

# X BALANCER™



## Introducing a Purpose-Built 24 port 10G Load Balancer

### Features

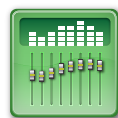
- Purpose-built for load balancing
- Flow-coherent traffic distribution for multiple inline tools or monitoring tools working in parallel
- Line-State awareness
- Heartbeat monitoring of attached tools
- Supports tool sharing — multiple independent links can share a pool of monitoring devices
- TapFlow™ multi-layer filtering engine for layer 2-4 filtering
- Load balance bypass for selected traffic
- Aggregation of input traffic from multiple links
- Any-to-any, many-to-many port mapping
- RMON statistics (packet count, utilization, etc.)
- Works with external taps, SPAN ports, and bypass switches
- Any port can be used for monitor or network
- Supports 10 Gbps and 1 Gbps speeds
- Twenty-four 10-Gigabit/1-Gigabit SFP+
- 24 network plus 24 monitor connections possible with simplex cables (RX fiber for network, TX for tool)
- Dual redundant hot-swappable AC or DC power supplies

### Benefits

- Inline tool load balancing (IPS): Leverages 1G and 10G monitoring tool investments
- Improves 10G network compliance and security management
- Relieves oversubscribed tools by load balancing
- Compatible with monitoring tools, traffic recorders, and intrusion detection and prevention systems from all major manufacturers

### Automated Balancing Act At 240 Gbps

Net Optics xBalancer™ is a load balancing appliance for monitoring high-speed network traffic. As a cost-effective way to share the increasing traffic load among multiple inline tools. Recording and inspecting all traffic on high-volume 10G networks puts pressure on organizations to either invest heavily in new 10G tools or risk oversubscription. Now, xBalancer enables two or more appliances to be deployed in parallel with traffic balanced between them—a low-cost solution for using IPSs, firewalls, Web accelerators, and other inline appliances more efficiently and avoiding tool oversubscription that could affect service level agreements. xBalancer further raises the efficiency of inline appliances by sharing a pool of them across multiple independent network links.



### The Load Balancing Solution

Net Optics xBalancer™ is the first appliance that is purpose-built for distributing a traffic load to multiple tools. With its 24 SFP+ ports and integrated data rate conversion, it is ideal for balancing traffic from 10G links to multiple 1G tools. It can also aggregate traffic from multiple 1G and 10G links and distribute it to 1G or 10G tools.

With the addition of a monitoring load balancer, multiple 1G tools can share the load to process increasing volumes of traffic at a lower cost than investing in new 10G tools. The CAPEX itself may be lower, and major savings accrue by avoiding the disruption and learning curve of integrating complex new tools into the environment.

### Flexible Balancing

xBalancer offers the flexibility to support many traffic monitoring configurations:

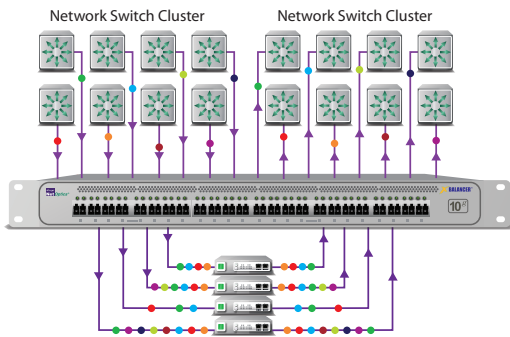
- ✓ In-band (inline) for IPSs, firewalls, and application performance management devices
- ✓ Out-of-band (sniffer) for tools such as traffic recorders and IDSs
- ✓ Multiple independent load balancers
- ✓ Tool sharing, where multiple independent links share the same pool of inline monitoring devices such as IPSs



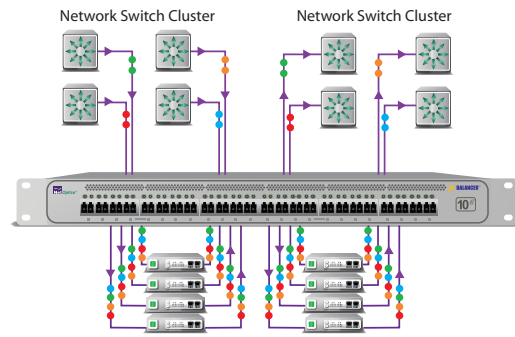
### High Availability

For mission-critical monitoring, xBalancer provides advanced features including link-state awareness and Heartbeat monitoring of tool health. When one tool fails, traffic can be automatically distributed to the remaining tools until the failed tool is repaired and returned to service, minimizing loss of monitoring capability in most failure scenarios.

## Multiple Configurations

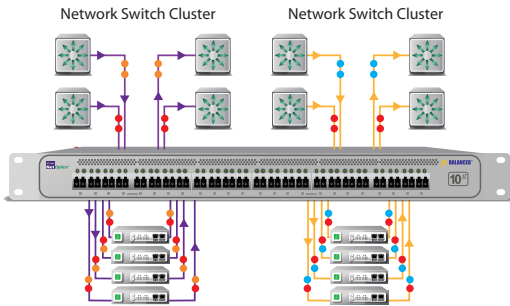


Inline load balancing of eight independent links



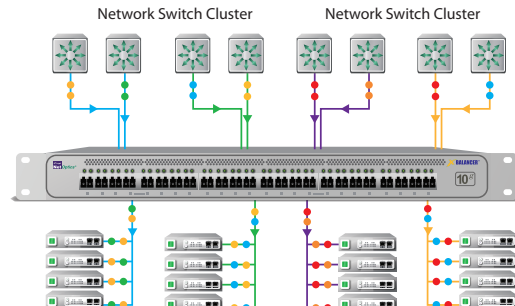
Four links to eight inline tools

- Inline
- 4 Independent Links
- 8 IPSs



Two independent inline load balancers

- Inline
- 2 Independent Links
- 4 IPSs



Four independent out-of-band load balancers

- Out of band
- 2 Aggregated Spans
- 4 Tools

## Specifications

### Operating

Operating Temperature: 0°C to 40°C

Storage Temperature: -10°C to 70°C

Relative Humidity: 10% min, 95% max, non-condensing

### Mechanical

Dimensions: 1.75" high x 19" wide x 17.5" deep

Mounting: Surface or 19" rack mount (1U)

Weight: 13.6 lbs (6.2 kg)

### Connectors

Ports: (24) SFP+

Management Port: (1) RJ45 10/100/100 Copper Network

Configuration (CLI) Port: (1) RJ45 RS232

Power: (2) AC universal or (2) -48VDC, redundant, hot-swappable modules

DC Receptacle: Terminal peak, 12-14 gauge wire

### Electrical Specifications

AC Input: 100-240VAC, 4.5A, 47-63Hz (Japan: 100-125VAC, ~300 VA, 50-60Hz)

DC Input: -48VDC nominal, -36 to -72VDC, 4.0A

### Indicators

(All ports) Link LEDs

(All ports) Activity LEDs

(2) Power LEDs

### Performance

Hardware throughput: 240 Gbps; no packets dropped as long as monitor traffic does not exceed monitor port bandwidth

Latency: Less than 2 microseconds, any port to any port, any amount of regeneration and filtering (excluding aggregation head-of-line blocking delays)

Load balancing: Flow coherent, hash-based, 5-tuple (SIP, DIP, SPORT, DPORT, protocol), 2-tuple (SIP+DIP), or other combinations of L2-L4 header fields including SMAC, DMAC, ethertype, and VLAN; out-of-band, inline, tool sharing; 10G-to-1G data rate conversion; link state awareness; Heartbeat monitoring of inline tool health; 1 to 8 independent load balance groups with up to 16 load-balanced outputs per group

Port mapping: Aggregation, any number of ports; regeneration, any number of ports; any-to-any, any-to-many, many-to-any, and many-to-many; any port can be used as an input, an output, or both simultaneously

TapFlow: Filter by IP source address, IP destination address, MAC source address, MAC destination address, source port, destination port, protocol, network port or port group, VLAN

RMON statistics: Current utilization, total packets, total bytes, CRC errors

Device management: Local (console) and remote (SSH)

CLI, remote software upgrades, RADIUS and TACACS+ authentication and authorization

Certifications

Safety: UL, CE EMC: FCC, VCCI, C-Tick

Environmental: RoHS, WEEE

Protocol: Fully IEEE 802.3 compliant

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### Warranty and Maintenance

All Net Optics products come standard with a 1 year manufacturer's warranty. Additional Maintenance Plan options are available for purchase; visit [www.netoptics.com](http://www.netoptics.com) for details.

### Part Numbers

XB-2400X xBalancer 24 SFP+ Ports

XB-2400X-DC xBalancer 24 SFP+ Ports, -48VDC

SFP+ or SFP modules are required for operation and are sold separately

### SFP+ kits – 10 Gbps

SFP+KT-SR 10G Fiber SR SFP+ Transceiver

SFP+KT-50SR 10G Fiber SR 50um SFP+ Transceiver

SFP+KT-LR 10G Fiber LR SFP+ Transceiver

### SFP kits – 1 Gbps

SFPKT-SX 1G Fiber SX SFP Transceiver

SFPKT-50SX 1G Fiber SX 50um SFP Transceiver

SFPKT-LX 1G Fiber LX SFP Transceiver

SFPKT-CU3 10/100/1000 Copper SFP Transceiver

All SFP+ and SFP kits include a 3-meter cable.

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