMP
 - Telnet and HTTP/HTTPS for management
 - SNMP v3 with RMON for reporting
 - RADIUS and TACACS+ for AAA security
- Network Bypass Options: Fail Open/Closed
- In-field upgradable

Inline Load Balancers

VSS Monitoring is at the forefront of inline traffic redirection and bypass technology to help end-users get the most from their inline network monitoring tools. The Protector is a unique, policy-driven load balancer and speed converter for inline network tools such as Intrusion Prevention Systems and Web filter devices. The Protector acts as a signal and/or tool protection system, enabling granular contingency control based on inline tool status.

A real-time tool that functions primarily in hardware, the Protector passively streams bidirectional full-duplex network(s) to an IPS (or other tool) for inspection and reinsertion inline. Intelligent 10 GigE speed conversion (step up/down) and Session-Aware Load Balancing enable multiple IPS tools to share traffic inspection for one or more networks.

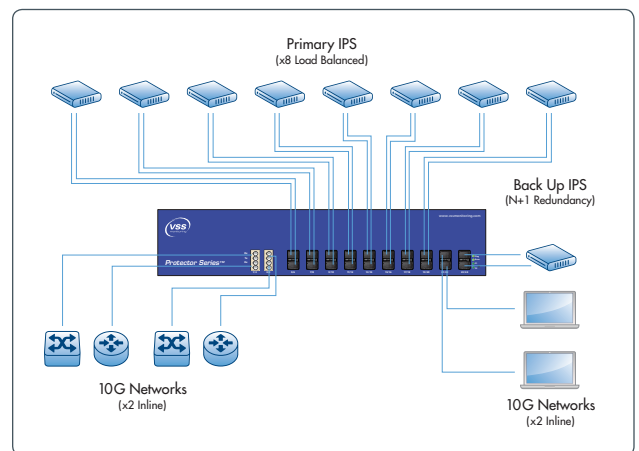
The Protector is transparent and failsafe on the network. In the event of IPS failure, the Protector can (1) stream traffic to alternate, redundant IPSs, (2) stream the traffic around the IPS (directly connecting network nodes), or (3) break the network link to ensure traffic does not continue uninspected.

Network bypass and monitoring redundancy options are policy-based and configurable through the Protector's intuitive graphical user interface.

The Protector can also simultaneously support passive analysis tools for out-of-band monitoring. Passive monitoring tools are segmented from the inline application and will not affect the transfer of traffic through the Protector or IPS. For passive monitoring ports, the Protector supports aggregation, filtering and Session-Aware Load Balancing.

Product Description

The Protector Inline Load Balancer allows inline bypass, load balancing aggregation, and grooming of traffic from networks ranging from Gigabit to 10 Gigabit using any of its 24 ports. The Protector is designed to scale to any size deployment for virtually any budget. The 2020 model ships with four fixed LC ports enabled for redirecting traffic from 10 Gigabit networks and the remaining 18 SFP+ ports may be enabled using a license key from VSS Monitoring. The 416 model ships with 8 fixed LC ports for redirecting traffic from 1 Gigabit networks, eight fixed LC ports, and eight SFP ports. All ports are independently controllable and flexible, allowing the operator to designate any port as input, output or a stack port.



Intelligent Speed Conversion

Real-time conversion of speed enables one or multiple Gigabit IPSs to be deployed on a 10 GigE network. The Protector streams Gigabit-converted 10 GigE traffic from the network to an IPS and, upon inspection by the IPS, the Protector will stream the traffic back through the network at 10 GigE.

Session-Aware Load Balancing

The distribution of traffic across groups of IPSs can be defined by the user so that session consistency is maintained for each tool. Once session criteria have been defined based on the available options, the traffic is automatically (dynamically) load balanced across the inline monitor ports. In the event of link failure to a tool in a load balanced group, the traffic will redistribute across remaining ports in the group. A failover policy can also be implemented where traffic would be steered to a designated redundant IPS. Load balancing can be conducted over a group of IPS tools that are connected to multiple different Protector units, using VSS Monitoring's vStack+ technology.

Inline Tool Redundancy

N+N options for tool redundancy can be implemented through either Session-Aware Load Balancing or user-defined failover actions, where, in the event of primary tool failure, traffic is steered to a backup tool.

Network Bypass

In event of total IPS or other inline tool failure, the Protector can bypass the IPS tools and allow traffic to flow uninspected or it can close the network traffic stream to prevent uninspected traffic from continuing through the network.

Policy-Based Triggering

In addition to monitoring the state of the inline or IPS tools, users can select from and define additional policies for triggering actions to be taken by the Protector. Triggering can be set for events such as link/port activity, power supply status, health (using custom crafted health-check packets) of the inline tool (not just outright failure), or status of another interconnected Protector, and actions taken can be to send a SNMP trap, send a Syslog message, illuminate a front panel LED, disable ports, etc.

VSS Monitoring's Protector Series is uniquely capable and highly versatile and is the only vendor-neutral device addressing policy-based load balancing and redundancy for inline tools and IPSs.

Technical Specifications

Unit Model:	Protector 2020				Protector 416							
Mechanical												
Fiber type:	SR		LR		ER		SX		LX		ZX	
Network Bypass Port Pairs:	(x2)		(x2)		(x2)		(x4)		(x4)		(x4)	
Input/Output Ports:	(x20)		(x20)		(x20)		(x16)		(x16)		(x16)	
Total Weight:	26.5 lb (12.1 kg)					16.75 lb. / 7.6 kg.						
Size:	17.3" (w) x 22.5" (d) x 3.5" (h) / (441mm x 572 mm x 89mm) 2RU High, Fits standard 19" Rack, 21" Deep					17.3"(w) x 22.5"(d) x 1.75"(h) / (441mm x 572 mm x 44.5mm) 1RU High, Fits standard 19" Rack, 21" Deep						
Performance												
Full line rate:	240 Gbps					24 Gbps						
Data												
Rates:	1 - 10 Gbps					1Gbps						
Types:	1000 Base-T, 1000 Base-SX, 1000 Base-LX, 1000 Base-ZX, 10G Base-LR, 10G Base-ER, 10G Base-ZR, 10G Base-SR, 10G Base-CX4, 10G Base-T					1000 Base-T, 1000 Base-SX, 1000 Base-LX, 1000 Base-ZX						
Power												
AC Voltage: 90-264 V	290 W					115 W						
DC Voltage: -48 to -72 dc	288 W					85 W						
Propagation Delay												
Network to Network:	< 300ns					< 300ns						
Network to Monitor:	To: 1 Gbps < 13.2µs, 10 Gbps < 2.6µs					< 13.2µs						
Splitter Insertion Loss												
Split Ratio:	90:10		80:20		70:30		60:40		50:50			
Wavelength:	Insertion Loss (dB)		Net		Mon		Net		Mon		Net	
	850nm SX/SR		< 1.3		< 10.8		< 1.9		< 8.0		< 2.5	
	1300nm SX/SR		< 1.3		< 10.8		< 1.9		< 8.0		< 2.5	
	1310/1550nm LX/ZX /LR/ER		< 0.7		< 11.4		< 1.4		< 7.9		< 1.9	
Environmental												
Temperature:	0 – 55 degrees C (operating); -20 – 100 degrees C (storage)											
Humidity:	5% – 95%, non-condensing											



Network Visibility. Optimized.

USA
(Corporate HQ)
+ 1 650 697 8770 phone
+ 1 650 697 8779 fax
1850 Gateway Drive, Suite 500
San Mateo, CA 94404
USA
www.vssmonitoring.com

Japan
+ 81 422 26-8831 phone
+ 81 422 26-8832 fax
T's Loft 3F, 1-1-9,
Nishikubo, Musashino,
Tokyo, 180-0013
Japan
www.vssmonitoring.co.jp

China
+ 86 10 6563-7771 phone
+ 86 10 6563-7775 fax
C519, 5 Floor,
CBD International Tower
16 Yong'An Dong Li,
Beijing, China 100022
www.vssmonitoring.com.cn

VSS Monitoring, Inc. is the world's leading innovator of Distributed Traffic Capture Systems™ and network taps, focused on meeting the rapidly evolving requirements of security and performance conscious network professionals. Distributed Traffic Capture Systems herald a new architecture of network monitoring, one which fundamentally improves its capability and price-performance.

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