FLUKE networks

OptiView® XG

Network Analysis Tablet

The OptiView XG is the first tablet specifically designed for the network engineer. It automates root-cause analysis of network and application problems allowing the user to spend less time on troubleshooting and more time on other initiatives. It is designed to support deployment of new technologies, including unified communications, virtualization, wireless and 10 Gbps Ethernet. The result is that new initiatives get up and running faster and networks stay productive even in these days of smaller teams.

- *Intuitive user interface and customizable performance dashboards*
- *Automated analysis and guided troubleshooting*
- *The ONLY tablet with 10 Gbps "On the wire" analysis*
- *Application-centric analysis*
- *Manage network and technology changes*

The OptiView XG's unique tablet form factor provides the mobility to connect, analyze and troubleshoot anywhere in the network – at the desk, in the data center, or at the end user location. It can quickly analyze the performance and health of devices, interfaces and paths on your network—which moves beyond traditional LAN/WAN switching and routing to a true network fabric that incorporates heterogeneous physical devices, wireless networks, virtualized servers and networks.

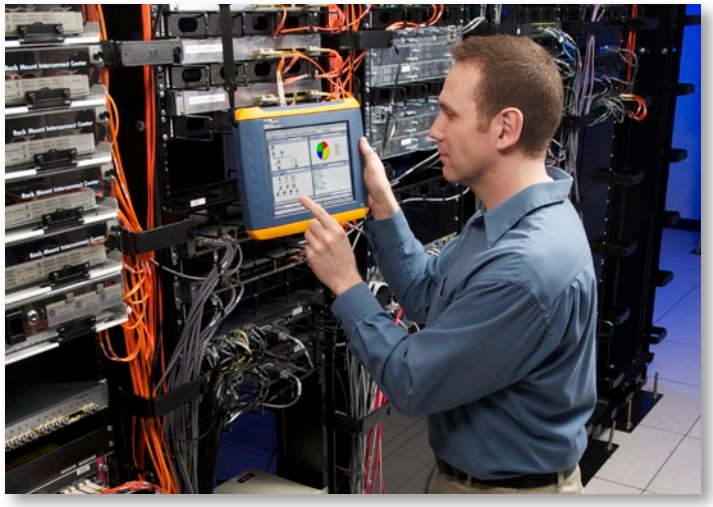
The tablet for network engineers

- Integrates the latest wired and wireless technologies with powerful dedicated hardware in a **unique tablet form factor** providing mobility to connect, analyze and solve network and application problems anywhere on the network
- Displays your network exactly the way you want to see it through **customizable dashboards**
- Provides throughput, **'on-the-wire' and 'in-the-air' automated analysis up to 10 Gbps**
- Ensures **line-rate packet capture up to 10 Gbps** when troubleshooting difficult application problems
- Identifies the exact path taken by the application using **path and infrastructure analysis**, to quickly resolve application performance issues
- Allows visibility in intermittent problems by collecting **granular data** rather than aggregated data collected by monitoring systems
- Enables **proactive analysis** by analyzing the information you need before problems arise
- Performs **application-centric analysis** with a high-level view of the applications on the network with easy drill down capability
- Measure performance of your **VMware® environment**, including hypervisor availability, interface utilization, and resource usage levels
- **Automatically detects problems** in the network and suggests resolution procedures
- **Real-time discovery** engine tracks up to 30,000 devices and access points
- Enables analysis of the **WLAN environment** using the award winning AirMagnet WiFi Analyzer, Spectrum XT, Survey and Planning tools
- Out-of-the-box and customizable reports

Technical Datasheet

Your network. Your tablet. OptiView XG.

Innovative design and powerful custom hardware speeds the job of network engineers



Tablet Form Factor

OptiView XG provides a wide range of functionality to adapt to the dynamic and diverse networks of today, in a convenient tablet for use anywhere in the network. It is the only tool that provides the capabilities to analyze and troubleshoot applications, wired networks (1 GbE, 10 GbE) and wireless networks from the perspective of either remote or local users. The unique tablet form factor designed specifically for network engineers provides the mobility to troubleshoot anywhere in the network, from the engineer's desk, in the data center or at the end-user location.

Key features

Portable - The XG is extremely portable. It is 14 inches (36 cm) measured diagonally. At just under 6 pounds (2.5kg) and 2 inches (5 cm) thin, the XG can be used anywhere.

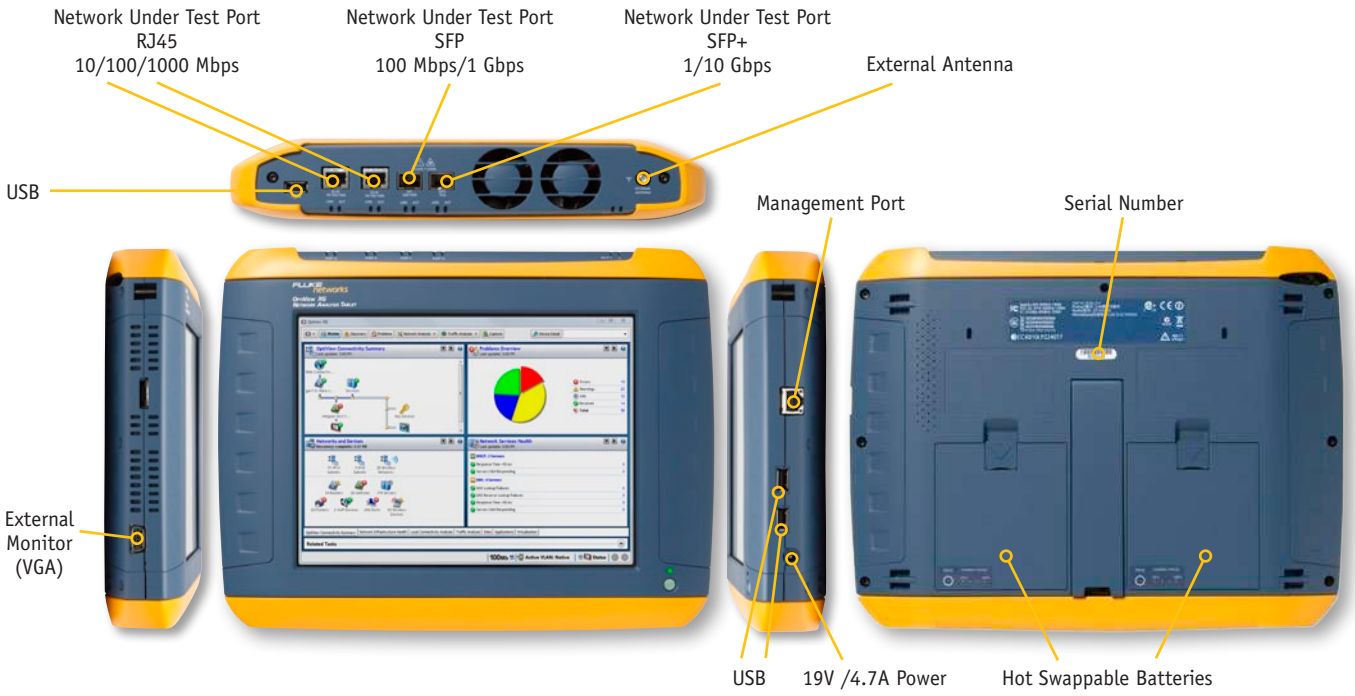
Multiple wireless adapters - The XG has two Wi-Fi adapters and one spectrum adapter built-in. The multiple adapters along with the portability make WLAN analysis and troubleshooting easy as you do not need to swap adapters or have extra external hardware.

High-resolution display - A large, 10.25 inch high-resolution 1024x728 LCD display is remarkably crisp and vivid making it perfect for viewing and analyzing large amounts of data at once.

Extendable 2 hours of battery life - The XG can be used for up to 4 hours on the battery for wired and wireless analysis (or 2 hours for wired AND wireless analysis). The batteries are hot swappable which means the XG can be used for a much longer time without losing data.

Connectivity - The XG supports 10 Gbps and 1 Gbps fiber, 10/100M and 1 Gbps dual-port copper and 802.11a/b/g/n WLAN.

Performance - The XG runs Windows® 7 (64-bit) with 4 GB of RAM. It has a 128 GB solid state removable drive. The XG obtains its processing power from an Intel® Core™ Duo 1.2 GHz processor. The XG is capable of 10 Gbps full line-rate capture and has a 4 GB dedicated capture buffer.

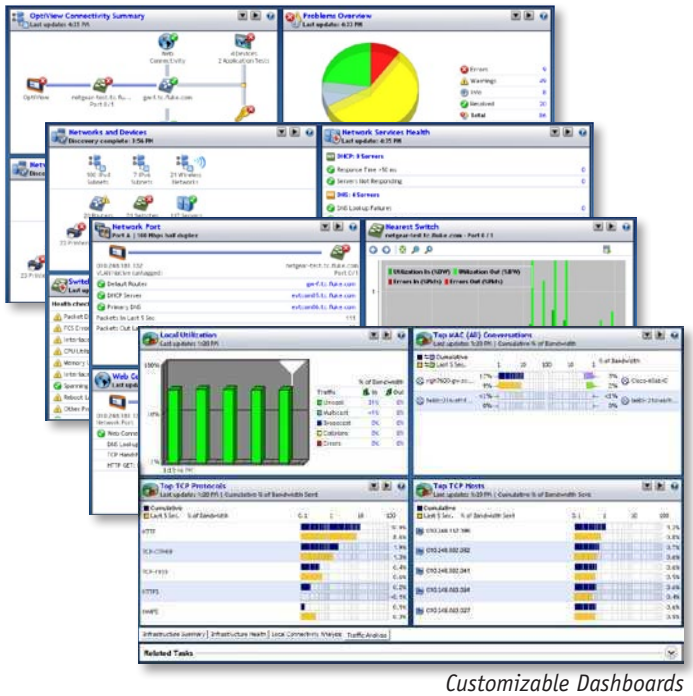


Intuitive user interface with customizable dashboards, smart navigation and easy reporting

User Configurable Dashboards

Present the relevant data to the right audience. OptiView XG has extensively customizable dashboards that transform collected data into an actionable presentation. The dashboard can be customized for a particular user or for the entire enterprise. Create dashboards for keeping an eye on network and applications by site or even by business function. Save and export them to different members of your team. The dashboard provides an at-a-glance overview of the current status of your network with critical metrics from routers, switches, firewalls, servers, services, and other infrastructure devices.

Even remote users can set up dashboards to get their own view of network operations.

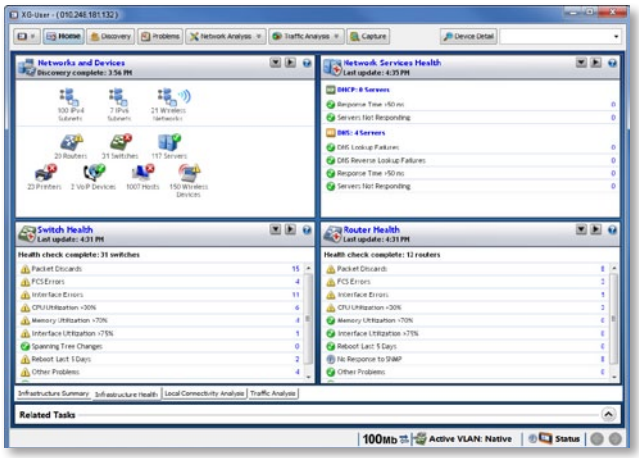


Customizable Dashboards

Performance Health Checks

Every day, your business depends on a reliable, secure and fast network. Already stretched IT resources are being asked to do more and network maintenance and optimization are often overlooked. The results are unhealthy networks improperly utilized, misconfigured and vulnerable to cyber threats.

At-a-glance visibility provided by Health Checks helps put your critical infrastructure and applications back on track and keep their performance optimized and running smoothly.

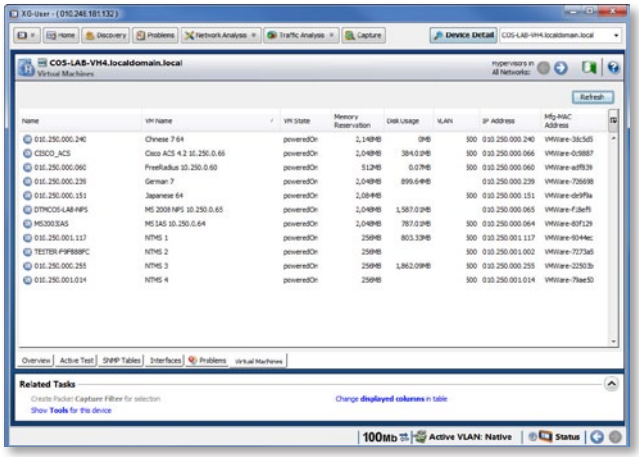


Infrastructure Health

Virtualization Health

Enterprises are virtualizing servers to obtain cost savings and flexibility. Along with the benefits of virtualization comes the new complexity of managing the virtualized network. OptiView XG has built-in capability to analyze virtual machines and their host VMware ESX servers. This gives you the capability to quickly track virtual server health and ensure your mission-critical applications never fail. OptiView XG's discovery allows users to find and analyze new virtual machines that are added to ESX host servers.

Quickly check the health of your VMware ESX Server by monitoring CPU, memory utilization, number of virtual machines configured and running, and much more. View VM name, guest OS, VM state, and detailed virtual machine health statistics including processor, memory, and network usage.

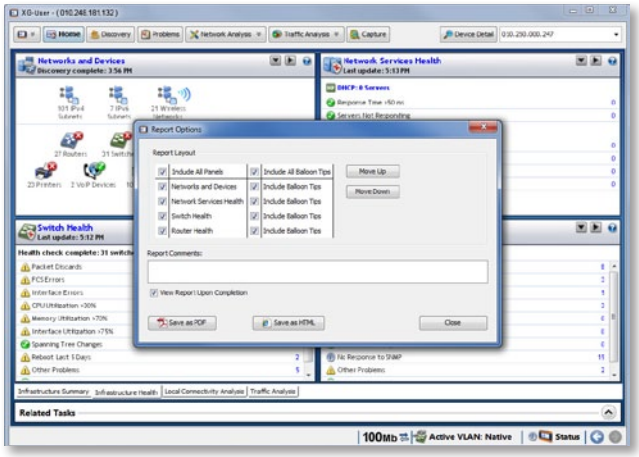


Virtualization Health Check

Network and Application Issue Reporting Engine

OptiView XG offers a number of built-in reports, making it quick and easy to report on application and network problems. While viewing a screen, press the Reports key to generate HTML or PDF reports on protocols, top hosts, top conversations, devices, networks, problems and many more.

Customize out-of-the-box reports and create completely customized reports using the configurable dashboards in just a few clicks. The ability to choose what data to populate in a report enables users to quickly see the information needed. You can even create reports for specific user profiles, making it easy to generate reports for specific departments or recipients.

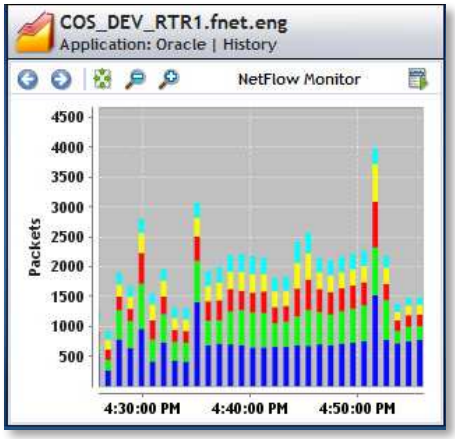


Customizable Reporting

Automated analysis and guided troubleshooting makes anyone an expert problem-solver

Granular Data for Proactive Analysis

Get granular, real-time data into network and application performance statistics and errors– essential for troubleshooting intermittent and past problems and determining if traffic bursts are the cause of performance problems. This granular data can be gathered proactively and stored for 24 hours so that you can go 'back in time' to analyze what was happening when the problem surfaced.



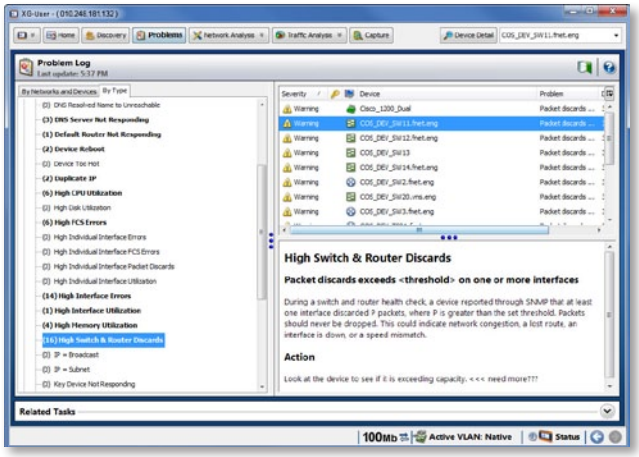
Granular data to troubleshoot intermittent problems

Automated Problem Detection

OptiView XG automatically scans for errors in the network infrastructure. Errors are collected in a Problem Log that can be categorized and sorted. Examples of problems detected are: performance problems, duplicate IP addresses, incorrect subnet masks, default router not responding and many more.

Guided Troubleshooting

There are a lot of different errors and problems that occur on your network and not having the probable cause and resolution readily available increases the time required to solve problems. The built-in Guided Troubleshooting reduces the time required to identify the root cause and fix the issue, increasing staff efficiency. Clicking on any problem in the problem log immediately shows you the probable cause, potential impacts, and possible solutions for the problem.



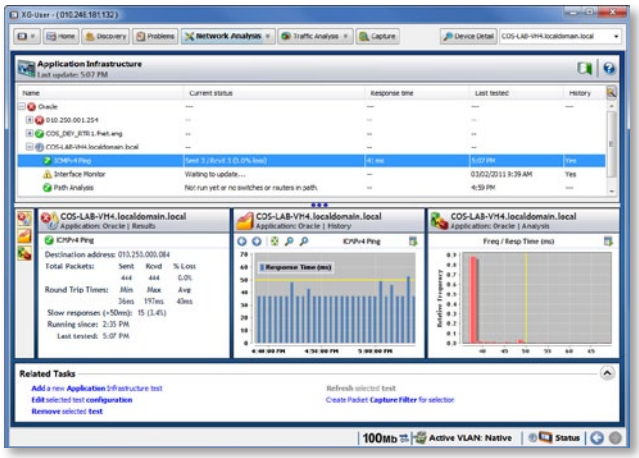
Problem Log and Guided Troubleshooting

Ensure consistent end-user experience and application performance

Application Infrastructure Analysis

Consistent application delivery is critical for business. OptiView XG makes it easy to identify and analyze the underlying network infrastructure of an application. This lets you become proactive about application performance issues while decreasing the time required to isolate network vs. application problems.

Speed up troubleshooting application and network performance issues by automatically validating that network services such as DHCP and DNS are available and operating correctly. Ensure that server and application connectivity is accessible by opening specific TCP IPv4 and IPv6 ports on servers and reporting the round trip time as a combination of network latency and server connection set up time. Ensure servers are operating efficiently by viewing resources including number of users, processor, memory and disk utilization and services and process that are running.

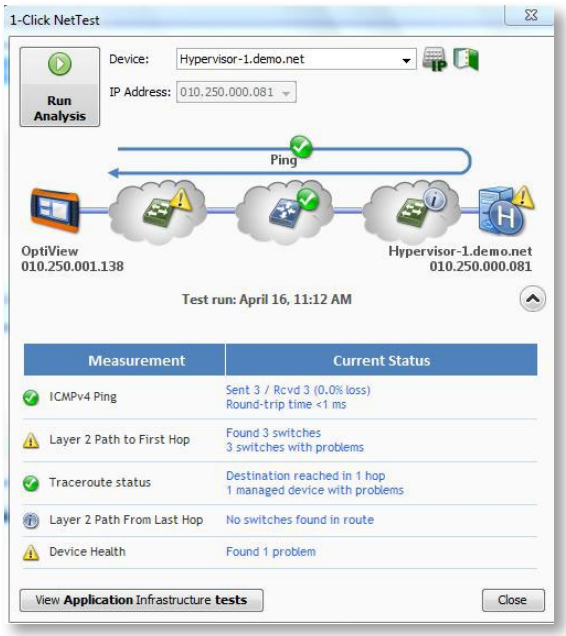


Application Infrastructure Analysis

Quickly "Prove It's Not the Network"

The 1-Click NetTest executes a series of tests to quickly prove it is not a network problem. Using ping, layer 2 and 3 path analysis, the 1-Click NetTest verifies connectivity and determines the switch-to-switch and router-to-router path to the target device. All interfaces and infrastructure devices along the path are analyzed and problems clearly indicated. Automatic analysis of the target device reveals configuration and resource issues. With another click, the user can document all those results instantly.

With one additional click, 1-Click NetTest is instantly added to the Application Infrastructure Test suite for continuous monitoring of that path and end device.

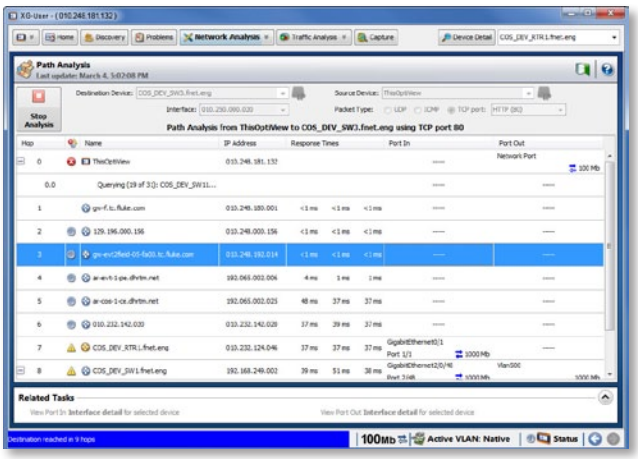


1-Click NetTest

Innovative path analysis Provides Fast Access to Deep Device Information

Finding the path between user and application resources is the first step in troubleshooting a performance problem. Understanding the infrastructure involved in application flows, how it is performing, and where to drill down for additional analysis provide the next steps needed to isolate issues.

XG's Path Analysis shows every hop at layer two and layer three and examines the health of every link, interface and device in the path selected. Clicking on any port instantly shows the interface health for the port traversed, speeding access to detailed problem information. This is how XG "brings the problems to you" instead of searching for them.



Path Analysis shows the L2/L3 path

The displayed results include the DNS name and IP address, the inter-switch connections by port number, together with link speed and VLAN information. Once launched, Path Analysis will trend interface utilization and show in/out traffic in clear trend charts. Highlighting any device column and selecting Device Detail allows you to drill into specific performance information for that device. Document the path with one-click report generation.

Network Navigator - A Window Into the Network

Whether troubleshooting performance problems or making changes, engineers need to understand "who and what" is on the network and where they are connected. This is especially true for maintenance organizations or system integrators who often troubleshoot an "unknown" network. The problem is that traditional methods (CLI, or element managers) take too long and present complex data that's often hard to interpret and difficult to correlate. OptiView XG's Network Navigator uses Link Layer Discovery Protocol data (LLDP, and CDP for Cisco switches) to generate a simple diagram of a switch's "network neighborhood". In/out interface IDs are shown along with device names. If OptiView XG detects any problems, they are indicated on the device.

The engineer simply clicks through the diagram to navigate the devices and paths to see whether any problems exist in a particular network area, showing exactly where further analysis is needed. The diagram can instantly be saved as a PDF or HTML formatted report.

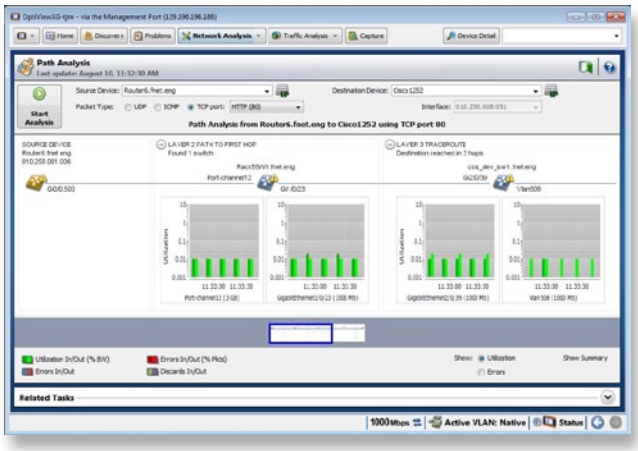
Real-time NetFlow Finds Bandwidth Hogs

OptiView XG uses NetFlow to give valuable insight into enterprise bandwidth usage without the complexity and expense involved in a traditional NetFlow analysis setup. The Application Infrastructure OptiView XG collects NetFlow data from flow-enabled routing devices, and uses it to analyze network traffic and bandwidth usage. Get instant real-time bandwidth usage reports on top applications, conversations, and hosts using bandwidth, for fast troubleshooting.

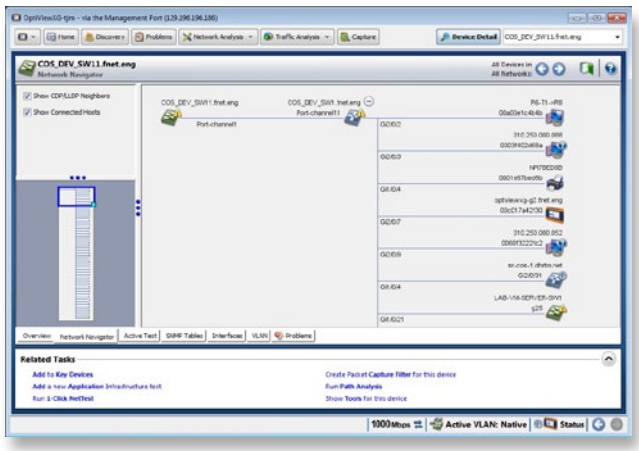
The ONLY Tablet with 10 Gbps “on-the-wire” Analysis

OptiView XG provides line rate, real-time application and traffic analysis and troubleshooting on 10/100/1000 Mbps or 10 Gbps links.

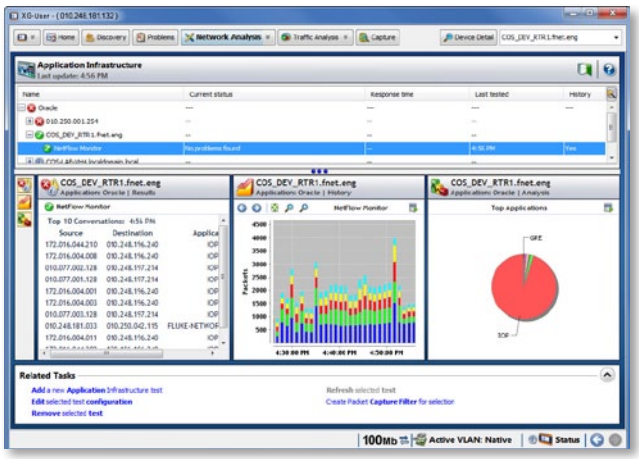
Identify top talkers, multicasters and broadcasters or select top conversations to determine which hosts may be over-utilizing resource bandwidth. Tap or span key links to determine who is using server bandwidth by viewing top conversations to a single host. Analyze protocol mix to identify top protocols being used and also discover unwanted and custom protocols and see which protocols are being used by each host. These real-time statistics for traffic “on-the-wire” enable you to understand how network resources are being used and increase user satisfaction with faster response times for networked applications.



Graphical Path Analysis



Network Navigator



Real-time NetFlow shows top-used interfaces and who is using bandwidth for which apps

OptiView XG automatically discovers all protocols and sub-protocols from the MAC layer to the application layer. This enables IT staff to identify applications (including those that use dynamically assigned port numbers) utilizing link bandwidth to see and validate the impact of applications on network resources and also identify illicit applications. Deep packet inspection differentiates between specific audio, video, image and data applications, and shows the level of bandwidth usage for each.

VLAN Visibility and Trunk Analysis

Only "on-the-wire" analyzers provide vision into actual VLAN trunk traffic. When connected to a switch trunk port, the OptiView XG detects all VLANs available on that trunk, measures the traffic distribution across all the VLANs and provides the user with the capability of selecting a specific VLAN. If an individual VLAN is selected, device discovery, traffic statistics and packet capture data will be displayed only for that VLAN.

Application-centric Analysis

Application issues are difficult to solve and slow performance or outages have serious implications for the business. It is critical to get a view of traffic captures in terms of applications on the network to easily identify bottlenecks. OptiView XG provides a comprehensive, high-level overview of the health of applications on your network with easy-to-use drill down capabilities to gain access to more detailed information.

Full Line-rate Capture Ensures Complete Analysis

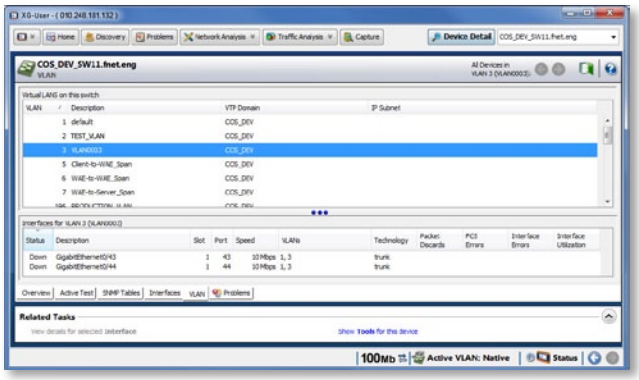
Get 10 Gbps line-rate packet capture and filtering to troubleshoot problems where packet-level analysis is required and perform advanced troubleshooting when deploying and analyzing applications.

Sophisticated capture filters allow collection of more relevant data and limit the amount of traffic to analyze by filtering on individual addresses or conversation, IPv4 address range or subnet, or IPv6 prefix and protocols. The capture size can be up to 4 GB.

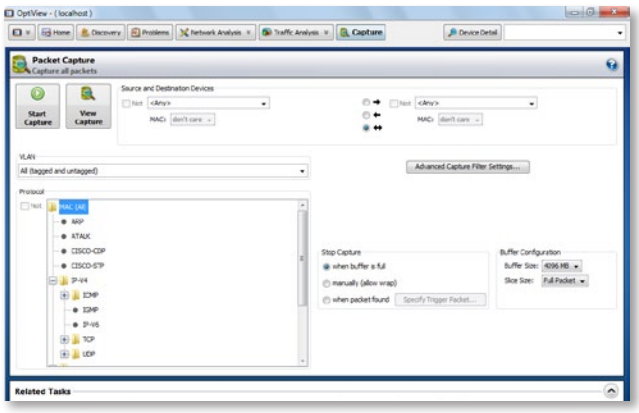
The capture process may be started or stopped through a user-defined trigger event – capture the traffic before, after or around an event occurrence without being present. This ensures you capture the event the first time and avoids initiating random traffic captures that may not contain anything of interest.

OptiView XG's unique user interface makes the complex task of setting up filters and triggers as simple as touching the devices or protocols of interest, eliminating errors that result from misconfiguration.

Real-time Traffic Analysis



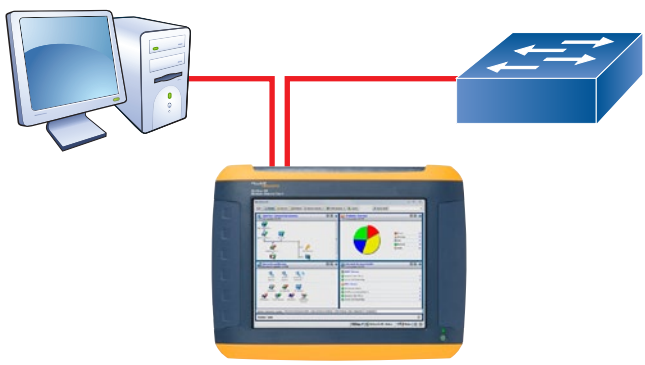
Real-time VLAN Analysis



Packet Capture

Go “in-line” to Get to Root Cause

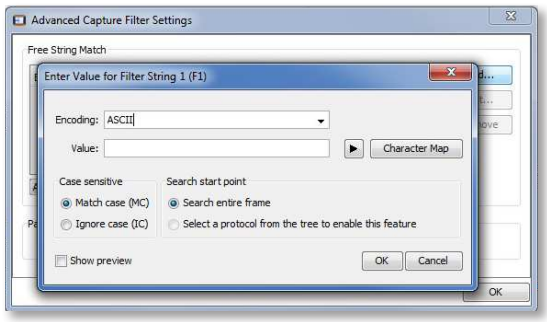
To get to the root cause of many application performance problems, you have to be “in the path of the packets” to examine the actual traffic. Now, with the new in-line analysis function in OptiView XG, your analyzer connects in the path to directly see and capture application traffic on its two RJ-45 ports. Instead of relying on span or mirror ports (which hide or even introduce problems) or carrying around an extra piece of hardware (external tap), OptiView XG lets you go directly in-line at up to full 1 Gbps speed to observe traffic in real time, or to capture at line rate for detailed application analysis in the onboard ClearSight Analyzer. Go in-line between the network and clients, access points, servers, or anywhere needed to get application-level visibility.



In-line (internal tap) Function

Free String Match to Find and Capture Anything

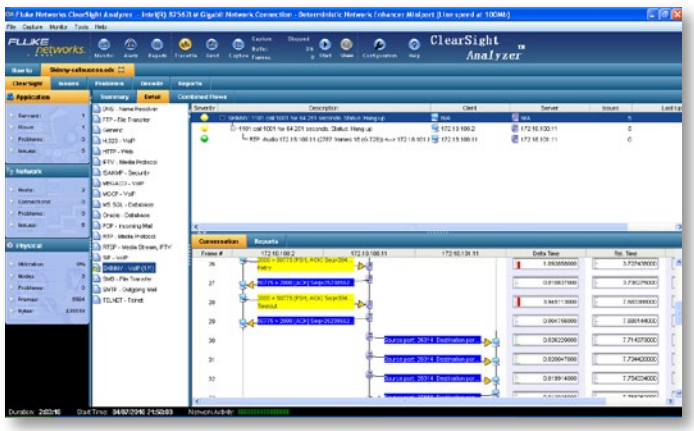
Match any set of words or phrases when detected (regardless of the position in the packet, payload or header) in real-time to trigger the OptiView XG to start or stop capturing and/or filtering traffic. Use Free String Match to capture traffic around any application error message, detect traffic containing certain words or phrases in non-encrypted emails, web pages, file transfers or documents to identify illicit use of the network or detect downloading of restricted documents based on content or filenames (.doc, .xls, .pdf). Additionally, use Free String Match to identify and track applications that are not allowed on the network such as high-bandwidth consuming streaming media, or P2P traffic that may pose a security risk. A total of eight sets of triggers or filters can be defined to trigger an unattended capture for later analysis, when you have time, not when the event occurred.



Free String Match

Automated Multi-Segment Analysis Speeds and Simplifies Troubleshooting Application Slowdowns

It’s one thing to isolate in which direction an application slowdown is occurring – network side or server side – but quite another to determine the exact location or cause of latency and packet loss. One tool in the engineer’s tool set is to capture traffic at multiple locations or tiers and compare the results. Though effective, this is an extraordinarily time consuming task. With Automated Multi-Segment Analysis, OptiView XG and Network Time Machine (NTM) users can dramatically reduce the time it takes for this type of analysis. The new Remote Access Manager software works with multiple OptiView XG and NTMs, or a mix of XG and NTM analyzers, to simplify determining the location of packet loss and latency across multiple segments. Using the portable XG, engineers instrument any part of their network for full line-rate capture. Up to four segments or tiers can be automatically configured, captured, merged and synchronized, easily pinpointing the segment causing an application performance problem.



Automated Multi-segment Analysis

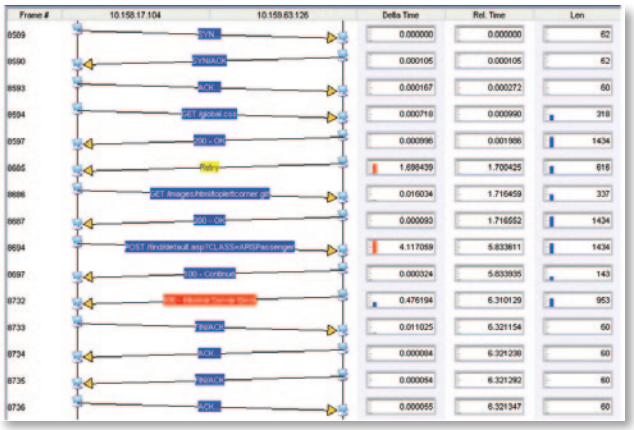
Simplified Troubleshooting of Application Problems

Once traffic is captured, launch the integrated ClearSight™ Analyzer (iCSA) to see an application-centric view of the trace file. Through a simple and intuitive front page, iCSA presents a comprehensive, high-level overview of the health of applications on your network. From that framework, you can drill down to gain access to more detailed information. For example, you can display all the activity for HTTP applications, then drill down to see activities on each server, and further down to the server flow to observe the actual media content of the flow. iCSA also provides time-based analysis providing detailed trending and statistical information for fast analysis of large capture files. This unparalleled level of control and visibility speeds time to application problem resolution and minimizes overall network downtime.

Application Summary Front Page

Automated Problem/Issue Detection

The CSA Expert Alert function automatically detects communication faults in captured packets and displays them with color-coded icons. The specific application, server, or flow that has a problem can be seen from the Application Summary Home screen. Alerts detected by CSA are classified as issues (faults in the communication sequence) or problems (faults that exceed a threshold value) and can be listed separately. Lists can be sorted by simply clicking on a column header. You can drill down to the associated communication flow by right-clicking on an alert.



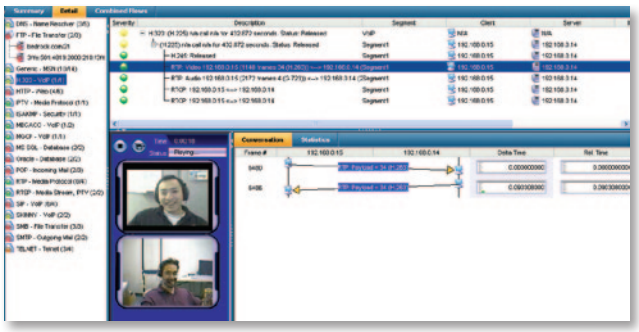
Powerful Bounce Charts Visualize Application Turns

Unique and Powerful Bounce Chart Illustrates Application Flow

CSA application bounce chart views reveal conversations between client and server in the application command language without manually decoding packets. It provides an extremely powerful way to understand protocol interactions between various network elements.

Content Reconstruction and Playback

You can recreate audio and video content from VoIP or video flows, either during real-time monitoring or from a trace file. In addition, Microsoft® Exchange® email, Fax over IP, Instant Messages and HTTP-based web pages can also be reconstructed. This is very valuable as proof of compliance violation or visualization of multimedia quality.



Reconstruct and Replay Content

Troubleshoot 10 Gbps Network and Application Performance Problems from the Data Center to the Access Layer – Fast

When problems happen, your job is to fix it fast and perform deeper analysis for determining the root cause. The OptiView XG Network Analyzer helps you resolve network and application performance issues in real-time using unique features such as proactive analysis, path analysis, application-centric analysis, vendor-independent infrastructure analysis, on-the-wire traffic analysis, and full line-rate packet capture/decode. Expert-assisted, application-centric protocol analysis provides guidance – not just data – to solve tough application and network problems, even if you're not a packet decode expert.

Integrated WLAN deployment and analysis

Wireless Infrastructure Analysis

OptiView XG adds details about the wireless devices on the network via SNMP discovery of wireless controllers, access points, and wireless clients from the wired-side discovery of the network. Expand your wireless analysis power with three optional capabilities:

Wi-Fi Analysis

The AirMagnet WiFi Analyzer option gives OptiView XG total visibility into your wireless network. It's a solution that simplifies key wireless network tasks such as:

- Wi-Fi based discovery of wireless access points and clients
- Detection and location of rogue APs
- Active client-based connectivity testing
- Channel monitoring
- Packet captures and decode for complete analysis of 802.11 a/b/g/n WLAN's

Spectrum Analysis

The AirMagnet Spectrum XT option provides in-depth RF analysis combined with real-time WLAN information for quicker and more accurate troubleshooting of performance problems. Spectrum Analysis offers real-time detection and identification of a number of non-WLAN sources that interfere with WLAN networks and their performance.

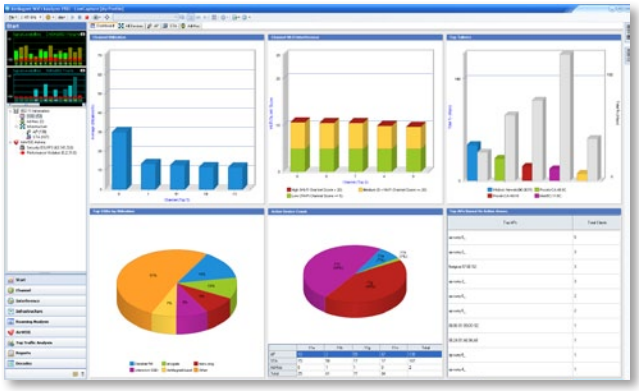
Survey and Planning

The AirMagnet Survey and Planner option on the OptiView XG platform ensures optimal wireless network performance, security and compliance using the Survey capabilities in the OptiView XG to collect "live and real-world" signal, performance, and spectrum data during wireless network site surveys, allowing the IT staff to measure wireless network performance and RF coverage in the most scientific way possible to design the WLAN network for an optimal AP count, placement and configuration.

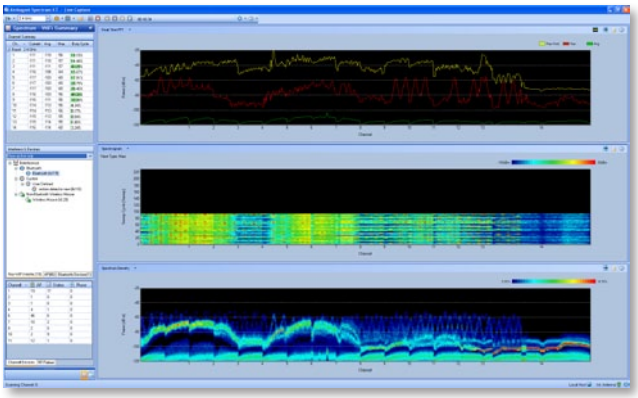
Multiple Radios

Multiple radios on the OptiView XG enable you to run AirMagnet WiFi Analyzer and Spectrum XT together to view non-WLAN interference for every channel in the RF spectrum. The multiple radios also let you run Spectrum Analyzer along with Survey Pro to detect interference during surveying eliminating a second walk through for interferences after surveying.

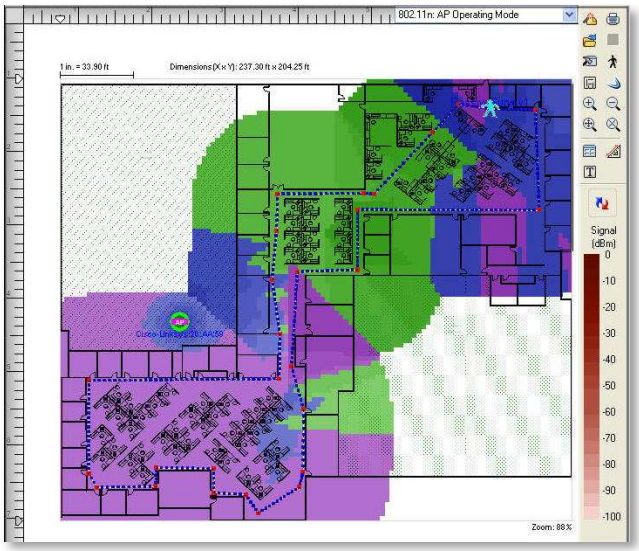
Note: *For additional information, see the detailed datasheets for AirMagnet Spectrum XT, AirMagnet WiFi Analyzer and AirMagnet Survey and Planner.*



AirMagnet WiFi Analyzer



AirMagnet Spectrum XT



AirMagnet WiFi Planner

Analyze Wireless Networks Without Being There

Using AirMagnet Wi-Fi Analyzer and Spectrum XT on OptiView XG with sensors placed at remote locations allows, you can now analyze and troubleshoot those networks as if you were there in person. Connect remotely to the sensor as an extension of OptiView XG to find interference, rogue clients or APs, check channel utilization, co-channel interference and more. Coupled with OptiView's ability to analyze remote wired networks (path analysis, discovery, problem detection and more), and by instrumenting your key locations with sensors, you can solve more problems without even leaving your desk, getting users back up to speed faster.

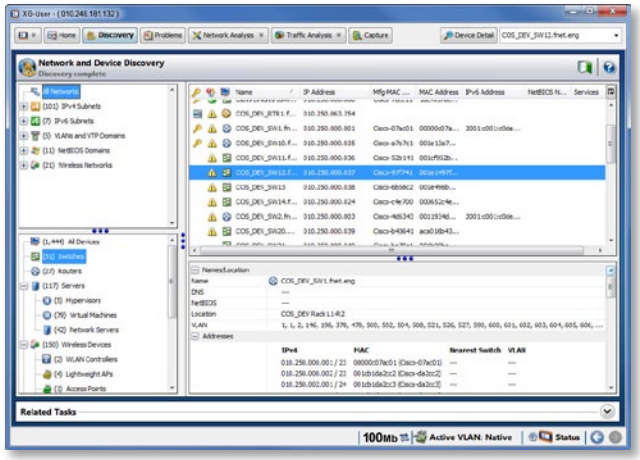
AirMagnet Sensor for remote analsyis using Wi-Fi Analyzer and Spectrum XT on OptiView XG

Managing Network and Technology Changes

Advanced Network Discovery – Finds Devices, Networks and Problems in Seconds

As soon as OptiView XG is connected to the network, it automatically begins to discover devices, with no interaction required, by monitoring traffic and actively querying hosts. IT staff can see what is on the network and where it is connected, by switch, slot and port number. They can investigate and locate "suspect" devices and identify problems associated with device misconfigurations.

The OptiView XG categorizes devices by type: interconnect (routers, switches), servers, hypervisors, virtual machines, printers, SNMP agents, VoIP devices, wireless devices, and other hosts. Additionally, networks are classified by IPv4 and IPv6 Subnets, VLANs, NetBIOS Domains and IPX Networks, and Wireless Networks together with host membership within each classification. Network devices experiencing problems are also discovered.



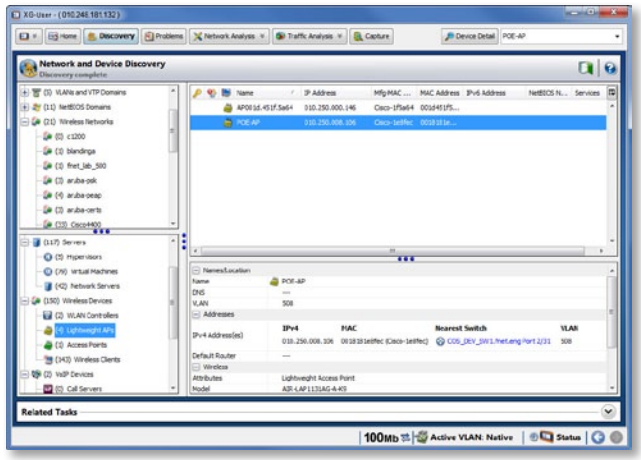
Network and Device Discovery

Discover and Analyze Remote Networks

Most network analyzers and troubleshooting tools have limited visibility - usually a single broadcast domain or VLAN. The OptiView XG Network Analysis Tablet can be configured to perform discovery of up to 30,000 devices on an off-broadcast domain subnet to extend its discovery beyond the broadcast domain or local VLAN boundaries - across your enterprise network, into remote sites and users. Generate up-to-date HTML and PDF format inventory reports of devices both on the attached network and on remote sites.

Discover and Test Through Wireless Connections

OptiView XG's unique capability for fast discovery through a wireless connection keeps you aware of the surrounding network when moving through your site. You can unplug from the network and be confident that the tablet is analyzing your critical devices wirelessly, even when moving to a different location – without losing any data. This offers a perfect solution for testing roaming handoffs.



Wireless Infrastructure Discovery

VoIP and Wireless Device Discovery

The OptiView XG will discover VoIP devices including call managers and IP phones from Cisco®, Nortel®, Avaya® and Mitel®. Device capabilities and configurations may be viewed, allowing the user to identify and correct configuration issues during VoIP deployment.

The OptiView XG also discovers and categorizes wireless LAN controllers, lightweight access points (AP), intelligent access points and wireless clients. Detailed device information is provided from Cisco Wireless LAN controllers and LWAPs, including the wireless networks associated with the controller, the SSIDs, security and QoS parameters, the lightweight APs being controlled and the 802.11 protocol in use.

IPv6 Discovery

The OptiView XG will discover and display complete IPv6 network and device inventory including routers, switches, wireless AP's, DHCP6 servers and hosts. It enables you to identify active IPv6 devices in the network and those that may have problems in single-stack IPv6 networks. Router advertisements are analyzed and the OptiView XG displays detailed router information and settings. Easily identify applications that may be communicating using both IPv4 and IPv6 protocols.

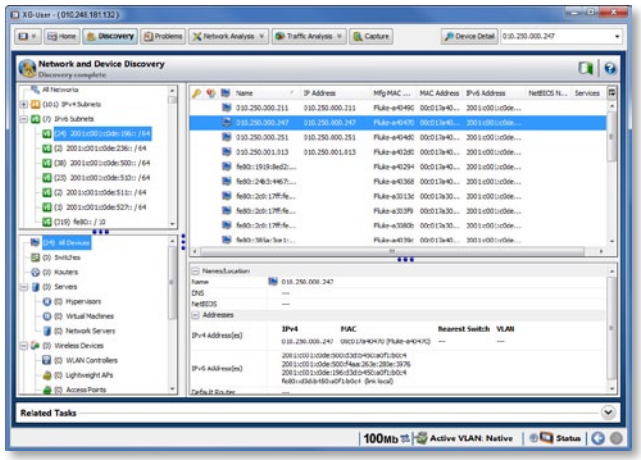
Detect devices using tunneling mechanisms and identify the tunnels in use. Undetected or unauthorized tunneling could represent a serious security risk.

Real-time, In-depth Infrastructure Device Analysis Speeds Troubleshooting

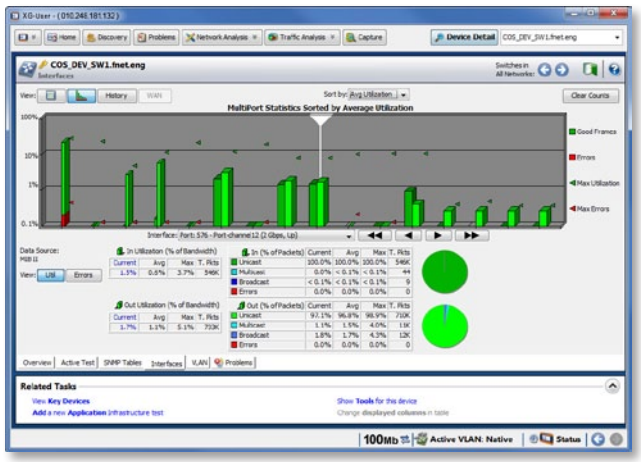
Get granular, real-time (updated every 30 seconds) interface utilization and errors for determining if excessive traffic is the cause of performance problems. This granular data is collected for 24 hours. Interfaces can be quickly sorted by I/F index, utilization, broadcasts, errors, or collisions.

In-depth Analysis

- A tabular view of all switch port configurations, including the identity of each host and where it is connected
- A graphical view of utilization and error rates on each switch port to see over-subscribed or error ports at a glance
- Quickly determine if performance problems are related to link speed or duplex misconfigurations, over-utilization or excessive hosts on a port



IPv6 Networks, Apps and Devices



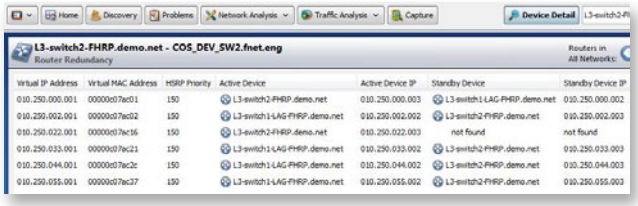
Real-time Multiport Stats

Enhanced Virtualized Data Center Analysis

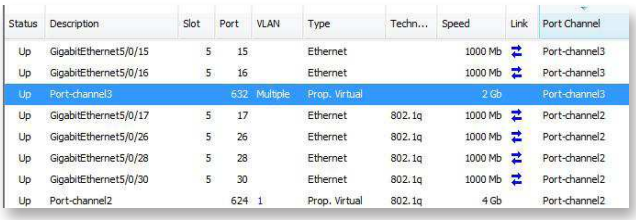
With full line-rate capture on 1 G or 10 G links, path analysis and Network Navigator, XG is already a powerful data center tool. With the addition of diagnostics and discovery for environments utilizing Virtual Routing Redundancy Protocol (VRRP) and Cisco VSS, XG is even more useful in virtualized data centers.

In addition to HSRP, XG also supports VRRP, a proprietary redundancy protocol for establishing a fault-tolerant default layer 3 gateway. XG indicates which routers are configured for redundancy, shows which routers are configured for stand-by, and notifies the user if a failover has occurred.

Cisco's VSS (Virtual Switching System) allows for the configuration and operation of multiple separate physical switches as if they are one logical switch. Compatibility with VSS in OptiView XG lets engineers discover and diagnose problems specific to this technology.



XG indicates which interfaces are configured for VRRP stand-by

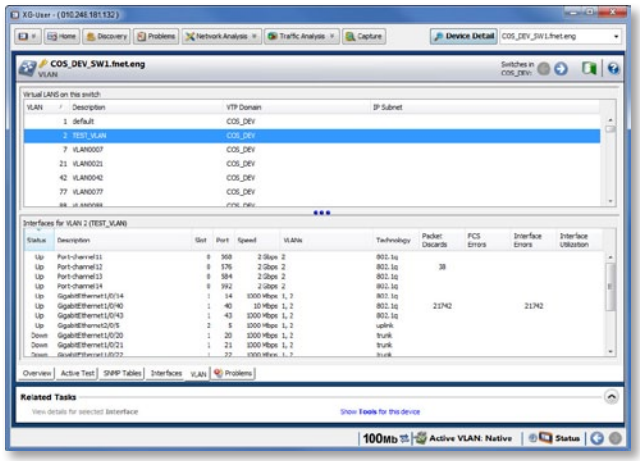


XG shows virtual interfaces and correlates them to physical ports on individual switches

VLAN Discovery and Analysis

Determine if connectivity problems are related to VLAN configuration by seeing information such as:

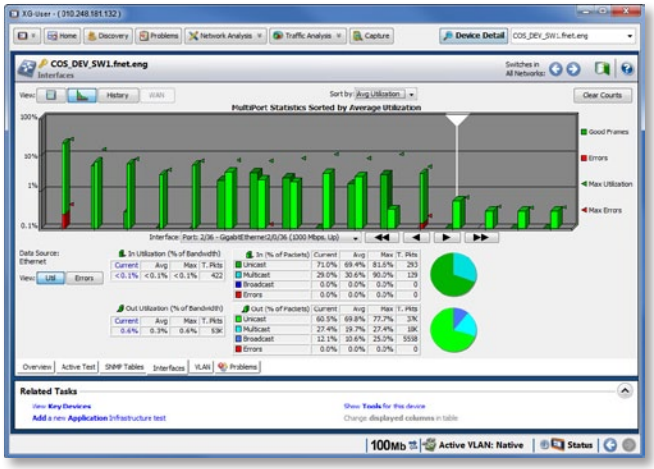
- VLANs that are configured on the switch
- Interfaces that are members of each VLAN
- Identification of trunk or uplink ports, together with the trunking protocol in use
- Identification of which hosts are members of each VLAN



Discovery of VLAN Configurations

Router and WAN Link Analysis

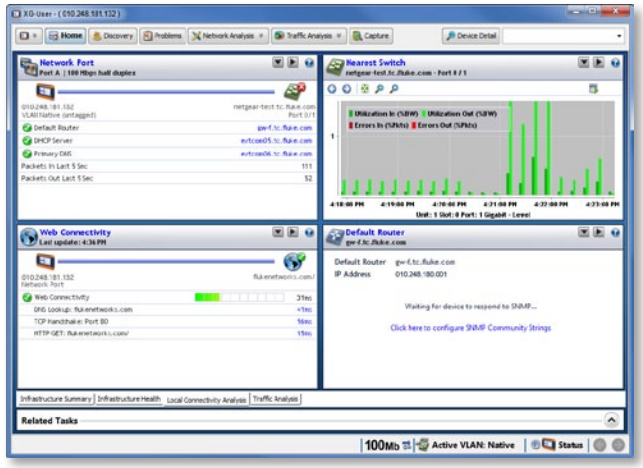
In-depth device analysis identifies router ARP cache or routing table errors and also provides visibility to manage and troubleshoot costly WAN links. See WAN link configuration, a graphical display of utilization and error rates and identification of specific error types on ISDN, Frame Relay, T1/E1, T3 and ATM links. Built-in telnet and web browser allow reconfiguration of devices directly from the OptiView XG.



WAN Interface Analysis

Network Connectivity and Link Validation

Get an ultra-fast read on where you are connected, the type and speed of link, nearest switch, local traffic, DHCP/DNS services, and whether you have a viable Internet connection. This dashboard is ideal for quickly validating moves, adds and changes.



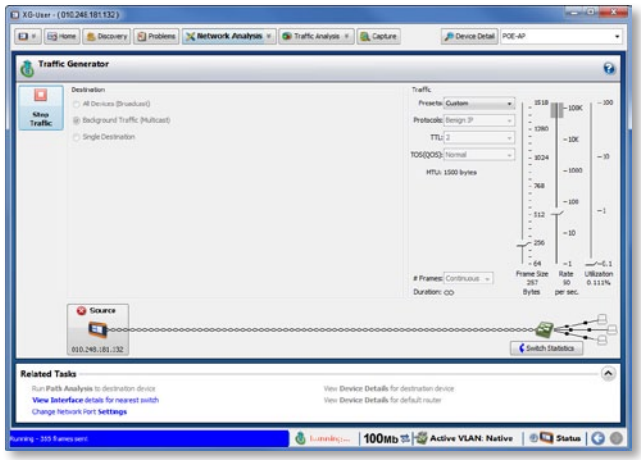
Local Connectivity Stats

Traffic Generation

Assess network readiness for new deployments by determining the impact of a new application, or the addition of network users, by stressing your network with simulated traffic – up to full 10 Gbps.

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.

Selectable protocols 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 allows 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 to ensure correct routing configurations.



Traffic Generation – up to full 10 Gbps

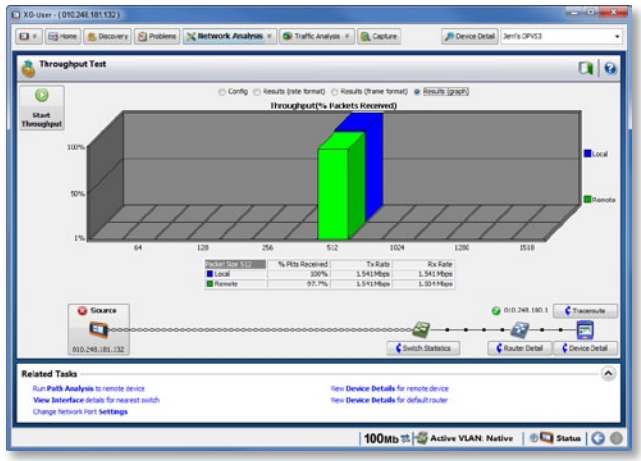
Throughput Testing

The throughput test measures bidirectional data flow between two Fluke Networks' devices to validate LAN and WAN throughput capabilities. The throughput test requires a second device to communicate with on your network. That second device can either be an OptiView XG Network Analysis Tablet (for 10 Gbps throughput), OptiView Management Appliance, EtherScope™ Series II Network Assistant, OneTouch™ Network Assistant, or LinkRunner™ Pro Reflector (up to 1 Gbps).

The throughput test allows you to configure the following parameters:

- **Data speed (up to10 Gbps)** – maximum rate is determined by the link speed and duplex
- **Frame size** – choose from seven different frame sizes or select sweep to run the test on seven preset frame sizes. OptiView XG provides support for jumbo frames up to 9,000 bytes
- **Content** – select payload for all 1s, all 0s, alternating 1s and 0s or random
- Test duration can be 2 seconds to 18 hours

Test results are viewed in a tabular or graphical format. The rate format tabular view indicates the local and remote transmit and receive rates together with the total percentage of frames received by both devices. Switching to tabular frame format view shows the number of local and remote frames transmitted and received, together with the total percentage of frames received by both devices.

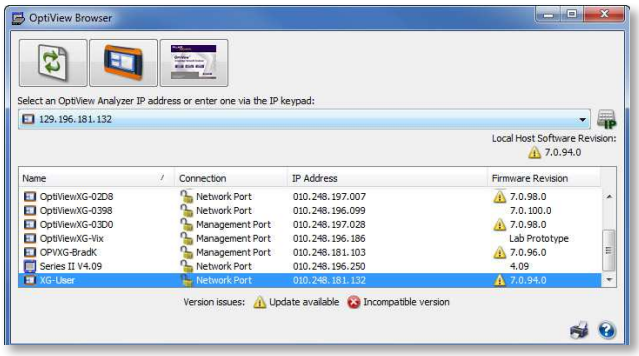


Throughput Testing – up to full 10 Gbps

Remote User Interface and Access

Simply point a web browser at the IP address of a correctly configured OptiView XG tablet to retrieve saved reports and capture files. You can also install a remote User Interface (UI) and use your PC to remotely access an OptiView XG over a TCP connection. Once the remote UI is installed, simply give the interface the IP address of the OptiView XG and see the default dashboards. You can then create your own remote dashboards to get your own view of the network.

Communication between the OptiView XG and remote UI can be encrypted. A single portable OptiView XG supports thirty-two remote sessions for collaborative troubleshooting or opening of multiple sessions on a PC to provide a remote "NOC" view. The OptiView XG features a separate management port for "out-of-band management" independent of the network under test port. When using the remote interface, all dashboards created are stored on the user's PC, allowing further customization for each remote user.



Remote User Interface - OptiView Browser

User Accounts

Through the user accounts screen, you can add and modify security information for each individual OptiView XG user to prevent unauthorized use of certain features for compliance with regulatory requirements. This allows users access to powerful troubleshooting features such as SNMP, while keeping the community strings hidden. Features that can be disabled include packet capture and decode, traffic generation, remote user interface and OptiView XG configuration.

Context Sensitive Help

Help is contextually linked to each screen in the OptiView XG. While the 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.

Removable Hard Drive

See what's happening on your classified network by connecting one single tool that ensures any sensitive data stored on your network analyzer's hard drive never leaves that environment. Network information discovered by the OptiView XG tablet is stored on the removable hard drive, allowing the OptiView XG to be moved between classified environments and between classified and unclassified systems by simply removing and replacing the hard drive. Extra, pre-configured drives are available.

Problem Reporting and Notification

OptiView XG utilizes the on-board Windows Event Log, SNMP service and syslog agent to send problem notifications to the user's network management system, where they can be routed to the appropriate technician. XG scans the entire network infrastructure, identifying issues and bringing them to your attention.

Included with OptiView XG Network Analysis Tablet:

- Leather carying case with extra storage
- Shoulder and hand straps
- AC adapter/charger
- Stylus
- Getting Started Guide
- USB memory stick
- 1 m (6') shielded twisted-pair patch cord
- Internal removable hard drive

The OptiView XG tablet with wireless (PRO, PLUS and EXPT models) ship with one external, directional wireless antenna with mounting hardware and one omnidirectional antenna (not shown).

General Specifications

Physical Specifications	
Dimensions	(H,W,D) 9.45" x 12.43" x 2.03" (240 mm x 315.7 mm x 51.6 mm)
Weight	5.6 lb. (2.5 kg) with batteries; 4.5 lb. (1.8 kg) without batteries
Display	Color active matrix TFT LCD, 1024 x 768 pixels, LED backlight, touch panel with 2 touch points
Security	Kensington® security slot on rear panel for connection of security cable

Environmental Specifications	
Operating Temperature*	10°C to 30°C (50°F to 86°F) with up to 95% Relative Humidity. 0°C to 50°C (32°F to 122°F) with up to 75% Relative Humidity
Storage Temperature	-40°F to +160°F (-40°C to +71°C)
Shock and Vibration	Meets requirements of MIL-PRF-28800F for Class 3 equipment
Safety	EN 61010-1 2nd Edition
Altitude**	4600 m (15000 ft) on batteries

Electrical Specifications	
AC Adapter Input	100 V – 240 V, 50/60 Hz, 1.5 A
AC Adapter Output	19 VDC, 4.74 A, 90 W
Battery *	Two user-replaceable, rechargeable, 45 Watt-hour, lithium-ion battery packs.
Battery Operating Time	2 hr. (typical)
Battery Charge Time*	3 hr. (typical). Charge time depends on residual battery charge

System Specifications	
Operating System	Window 7 Professional, 64 Bit, Service Pack 1
PC - Processor	Intel® Core™ Duo CPU U9300 @ 1.2GHz
PC - RAM	4 GB
Capture Buffer	4 GB

Wired Network Connection Specifications

Ports	
Network Analysis Ports	2 RJ-45 10/100/1000BASE-T Ethernet, Small form-factor pluggable (SFP) 100/1000BASE-X Ethernet, enhanced small form-factor pluggable (SFP+) 10GBASE-X Ethernet
Management Port	RJ-45 10/100/1000BASE-T Ethernet
Supported SFP Modules	1000BASE-SX - 850 nm (Standard) 100BASE-FX - 1300 nm 1000BASE-LX - 1310 nm 1000BASE-ZX - 1550 nm
Supported SFP+ Modules	10GBASE-SR - 850 nm (Standard) 10GBASE-LR - 1310 nm 10GBASE-LRM - 1310 nm
Fault Tolerance	RJ-45 Ports are designed to withstand a maximum of 100 volts
USB Ports	Three USB 2.0 ports
eSATA Port	eSATA port for connecting external hard drive
Video Port	Standard VGA port for connection to monitor or projector

** Battery charging is disabled when internal temperature rises above 113°F (45°C).*

*** Altitude specification applies to OptiView XG and batteries. Maximum altitude for adapter is 2000 m (6,600 ft.).*

Cables	
Cable Types	100 Ohm UTP and ScTP category 5, 5E, 6, ISO/IEC Class C, D, E
Cable Length Measurement	Measurable cable lengths are from 3 feet (0.9 meters) to 500 feet (152 meters) Accuracy: ± 6 feet (± 2 meters) Length measurement is based on Nominal Velocity of Propagation (NVP) for selected cable type

Wireless Network Connection Specifications

Wireless Antennas	
Internal Wireless Antennas	Seven internal 2.4 GHz, 1.1 dBi peak, 5 GHz, 3.2 dBi peak antennas
External Omni-directional Antenna	Antenna, WLAN, omnidirectional, 2.4 & 5 GHz, 802.11 A/B/G, 50 Ω. Gain: 2.1 dBi (2.45 GHz), 2.4 dBi (4.9 GHz), 2.6 dBi (5.25 GHz), 2.5 dBi (5.875 GHz)
External Directional Antenna	Antenna, frequency range 2.4 - 2.5 and 4.9 - 5.9 GHz Minimum gain 5.0 dBi peak in the 2.4 GHz band, and 7.0 dBi peak in the 5 GHz band
External Antenna Connector	Reverse SMA

Wireless Adapters	
Data Rate	11a: 6/9/12/24/36/48/54 Mbps 11b: 1/2/5.5/11 Mbps 11g: 6/9/12/24/36/48/54 Mbps 11n (20 MHz): MCS0-23, up to 216 Mbps 11n (40 MHz): MCS0-23, up to 450 Mbps
Operating Frequency	2.4000 ~ 2.472 GHz (Industrial Scientific Medical Band) 5.180 ~ 5.825 GHz
Security	64/128-Bit WEP Key, WPA, WPA2, 802.1x
Transmit Output Power (Tolerance:±1.5 dBm)	802.11b: 18 dBm 802.11b: 18 dBm 802.11g: 17 dBm 802.11a: 11 dBm 802.11n: 2.4 GHz:17 dBm 802.11n: 5 GHz:13 dBm
Receive Sensitivity (Tolerance: ±2 dBm)	802.11a: 10% PER -78 dBm 802.11b: 8% PER -90 dBm 802.11g: 10% PER -80 dBm 802.11n: 2.4 GHz 10% PER -72 dBm@HT20 -70 dBm@HT40 802.11n: 5 GHz 10% PER -70 dBm@HT20 -63 dBm@HT40
Power Consumption (Typical)	Transmitting (Legacy mode, HT20 mode): 870 mA @5 GHz, 700 mA @2.4 GHz Transmitting (HT40 mode): 900 mA @5 GHz, 750 mA @2.4 GHz Receiving (Legacy mode, HT20 mode): 550 mA @5 GHz, 520 mA @2.4 GHz Receiving (HT40 mode): 610 mA @5 GHz, 600 mA @2.4 GHz

Standards and Compliance Specifications

Supported Network Standards	
IEEE 10BASE-TX **IEEE 100BASE-TX** **IEEE 1000BASE-TX** **IEEE 1000BASE-X** **IEEE 10GBASE-X**	RFCs: 1213, 1239, 1285, 1512, 1513, 1643, 2108, 2115, 2127, 2515, 2819, 3592, 3895, 3896, 4188, 4502
Compliance Statements	
EMC	Complies with IEC/EN61326-1:2006, class A
Safety	Complies with IEC/EN 61010-1:2001, CAN/CSA C22.2 No. 61010-1-04, ANSI/UL 61010-1:2004, EN/IEC 60825-1:2007, EN/IEC 60825-2:2004+ A1:2007
Telephone	The OptiView XG is NOT designed for connection to a telephone network
	The OptiView XG is NOT designed for connection to an ISDN line
	Note: Do not connect to a telephone network or ISDN line except through a regulatory agency compliant computer network modem device.

Models (Additional models, bundles, accessories and options are available. Go to www.flukenetworks.com for details)

Product Noun	Description
OPVXG	*OptiView XG – Network Analysis Tablet, 1 Gbps
OPVXG-10G	*OptiView XG – Network Analysis Tablet, 10 Gbps
OPVXG-PRO	*OptiView XG – Network Analysis Tablet, 1 Gbps with AirMagnet WiFi Analyzer and Spectrum XT
OPVXG-EXPT	*OptiView XG – Network Analysis Tablet, 10 Gbps with AirMagnet WiFi Analyzer and Spectrum XT
OPVXG-LAN	OptiView XG – Network Analysis Tablet, 1 Gbps, wired only
OPVXG-LAN-10G	OptiView XG – Network Analysis Tablet, 10 Gbps, wired only

**For sale only in countries where the XG wireless is certified.*

Fluke Networks' Gold Support

Our support plans give you exclusive services and 24/7 technical assistance. Sign up for our Gold Support plan and you'll enjoy outstanding privileges to protect and add value to your investment in Fluke Networks equipment. They include unlimited technical assistance seven days a week, 24 hours a day via phone or at our web support center. Repairs on covered items and "next day" dispatched loaner units for uninterrupted service. Free software upgrades. Scheduled annual performance verification service. 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.

For more information about OptiView XG, visit **www.flukenetworks.com/xg**

Fluke Networks
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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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