FLUKE networks

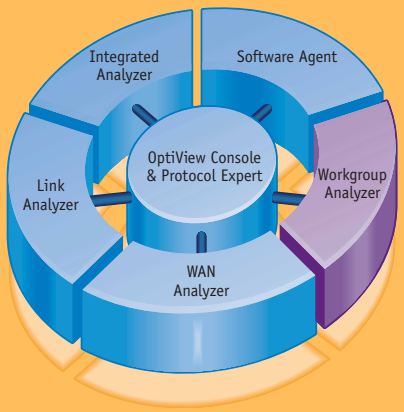
OptiView™
Workgroup Analyzer

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.



A revolution in distributed monitoring and analysis

Now there's a distributed solution designed for integrated use with Fluke Networks' OptiView™ Console and Protocol Expert. With the OptiView Workgroup Analyzer, you can monitor and analyze 10/100/1000 Ethernet networks right from your desktop. Locate the OptiView Workgroup Analyzer at the same site or at a remote site literally anywhere in the world to gain a "virtual" presence for analysis and troubleshooting of any segment of the enterprise network. With minimal pre-configuration, no network experience is required to install it at remote sites. The OptiView Workgroup Analyzer contains all the features available to the OptiView Integrated Network Analyzer except for the display. The OptiView Workgroup Analyzer allows a total of eight remote sessions to simultaneously conduct network analysis, controlled through the 10/100 Mbps out-of-band management port directly connected to a switch port, or the Network Under Test port connected to a non-blocking SPAN/mirror port.

Setting a new standard in distributed network analysis

Fluke Networks' OptiView Workgroup Analyzer is a new approach to distributed network analysis that gives you the Network SuperVision you need on all seven layers, with the speed and simplicity your organization demands. Installation is a snap. The out-of-band management port can be statically configured or the network under test port will configure itself with a valid IP address, with or without the use of DHCP. Install the user interface on the controlling PC. Launch the OptiView Browser from your desktop and select an analyzer from the OptiView Browser list, or enter the IP address of the analyzer, and access valuable network information through the user interface software.

The OptiView Workgroup Analyzer provides complete seven-layer support in a single rack-mountable package. *Features include:*

- Expert automation, providing network information at a glance
- Advanced active discovery, even in switched environments
- SNMP device analysis
- RMON2 compatible traffic analysis
- Traffic generation
- Packet capture
- Direct connection to 10BASE-T and 100BASE-TX
- Fiber connections for 100BASE-FX (Pro model)
- Gigabit support with standard fiber 1000BASE-SX, 1000BASE-LX and copper 1000BASE-T GBICs (Pro Gigabit model)
- In-band or out-of-band management
- Serial configuration port provides static configuration of IP address parameters via command line interface
- Supports up to eight simultaneous remote users
- Password protection on all access ports
- WAN Vision Option

A revolution in distributed monitoring and analysis.

Technical Data

The information-rich Network Front Page gives you instant vision into what's happening on your network in an easy-to-understand format that allows you to easily drill down into any area by simply clicking the target of interest. When a connection is made to a 10BASE-T or 100BASE-TX network, the OptiView Workgroup Analyzer automatically performs a cable test, identifying any problems with the cable and measuring the cable showing the length to the attached port. Then, the advanced discovery system takes over to provide you with immediate information, such as percentage utilization of bandwidth, problems detected, protocol statistics, devices and networks discovered. The discovery system differentiates between hosts, interconnect devices such as switches and routers, servers, printers and SNMP devices. The discovery system also shows the number of IP subnets, IPX, NetBIOS and AppleTalk networks.

Statistics at the touch of a button

Select the statistics tab to see a wealth of information on utilization, protocols, top hosts and conversations.

Utilization and errors

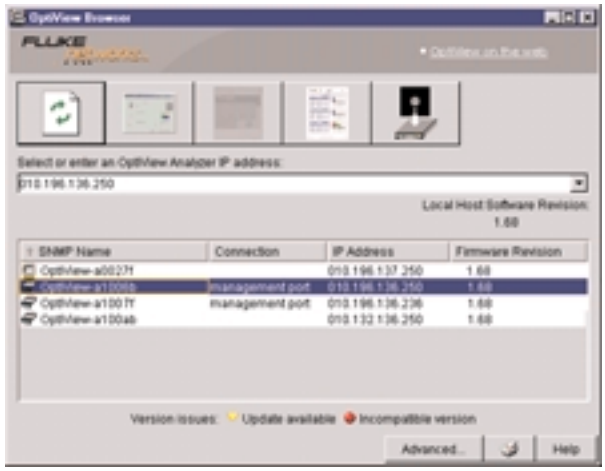
This function provides a historical analysis on the performance and health of the network segment where the OptiView Workgroup Analyzer is attached. The default data source is the Workgroup Analyzer, but the Data Source drop down menu lists all RMON and RMON2 devices that have a history study enabled. This function allows you to select a device anywhere on your network and display the information gathered by that device. Even multi-port devices can be interrogated on an interface-by-interface basis. The utilization graph shows percentage utilization over time. Based on the pre-configured RMON history studies for the selected device, you can choose from any of the existing history durations. The OptiView Workgroup Analyzer's time interval is selectable from 2.5 minutes to 15 hours. Each sample is time stamped and the cursor may be moved over any sample to provide additional information shown in the table below the graph. The utilization screen also allows you to display the Top Talkers, Top Multicasters and Top Broadcasters.

Switching the view from utilization to error mode displays a graph of errors by CRC Alignment errors, oversize and undersize packets, fragments and jabbers. Click on the Top Error Sources button to display the names and addresses of the stations responsible for generating the errors.

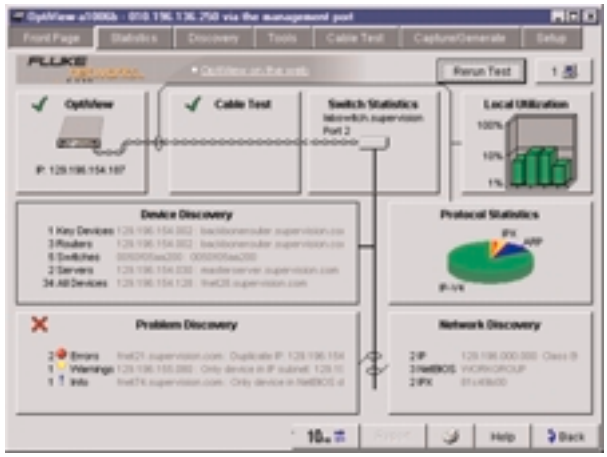
Protocols

The protocols screen displays the current list of active protocols as seen on the network segment where the analyzer is connected. The left side of the screen displays the protocol tree that may be expanded to show all protocols and sub-protocols running–from the MAC layer all the way to the application layer.

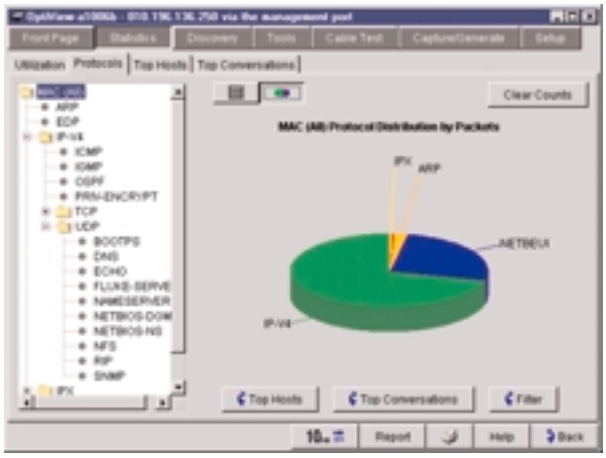
The protocol mix may be displayed at any level in a pie chart or tabular format. When used in tabular mode, the protocols may be sorted by Packets or Octets by clicking on the Packets or Octets column header. The Top Hosts and Top Conversations keys allow you to display the top hosts or conversations by protocol type. For example, expanding TCP, selecting HTTP and clicking on the Top Conversations key will provide a display of all the conversations using HTTP protocol.



OptiView Browser



Network Front Page



Protocols

Top Hosts and Conversations

The Top Hosts screen displays the top transmitting or receiving devices on the segment where the analyzer is attached. When the MAC (All) protocols are selected in the left hand pane, the host table may be sorted by Packets sent or received, Octets sent or received, errors, broadcast or Multicast packets. When a specific protocol or sub-protocol is selected, the host table may be sorted by Packets or Octets. The host table may be further sorted in ascending or descending order by name or address. When Top Conversations is selected, the display shows the conversations between hosts for the selected protocol. Top conversations may also be sorted by Packets or Octets. You can view additional information on the host devices by selecting a specific conversation and then selecting Host A or Host B detail buttons.

Advanced discovery techniques finds devices, networks and problems in seconds

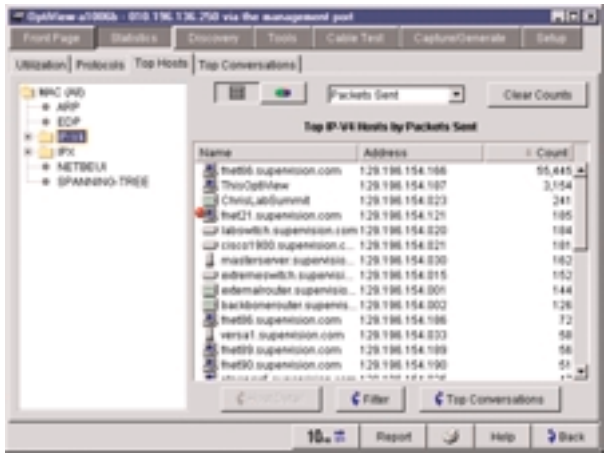
The OptiView Workgroup Analyzer starts its discovery process as soon as it is connected to a network. Real-time results of devices, networks and problems are discovered continuously.

Device Discovery

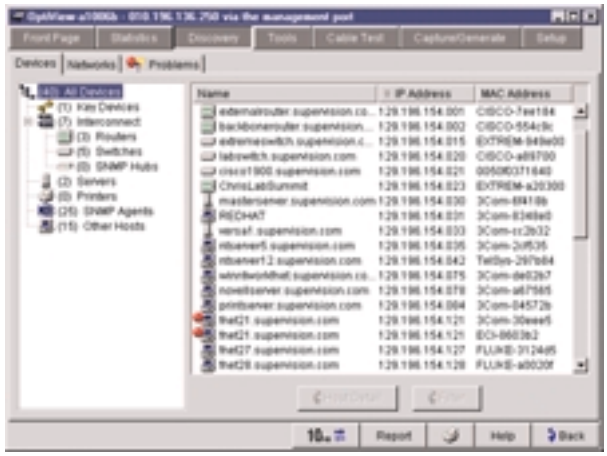
Devices are discovered by monitoring traffic and by actively querying hosts. For all discovered devices, the analyzer will present the best possible information in terms of DNS Name, NetBIOS Name, SNMP Name, IPX name and also addresses. The Workgroup Analyzer differentiates between various types of host device. Interconnect devices are further categorized by Routers, Switches, SNMP Hubs and wireless access points while Servers, Printers and SNMP agents are also identified. The Device list will also include "Offnet" devices identified by performing a ping or trace route to those devices. The devices listed in the right hand pane are dependent on the category selected on the device type. All devices may be sorted in ascending or descending order by Name, IP address or MAC address. By highlighting a specific host and selecting the Host Detail button, you can obtain valuable information on that host such as name, address, protocol and network configuration. This overview screen allows you to add the device to the "Key Device" category. By adding a device to Key Devices, the analyzer will automatically test connectivity from the attached segment to that device by performing an IP or IPX ping. A key device that fails to respond will show up in the Problem Discovery as "Key Device not responding," providing you with at-a-glance monitoring of critical network devices.

Network Discovery

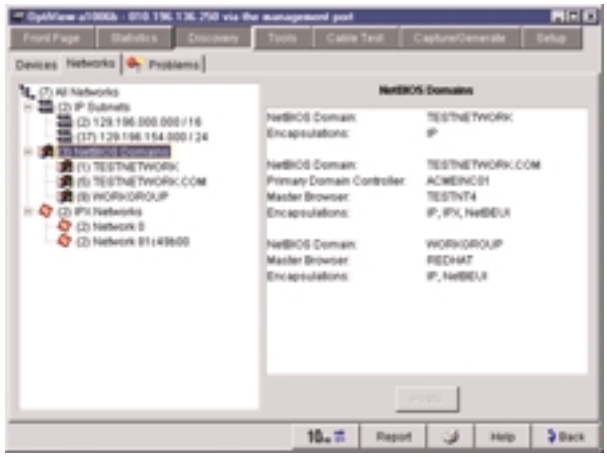
This screen display shows your network categorized by network type. Networks and all associated devices are discovered by traffic monitoring and by actively querying the hosts. The left pane of the display shows the network types (IP, IPX and NetBIOS). Expanding and selecting the network type provides a detailed summary for all local networks. For IP networks, the Subnet, Range, Mask and Broadcast address is displayed. For IPX networks, the Network number, Nearest Server and encapsulation types are displayed. For NetBIOS domains, the domain name and Master Browser or Primary Domain Controller information is displayed.



Top Hosts and Conversations



Device Discovery



Network Discovery

Problem Discovery

The Problem Discovery screen shows all network hosts that may be experiencing problems. Problems are reported according to severity— error, warning or informational. Resolved problems are also displayed. Examples of the types of problems that are detected by the OptiView Workgroup Analyzers' expert systems are:

Errors
Incorrect subnet mask
Duplicate IP address
IP address is subnet address
IP address is subnet broadcast address
Key device not responding
DHCP Server offered IP already in use
Lost DHCP lease
Warnings
Default router not responding
Only device in IP subnet
Only device in IPX subnet
Proxy ARP reply for local IP
Information
Only Device in NetBIOS Domain

The Problem Discovery information may be sorted in ascending or descending order by Host, Severity or Description.

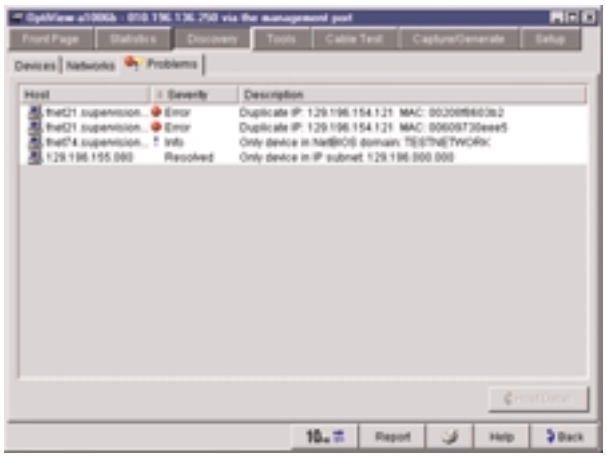
SNMP Device Analysis

The Overview screen displays valuable information about a selected device. The device detail can include Names, Addresses, Protocols, NetBIOS, Services, Router, Printer and Remote Monitoring capabilities that the device supports. Names and addresses are reported as DNS, SNMP, IPX and NetBIOS names, IP, IPX and MAC addresses. If a router is selected, the routing protocols are reported and switch configuration is reported by spanning-tree, transparent or source-routed. If the device is capable of supporting remote monitoring, the level of information provided is shown as SNMP, RMON or RMON2.

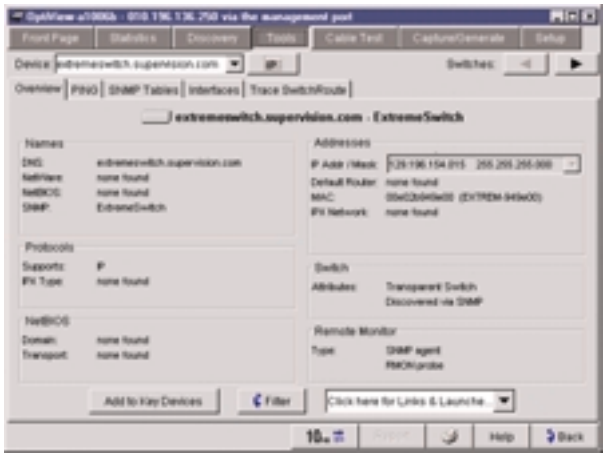
A Links and Launchers drop down menu allows you to select from Telnet sessions, Web Browser, Terminal Emulation, MIB Browsing and more. The capability of the selected device determines the type of links that are displayed in the menu.

Ping and Trace Route

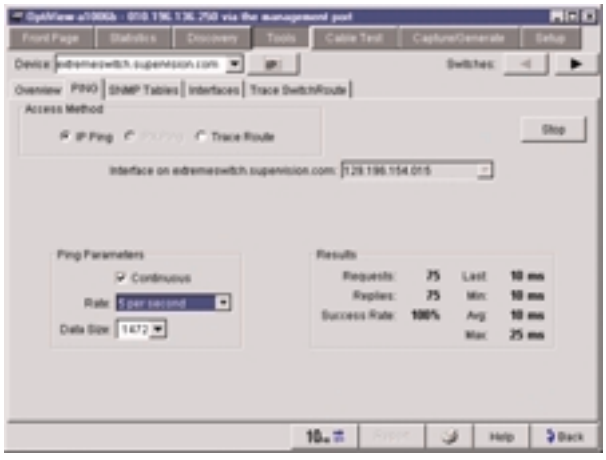
The OptiView Workgroup Analyzer automatically pings (IP or IPX) the selected device and reports the results. The parameters that may be configured for an IP ping are rate (10, 5 and 1 per second or once every 5 seconds) and data size (18 bytes to 1472 bytes –minimum and maximum length Ethernet frames). The results indicate the total number of requests, the number of replies, success rate and minimum, average and maximum response times. When Trace Route is selected, the analyzer automatically runs a trace route on the selected device. If the device is not in the host list, its address or DNS name may be entered in the Device drop down. Results displayed by the trace route are number of hops, name and IP address of each device per hop and total round trip response times for each hop. In addition, the OptiView Workgroup Analyzer's trace route function can also identify Split Routes and Route Flapping. The Workgroup Analyzer may also be used to view the System Group, Routing and ARP tables of all routers that separate the two hosts.



Problem Discovery



SNMP Device Analysis



Ping and Trace Route

Trace SwitchRoute

The OptiView Workgroup Analyzer's Trace SwitchRoute feature allows you to see the exact path through your switch fabric that two devices use to communicate. The Trace SwitchRoute begins its discovery from the specified Source Device and traces the path to the specified Target Device. For each switch in the path, the displayed results include the name, address, switch port, slot together with link speed and VLAN information.

Highlighting any device in the Trace SwitchRoute name column and selecting Host Detail will allow you to view information on that device's network configuration.

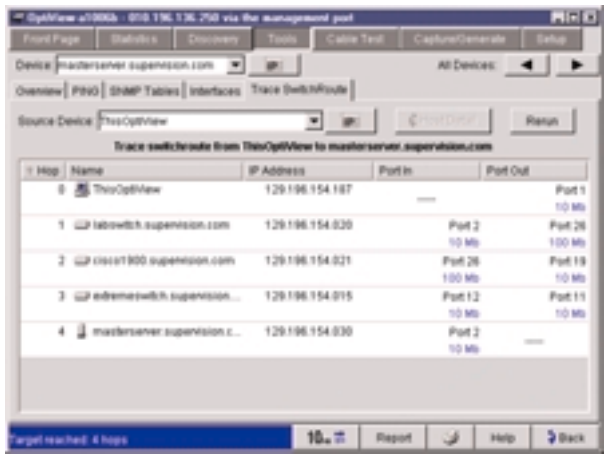
Interfaces (Multi-Port Statistics)

This screen allows you to view multi-port segments simultaneously, enabling you to diagnose hard-to-analyze switched LAN segments. It also allows you to see the activity on numerous locations on your network. The Interfaces screen provides graphical and tabular multi-port views of switches and routers at a glance.

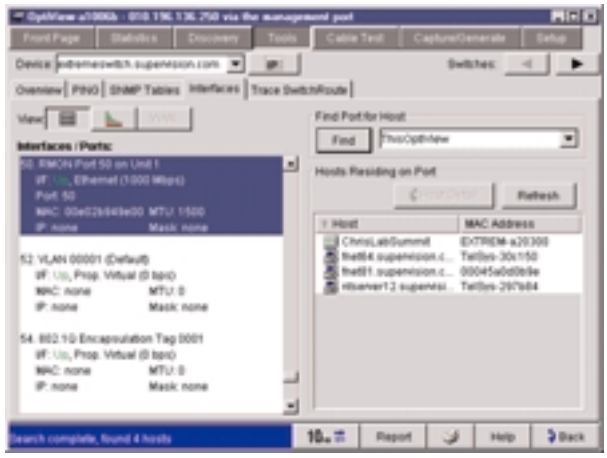
This test provides vision into the selected device in two distinctive views.

Tabular View displays the devices interface table and, if the device is a switch supporting the standards based switch forwarding table, will display the host devices residing on the selected port. The display also indicates the interface type, status and speed together with the slot and port number, the Maximum Transmission Unit (MTU), MAC address, and, using private MIB support for some vendors, will display VLAN number. This view also incorporates a Find Host feature where the analyzer will locate the port on the device where the host selected in the Find Host box resides.

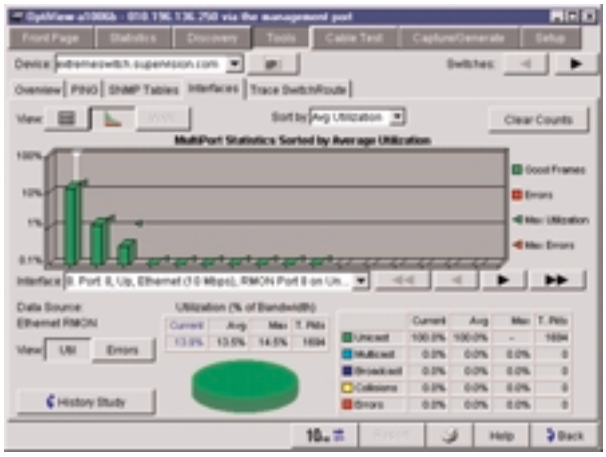
Graphical View displays port or interface statistics sorted by average utilization, average errors or port/interface number. Any individual port or interface may be selected to view more detailed statistics. If the device supports RMON, the additional History Study button will allow you to view historical information gathered by the device.



Trace SwitchRoute



Tabular View



Graphical View

The WAN vision option displays graphical information on T1/E1, T3, Frame Relay, ATM and ISDN wide area links on routers that support standards based MIBs.

Cable Test

The OptiView Workgroup Analyzer, when connected to a network using copper media, will automatically perform a cable test and provide you with the cable length to the attached device even into a live switch or hub port. When you select the Twisted-Pair detail screen, you will see Cable Wire Pair, Impedance, Length to End, Length to Reflection and Status or Anomalies (shorts, opens, split-pairs) displayed in a tabular format. Additional information such as Receive Pair, Transmit Pair, Receive Voltage and Polarity is also displayed. The OptiView Workgroup Analyzer even automatically compensates for a crossover connection, continues to function, and informs the user of an MID-X connection. Various cable types may be selected and measurement units can be displayed in feet or meters.

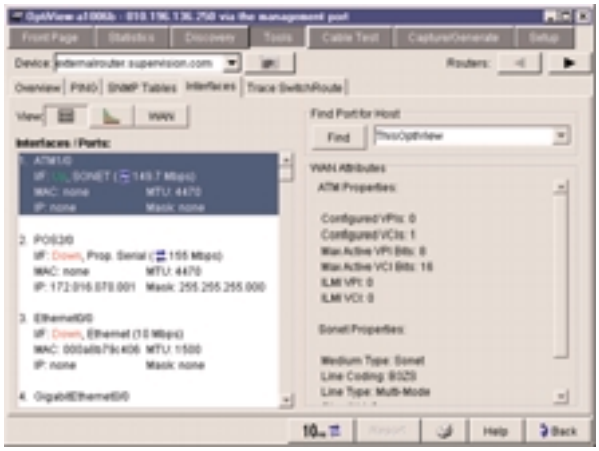
Packet Capture and Filter

For more difficult problem solving, the OptiView Workgroup Analyzer integrates a full packet capture function. The OptiView Workgroup Analyzer is capable of full line-rate packet capture–even at gigabit speeds.

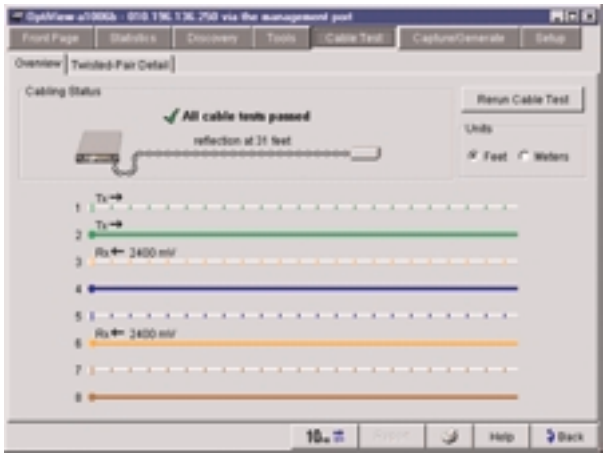
Just select the Capture/Generate tab and without any modifications, start capturing packets on your network. For more selective packet captures, use the context sensitive filter. Simply select the host device from the device discovery screen, or a conversation from the statistics screen, click on the filter button and the packet capture engine is automatically populated with source and/or source and destination addresses of your selection. If you need even more selectivity, you can select a host or conversation using a particular protocol just as easily.

Just as you would expect from a traditional protocol analyzer, the OptiView Workgroup Analyzer's packet capture screen allows you to set up the capture buffer size, the slice size, the buffer configuration and various other parameters.

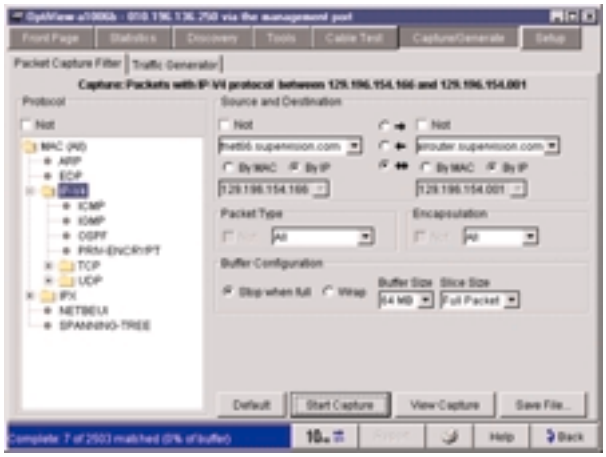
Once you have the configuration you need, select Start Capture and let the analyzer filter and capture while you make another selection from the variety of tests to get a different view of your network. The analyzer continues to capture packets while you look at something else. When you stop the capture, select Save File to automatically save the capture file to your controlling PC's hard drive. If you have OptiView Protocol Expert installed on your PC, you can select View File to launch the application and view the decodes instantaneously.



WAN Vision Option



Cable Test



Packet Capture and Filter

Traffic Generation

The OptiView Workgroup Analyzer Traffic Generator function allows you to create different traffic loads to help stress test your network. The protocol type, frame size, frame rate, percentage utilization and number of frames to transmit are user configurable along with the type of traffic: Broadcast, Multicast or Unicast.

Protocols that may be selected include Benign Ethernet, Benign LLC 802.2, NetBEUI, Benign IP, IP ICMP Echo, IP UDP Echo, IP UDP Discard, IP UDP NFS and IP UDP NetBIOS. Selecting an IP protocol will also allow you to select Time to live (TTL) parameters and TOS (QOS) parameters such as Minimum Delay, Maximum Throughput, Maximum Reliability, Minimum Monetary Cost and Maximum Security. The Traffic Generator also provides you with some preset traffic conditions such as 50% of 512 Kbps, 50% of 1.5 Mbps, 50% of 10 Mbps and 50% of 100 Mbps.

The lower portion of the Traffic Generator screen has a graphical representation of the traffic path and depending on the traffic type selected, will allow you to analyze switch statistics, drill into routers and even perform a trace route measurement.

Reporting features

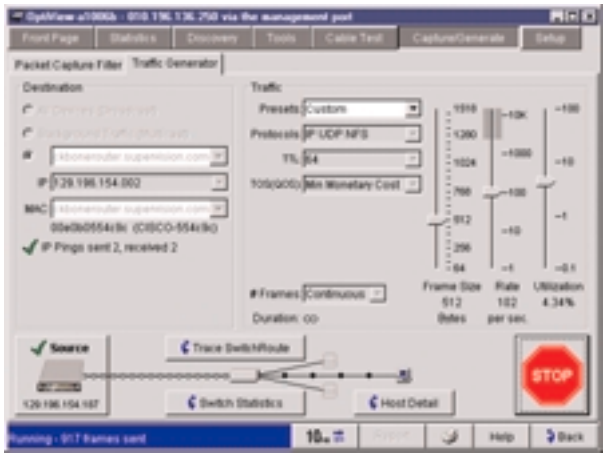
While viewing the Statistics or Discovery screens, you may press the Reports key to generate HTML reports on Protocols, Top Hosts, Top Conversations, Devices, Networks, Problems and switch interfaces. These reports are automatically saved on the controlling PC's hard drive.

Context-Sensitive help

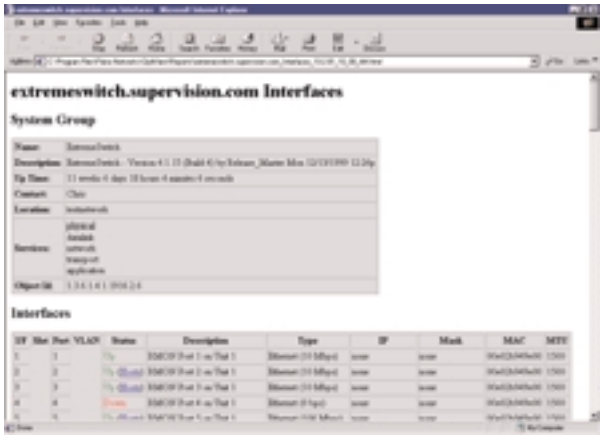
The OptiView WGA help feature is contextually linked to each screen. While that help screen is displayed, you may select other information from the table of contents, choose an index entry, or perform a full text search on any help topic or term.

Set-up TCP/IP

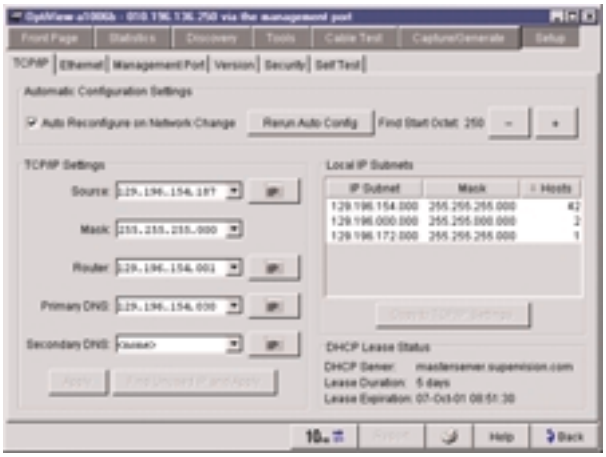
When the analyzer is first connected to the network, it will attempt to determine configuration settings using DHCP. If there is no DHCP response, the analyzer will look at its current configuration to determine if it is valid. If the configuration is invalid, the analyzer will select a local IP subnet based on which IP subnet has the most hosts and then pick an unused IP address valid for the subnet. If another device on the subnet with the same IP address as the analyzer is connected, the analyzer will automatically discontinue use of that address and warn the user in the status bar and also in the problem discovery.



Traffic Generation



Reporting Features



TCP/IP Set-up

Ethernet
The Ethernet Setup screen allows you to override the default Ethernet port settings. The default settings are all set to automatic. This screen also shows you the link capabilities of the port where the analyzer is connected. The MAC address of the analyzer's network under test port can be changed and the port can be placed in a receive-only mode where no frames are transmitted.

Management port
The 10/100 Mbps out-of-band management port may be configured via DHCP or statically assigned an IP address.

Security
This screen provides access to analyzer security settings for packet capture, remote access and SNMP configuration. The feature allows you to selectively disable certain functions on the analyzer by requiring the use of a password. This feature also allows for entry of analyzer Read and Read/Write community strings for remote access of the RMON2 agent and also allows you to enter community strings used to interrogate your managed devices.

Self Test
Provides access to the functional verification tests available in the OptiView Workgroup Analyzer.

Ethernet

Distributed Vision Suite

The Distributed Vision Suite turns the OptiView Workgroup Analyzer into a complete solution for control of distributed switched environments. A few years ago, a protocol analyzer gave you total network visibility. But then switched networks came along and left you in the dark. That's why we developed our new Distributed Vision Suite. This powerful package of visionary network management products works with the OptiView Workgroup Analyzer to monitor, analyze and troubleshoot, giving you control of every situation that pops up. You get enterprise-wide vision with the power to drill down seven layers deep.

You can illuminate problems through the application layer with our OptiView Protocol Expert software. It can analyze capture files from OptiView Analyzers for full seven-layer decodes with expert analysis. Advanced filtering and triggering let you find offending packets. And, our OptiView Console software monitors and trends all the ports in your switched network. Or, set it up to collect data from your OptiView Analyzers. With a single click, you can generate spanning tree and switched server connection diagrams with our unique link to Visio® software. And if a key device, router, or switch port is overloaded, you'll know about it in a heartbeat.

Included with OptiView Workgroup Analyzer:

Country specific AC power cord, Getting Started Guide, OptiView Resource CD, includes OptiView Browser, user interface software, OptiView firmware, MIB Browser and Getting Started Guide (Multiple languages in PDF format), female to female DB-9 null modem RS-232 cable, Cat 5 patch cable, Registration Card.

OptiView™ Reporter Software

Fluke Networks OptiView™ Reporter Software gives you the data you need to make informed decisions about your network.

- Access OptiView Analyzer data remotely
- Immediate or delayed acquisition modes
- Generate network performance reports in HTML format such as:
  - IP Inventory reports on devices including IP Address, MAC Address, and Domain Name
  - NetBIOS Inventory report on devices including IP Address, MAC Address, NetBIOS and Domain Names
  - Top Protocols and Applications by host
  - Distribution of protocols present by frame count graph, and usage
  - Ethernet Network Usage trend graph including Average Network Bandwidth Consumption, Average Frame Rate and Average Frame Size
  - Ethernet Collision Summary trend graph including Ethernet Traffic
  - Ethernet Network Segment Errors trend graph; including Collisions, Bad FCS, Jabbers, Short Frames
  - Top Network Traffic Senders, Receivers and Broadcasters

Performance reports for local network segments

Baseline information is key to consistent network performance. As a network manager, if you don't know what constitutes normal operation for your network, how will you know when minor irregularities signify major problems to come? The best way to define normal operation for your network is to collect and plot statistical data about the network. This data, often referred to as a baseline report, should include a breakdown of network activity, as well as profile statistics about the network users. Once you establish a reference point for normal operation, you can regularly monitor the network and compare the results against the reference point to analyze trends and detect any significant deviations. The baseline report is also valuable during troubleshooting because it quickly isolates the "change" that has occurred to cause the problem.

Introducing Fluke Networks OptiView™ Reporter Software

Now there's an easy way to create baseline reports that will help you make informed decisions about your network. Fluke Networks OptiView Reporter Software operates with Fluke Networks OptiView Integrated Network Analyzers and OptiView Workgroup Analyzers to quickly generate baseline reports that reflect your network's status. Simply launch the OptiView Reporter Application and select the IP address of the OptiView Analyzer that you want to use to generate reports.

Baseline report samples

Inventory Reports for IP or NetBIOS list the active devices running the protocol. These reports list the MAC addresses, IP addresses and the DNS or NetBIOS names of the stations. They also list the services the stations provide, such as DNS, DHCP, and SNMP in the case of IP stations, and Primary Domain Control or Master Browser for NetBIOS. These reports provide unparalleled benefits when trying to understand the stations, services and protocols present on a network segment.

Top Protocols and Applications by Host lists the top 10 protocols and applications and shows the top 50 hosts using that protocol.

Protocol Mix reports provide information on the protocols detected on the network segment. The bar graph in the report shows the ranking of each protocol by frame count, and further lists the percent usage for each protocol.

Ethernet Network Usage displays the average network utilization over a selected time interval. The charts in the reports depict trending data by average utilization over trend intervals.

OptiView™ WAN Vision Option

Fluke Networks WAN Vision Option now allows you to discover and diagnose problems on Wide Area Links.

Why is Internet access slow today? Are you constantly concerned about the performance of your expensive Wide Area Links? Fluke Networks gives you the visibility you need to manage and troubleshoot your costly WAN links by extending the award-winning OptiView Analyzer's capability with the WAN Vision software option. Utilizing router SNMP agents and standards based MIBs, the OptiView WAN Vision option provides you with performance and health information on ATM, frame relay, ISDN, T1/E1, T3 and SONET.

Today's increasing demand for greater quantities of information at higher speeds, telecommuting, Internet access and video conferencing have forced LAN/WAN internetworking and data communication equipment and services to keep pace with, and sometimes exceed, the demands of corporate enterprise networks. Consequently, network managers are now concerned with the performance of their Wide Area Links. Am I getting the bandwidth I paid for? Am I under- or over-utilizing my purchased bandwidth? How do I avoid LAN vs. WAN finger-pointing? Is it my network or the ISP? Where is the bottleneck?

The OptiView Integrated Network Analyzer,

or the OptiView Workgroup Analyzer with the WAN Vision option, utilizing SNMP with standards-based MIBs, lets you see what is happening on your wide area connections from anywhere on the network.

Connect the OptiView Analyzer to the network, and then select Device Discovery. The attached IP segment has been analyzed and all critical network attributes will be categorized and displayed. Selecting Routers from the Interconnect category will display the names of all discovered routers. By highlighting your WAN router and pressing the Host Detail button, you can now drill into the WAN interfaces on the device using the WAN Vision option.

Specifications

General Specifications	
Weight	1.7 kilograms (3.8 lbs)
Dimensions	4.1 x 21.1 x 32.8 cm (1.6 x 8.3 x 12.9 inch), one half of a standard 19 inch rack mount width
AC inputs	85 to 265 VAC; 47/63 Hz; 25 watts
LED indicators	Power, Management Link, Network Link, Utilization, Transmit, Collisions, Errors
Capture memory	64 MB (OptiView™ Workgroup Pro and Pro Gigabit models)
Ports	
Configuration	Serial RS-232 (9-pin male)
Management	10/100BASE-T (RJ-45)
Network analysis	10/100BASE-T, (RJ-45), 100BASE-FX (SC fiber), 1000BASE-X (SX-GBIC ,LX-GBIC and T-GBIC)
Network Standards	
LAN interfaces	IEEE 10BASE-T, IEEE 100BASE-TX, IEEE 100BASE-FX, IEEE 1000BASE-X
Standard SNMP MIBs used	1493, 1512, 1513, 1643 (STD0050), 1748, 1749, 2011, 2012, 2013, 2021, 2108, 2115, 2819 (STD0059)
Media	
Cable types	Unshielded twisted pair LAN cables (100 and 120 Ohm UTP category 3, 4, 5, 5E, and 6 ISO/IEC Class C and D) Foil-screened twisted pair cables (100 and 120 Ohm ScTP category 3, 4, 5, and 6 ISO/IEC Class C and D)
Cable length	Resolution 0.1 m (1 ft.)Open or shorted 1 to 305 m (3 ft. to 1000 ft.) +/- [2% of reading + 0.3 m (1 ft.)] Terminated with greater than or equal to 15% reflection 1 to 153 m (3 ft. to 500 ft.) +/- [5% of reading + 0.3 m (1 ft.)] Note: Length accuracy is dependent upon the cable type selected in the Cable Test, Twisted-Pair Detail screen with its ideal NVP (nominal velocity of propagation) matching the NVP of the cable under test
Characteristic impedance	50 to 150 Ohms, cables 3-5 m (10-16 ft.) +/- (5 Ohms +10%)
	50 to 150 Ohms, cables >5 m (16 ft.) +/- (5 Ohms +5%) Resolution: 1 Ohm
Receive level	100 to 5000mVp-p, +/- 5%
Resolution	10mV
Datalink signal	500mVp-p to 4000mVp-p
Measuring terminated cables	Able to analyze individual twisted-pairs of a cable that are terminated into most equipment vendors' Ethernet ports such as on a hub, switch or NIC. All cable tests other than wiremap and office locator ID are operational in the presence of datalink signal.
Fault tolerance	The RJ-45 10/100BASE-T Ethernet connection that is on the analyzer is designed to withstand a maximum of 100 volts.
GBIC identification	Identifies and operates with the following GBIC module types per SFF Document Number SFF-8053, Gigabit Interface Converter, Rev. 5.4: LX (1300nm), SX (850nm), and T (copper twisted pair).

Specifications

Environmental and Safety	
Operating temperature	10°C to 30°C (50°F to 86°F) with up to 95% relative humidity 10°C to 40°C (50°F to 104°F) with up to 75% relative humidity
Non-operating temperature	-20°C to +60°C (-4°F to +140°F)
Shock and vibration	Meets requirements of MIL-PRF-28800F for Class 3 equipment
Laser	Class 1 Laser Product, complies with 21 CFR 1040.10 and 1040.11, CFR(J)
Safety	(CSA) Complies to CSA C22.2 No. 950 Canadian standards, and UL 1950 (US standards) (CE) Complies with European Union directives EN60950 3rd edition and EN61326
EMC	Satisfies requirements of EN61326

PC System requirements for user interface

Operating System	Windows® XP, Windows® 2000, Windows NT® Version 4, service pack 5.0 or higher, Windows® 98SE
	Microsoft TCP/IP Stack
	Winsock 2.0
Physical Requirements	200 MHz Pentium processor
	64 MB RAM (Running multiple sessions of the software will require more memory. 96 MB for 8 simultanious sessions)
	70 MB hard drive space
	800x600 SVGA Video display
	CD-ROM drive

PC System requirements for OptiView Reporter

Operating System	Windows® 2000, Windows® 98,or Windows NT® 4.0 (Service Pack 5.0 or higher)
	Microsoft TCP/IP Stack
	Winsock 2.0
Physical Requirements	200 MHz Pentium II processor
	64 MB RAM
	150 MB virtual memory
	100 MB hard drive space
	CD-ROM drive

Ordering Information

Model	Description
OPV-WGA/STD	OptiView Workgroup Analyzer
OPV-WGA/PRO	OptiView Workgroup Analyzer Pro
OPV-WGA/GIG	OptiView Workgroup Analyzer Pro Gigabit (1000BASE-SX)
OPV-WGA/STD/DSVS	Distributed Vision Suite with OptiView Workgroup Analyzer Standard includes OPV-WGA/STD OptiView Workgroup Analyzer Standard, OVC OptiView Console and OPV-PE/PRO OptiView Protocol Expert
OPV-WGA/PRO/DSVS	Distributed Vision Suite with OptiView Workgroup Analyzer Pro includes OPV-WGA/PRO OptiView Workgroup Analyzer, OVC OptiView Console and OPV-PE/PRO OptiView Protocol Expert
OPV-WGA/GIG/DSVS	Distributed Vision Suite with OptiView Workgroup Analyzer Pro Gigabit includes OPV-WGA/GIG OptiView Workgroup Analyzer Pro Gigabit, OVC OptiView Console and OPV-PE/PRO OptView Protocol Expert

Accessories and Options

Model	Description
OPV-SX	1000BASE-SX GBIC
OPV-LX	1000BASE-LX GBIC
OPV-T	1000BASE-T GBIC
OPV-TCASE	Ruggedized transit case for OptiView Workgroup Analyzer
OPV-RMK	Rack-mount kit for one or two Workgroup Analyzers
OPV-RPT	OptiView Reporter
OPV-PE/PRO	OptiView Protocol Expert
OPV-PE/PLUS	OptiView Protocol Expert Plus
OVC	OptiView Console
OPV-WV	WAN Vision Option

You're covered with Gold SuperVision Support

Optimize your OptiView Workgroup Analyzer with the best in support while protecting against downtime and obsolescence. Experience a privileged level of entitlement and assistance. Order Gold SuperVision Support for your OptiView Workgroup Analyzer now by calling 1-800-553-5853 in the USA or Canada, or 00 800 632 632 00, or +44 1923 281 300 in Europe. In all other locations, contact your local authorized Fluke Networks representative for pricing and availability.

NETWORKSUPERVISION

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