

OptiView™ Link Analyzer



- Supports 10/100 Mbps RJ-45 UTP or LX/SX/T Gigabit Ethernet using hot-swappable GBIC MAU
- ASIC base hardware supports real-time line rate monitoring and packet capture up to full duplex Gigabit speeds
- Support realtime expert analysis on Gigabit Link
- Easy to set up using web browsers or Telnet
- Real-time traffic monitoring on Cisco ISL or 802.1Q VLAN trunk
- Large 256 MB capture buffer
- Built-in alarm server triggers SNMP traps or email notification directly
- Dual interface design works with in-line taps for full duplex traffic analysis
- Built-in interface controls a multi-port, in-line tap to access multiple switched Ethernet links
- Synchronizes system clock to external NTP server for dual location latency measurement
- Optional hard drive model includes an 80 GB disk for extended packet capture space

When deploying mission critical applications or troubleshooting related problems on high-speed 10/100 or 1000 Mbps switched Ethernet links, good protocol analysis software is not enough. You also need a distributed hardware analyzer that can remotely monitor and capture traffic at full line rate on full duplex links to provide accurate timing and traffic analysis. The OptiView™ Link Analyzer and in-line taps are the ideal solution.

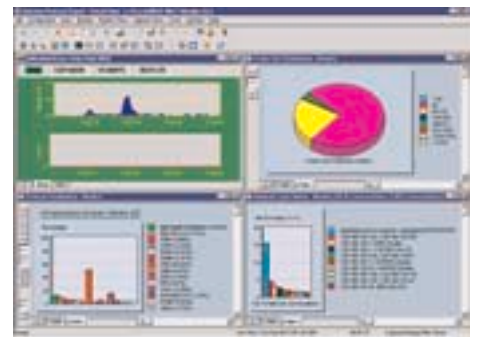
Designed for network management staff in the IT operation center, the Link Analyzer works with OptiView™ Protocol Expert Plus and OptiView™ Console to provide full visibility of traffic on high performance, switched Ethernet Links.

Total integration.

Total control.

Total Network SuperVision.

Our OptiView Network Analysis Solution is a breakthrough in integrated portable and distributed monitoring and analysis hardware and software. It gives you a fast, complete view of your entire enterprise, from portable devices to workgroup analyzers to high performance gigabit line-rate link analyzers – across multiple vendors. Only OptiView combines the analysis techniques of packet capture, statistical analysis and network discovery to deliver new speed. New ease of use. New depth of vision. New control to optimize the performance of WAN, LAN and wireless networks.



OptiView™ Link Analyzer and an 8 port in-line fiber tap.

Powerful line-rate capture and application monitoring

When analyzing real-time applications, such as VoIP, dropping one frame during a call setup session could mean losing visibility of the entire VoIP session. The OptiView Link Analyzer uses silicon-accelerated hardware to capture every frame on an Ethernet segment.

Each Link Analyzer can synchronize its system clock to an external NTP server. Combined with its nanosecond timestamp resolution for packet arrival times and its line rate filtering feature, users can utilize multiple Link Analyzers to accurately track packets of interest as they transverse through the network. The Link Analyzer provides the accuracy and reliability required to troubleshoot the toughest application response time problems.

Integrated support for 10/100 Mbps and Gigabit Ethernet

The Link Analyzer supports 10/100BASE-T and three different versions of Gigabit Ethernet, 1000BASE-SX, 1000BASE-LX and 1000BASE-T using hot-swappable GBIC MAU. The Link Analyzer is shipped with a pair of 1000BASE-SX G-BIC MAU.

Full visibility on full duplex switch links

The Link Analyzer is equipped with two media-modules that can simultaneously monitor two traffic data streams. It can synchronize the two media-modules and aggregate the data captured or monitor the application response time and other events in various conversations on a full-duplex link. Alternatively, traffic on two separate network segments or switch links can be monitored with one Link Analyzer connected to two mirror/SPAN ports.

Remote management

Each Link Analyzer has a dedicated 10/100 Mbps Ethernet RJ-45 management port that allows it to be controlled remotely from any point on the network by OptiView Protocol Expert software. Settings of the Link Analyzer system, such as NTP server synchronization, SNMP Trap and email alarm notification and user access privileges can be easily configured remotely using Telnet or a Web Browser, such as Internet Explorer.

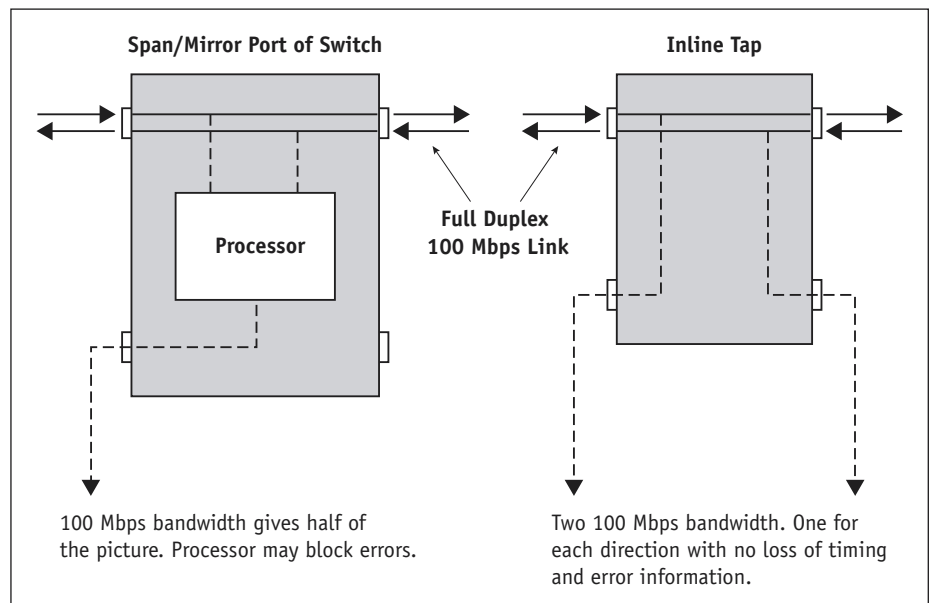
Intelligent Alarm System

The Link Analyzer has a built-in alarm server. Alarm thresholds for more than 150 predefined alarm conditions can be set for each of the media modules on the Link Analyzer using OptiView Protocol Expert. The Link Analyzer can send SNMP traps and emails and log alarm messages when thresholds are exceeded. The Link Analyzer can directly monitor traffic status and conduct comparisons against alarm thresholds. This frees up Protocol Expert to conduct analysis of other network traffic.

In-line tap products

Monitoring full-duplex links in today's high-speed switched networks with switch mirror ports often results in the loss of information due to error blocking, serialization delay and over-subscription. Fluke Networks has the solution. Our copper and fiber in-line taps provide visibility of full duplex traffic, at full line rate on an otherwise inaccessible switch link. Traffic is sent to the Link Analyzer without any loss of packet, error and timing information. Single port taps are economical devices that can be permanently installed on critical links to provide visibility to traffic when breaking the connection is not an option.

The 12-port copper in-line tap (TAP-12) offers visibility of up to 12 10/100BASE-T switch links (or mirror ports) from one Link Analyzer. For fiber links, an 8-port singlemode (FTAP-8S) or 8-port multimode (FTAP-8M) fiber in-line tap is available. Two 8-port in-line taps can be connected together to provide access to up to 16 switch links with one Link Analyzer. A dedicated tap control port is available on the Link Analyzer. Users running OptiView Protocol Expert software can remotely control a multi-port in-line tap through the Link Analyzer over the network.



In-line tap delivers full visibility

Benefits of in-line taps:

- A cost-effective solution for viewing all packets, including error frames, on one or more full-duplex switched Ethernet links.
- Saves time by eliminating the need to suspend network service and reconnect the network each time a segment is analyzed.
- Completely passive and power fail-safe for fiber or copper links.
- Multi-port taps allow you to remotely monitor multiple, full-duplex switch links with one OptiView Link Analyzer: up to 12 copper 10/100 Mbps switch links and 16 multimode or singlemode 10/100/1000 Mbps fiber links.

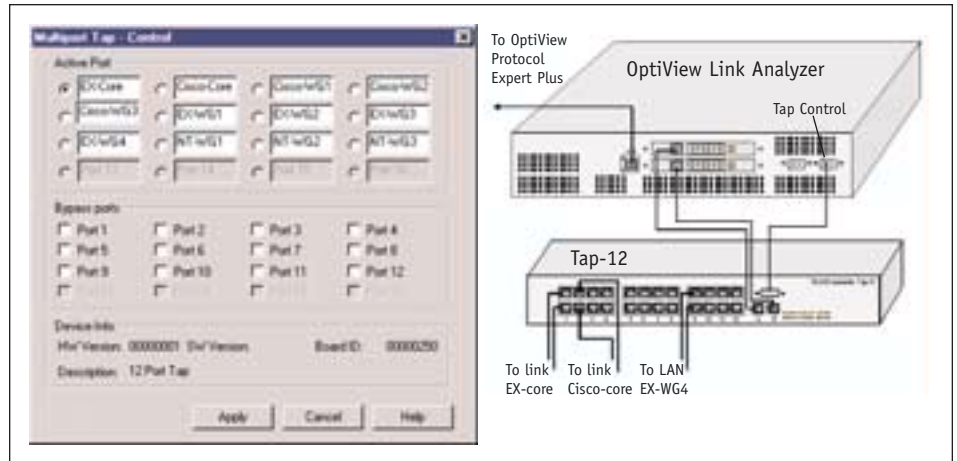
Application examples:

1. VoIP quality measurement

Analysis of VoIP traffic requires measuring real-time parameters such as jitter and packet loss for each direction of a call. To ensure accurate VoIP service assessment and troubleshooting, you must have visibility of traffic through the POP and other critical junctions of the network. The OptiView Link Analyzer and in-line tap can be easily deployed to perform the necessary analysis. In addition, the VoIP option and OptiView Protocol Expert Plus software offers easy to read, real-time VoIP Quality of Service (QoS) metrics with “Quality Grades” and alarms to quickly assess whether toll-like voice quality is guaranteed through the network.

2. Multiple link segments accessing

Connecting a Fluke Networks 12-port in-line tap for RJ-45 (TAP-12) or 8-port fiber in-line tap (FTAP-8M or FTAP-8S) to multiple critical switch links provides a single Link Analyzer access to multiple full-duplex segments. When connected to the dedicated tap port of the Link Analyzer, the multi-port tap can be controlled across the network by OptiView Protocol Expert Plus software.



Controlling TAP-12P is easy using the OPV-PE/Plus with OPV-LA.

OptiView™ Link Analyzer Specifications

Physical Specifications	
Number of Media-Module(s)	Two
Memory	128 MB per media-module
Analyzer Ports on Media-Module	Removable GBIC, Duplex SC-type connector, multimode and 10/100 Mbps RJ-45
Hard Drive (LA/HD only)	80 Gigabit IDE
Analyzer Port LEDs	10/100 link LED Gigabit link LED
Dimension	3.5 x 13.5 x 14.5 in (8.9 x 34.3 x 36.8 cm)
Weight	18 lbs (8.2 kg)
Power Consumption	160 watts
Fuse Protection	2.5A @ 250V
Input Voltage Range	90-264V
Input Frequency	47-63 Hz

Traffic Monitoring Capability	
Buffer Size	128 MB per module
Network Statistics	All
Packet Decode Summary	N/A
Sync View, Full-Duplex	Yes
Packet Slicing	32, 64, 128 byte, full packet options
Monitor Filter	Uses capture filter

Note: For detail on network statistics available, please refer to OPV-PE datasheet

Traffic Capture Capability	
Capture Performance	@10 Mbps: 14,880 pps @100 Mbps: >148,809 pps @1 Gbps: >1,488,090 pps
Capture Packets Filter	Hardware-based, up to 16 filters may be applied on a single packet with no performance effect.
Number of custom counters supported	8
Packet Slicing for capture	32, 64, 128 bytes, full packet options
Timestamp Resolution	25 nanoseconds
Hard disk (LA/HD only)	80 Gigabyte IDE

Traffic Generation Capability			
Load Specification	<1 to 100%, up to 5-6 min		
Iterations: number of times a group of frames is transmitted	1 to 100,000,000 or continuous		
Pre-defined protocol templates	802.1D ARP ISL AppleTalk Echo Request (ASP, ATP, PAP) TCP Application layer packets (FTP, HTTP, NetBios, Telnet, SNMP, SMTP) Netware packets (NCP, IPX, SAP, NetBios) Ethernet DEC Request Sys ID (DNA, LAC, NSP) IP SNAP (TCP, UDP) IP Network layer (ICMP, OSPF) <i>Note: User can create custom templates</i>		
Message length range includes FCS	8 to 1,518 bytes using Packet Editor. A packet of up to 5000 byte may be created using the Packet Editor.		
Frame Copy	Copy from another message. Copy from capture buffer.		
Frame Formats	Ethernet, IEEE 802.3		
Number of user-defined bytes per message in address fields	All can be user defined.		
Pre-defined data patterns for data field bytes 15 to 78 of message	As part of the Traffic Generation Option, Fluke Networks supports: 1. Selection among several data streams. 2. User entered data. 3. Packet data incrementing sequentially from an offset (n, n@1, n@2,...).		
Frame padding selected from these options	User-defined: any one byte value 0x00 to 1xFF Incremental: pattern increments from 0x00 to 0xFF, then repeats Random: data pattern is random after first 12 bytes		
FCS Selection	Good: automatically calculated Bad: use-definable		
Errors	Runts, jabbers, bad FCS		
Ethernet Interface gap (minimum)	8.8 μ s @ 10 Mbps 0.88 μ s @ 100 Mbps 0.15 μ s @ 1000 Mbps		
Ethernet Percent Utilization (maximum)	Frame size	10/100 Mbps	1G Mbps
	19	88%	70%
	64	94%	75%
	1518	99%	98%
	3898	100%	99%



Ordering Information

OptiView™ Link Analyzer and Protocol Expert Software	
Model	Description
OPV-LA	OptiView™ Link Analyzer
OPV-LA/HD	OptiView™ Link Analyzer with hard drive
OPV-T	1000 BASE-T GBIC, RJ-45
OPV-LX	1000 BASE-LX GBIC, SC connector
OPV-PE/PRO	OptiView™ Protocol Expert software
OPV-PE/PLUS	OptiView™ Protocol Expert Plus software (adds remote control and traffic generation functions)
OPV-PE/VOIP	VoIP Option for OptiView™ Protocol Expert
OPV-PE/EP	Upgrade from OPV-PE/PRO to OPV-PE/PLUS
GDVS	Gigabit Distributed Vision Suite includes OPV-LA, OPV-PE/PLUS, OVC, TAP-IP, FTAP-101

Note: OPV-LA and OPV-LA/HD require OPV-PE/PLUS to operate

In-Line Taps	
Model	Description
TAP-1P	Single-Port Tap, 10/100 Mbps Ethernet, RJ-45
TAP-12	12-Port Copper Tap, 10/100 Mbps Ethernet RJ-45
TAP-1G	Single-Port Tap, 1000BASE-T Ethernet, RJ-45
FTAP-8M	8-Port Fiber Tap, Multimode, SC connector
FTAP-8S	8-Port Fiber Tap, Singlemode, SC connector
FTAP-101	Single-Port Tap, Multimode Fiber, SC connector
FTAP-102	Single-Port Tap, Singlemode Fiber, SC connector
FTAP-003	Rack mount kit for three Single-Port Fiber Taps
FTAP-012	Rack mount kit for twelve Single-Port Fiber Taps

Our Gold SuperVision Support plans give you exclusive services and 24/7 technical assistance.

Sign up for our Gold SuperVision Customer Support plan and you'll enjoy outstanding privileges to protect and add value to your investment in Fluke Networks equipment. They include unlimited tech assistance seven days a week, 24 hours a day via phone or at our web site support center. Repairs on covered items and overnight exchange/loaner units for uninterrupted service. Free software upgrades. Scheduled calibration and performance verification services. Web based training. Access to our extensive Knowledge Base library of operation and application

related technical articles. And Gold "Members Only" special prices and promotions. Some benefits are not available in all countries. See www.flukenetworks.com/goldsupport for more information.

Warranty

The OptiView Link Analyzer comes with a standard, one-year exchange warranty. Fluke Networks will exchange the unit with a unit of equal or better performance. An annual Gold Support package for the OptiView Link Analyzer hardware is available to provide one year of extended warranty coverage.

NETWORK SUPERVISION

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Fluke Networks operates in more than 50 countries worldwide. To find your local office contact details, go to www.flukenetworks.com/contact.

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