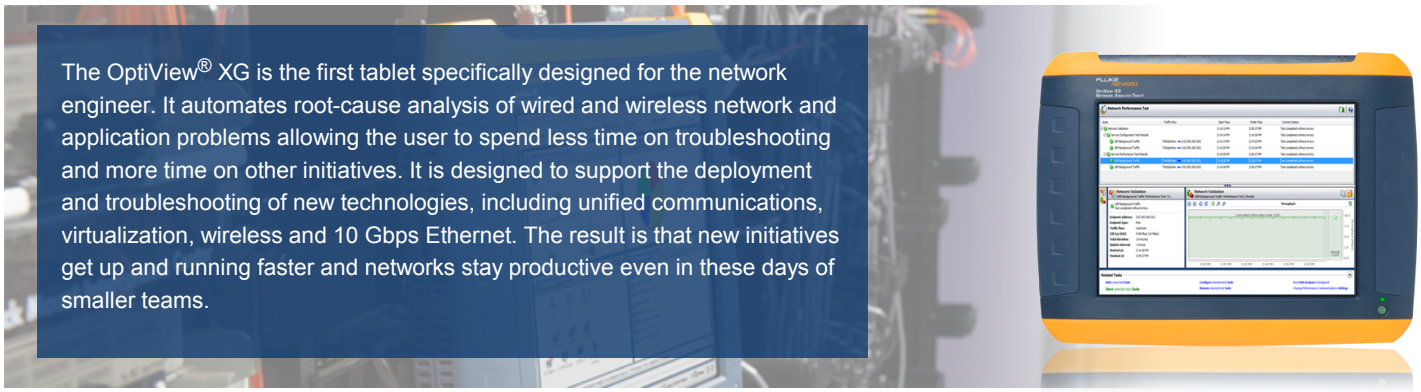
Datasheet: OptiView XG Network Analysis Tablet - Performance Testing



The OptiView® XG is the first tablet specifically designed for the network engineer. It automates root-cause analysis of wired and wireless network and application problems allowing the user to spend less time on troubleshooting and more time on other initiatives. It is designed to support the deployment and troubleshooting 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.

Core capabilities

- **Network Analysis** – Automated discovery, mapping, monitoring, analysis and guided troubleshooting of your network infrastructure
- **Traffic and Packet Analysis** – The ONLY tablet with 10 Gbps "On the wire" analysis
- **Wireless Analysis** – Integrated tools for deployment and troubleshooting of 802.11a/b/g/n/ac WLANs
- **Performance Testing** – Conduct network assessments, validate new infrastructure and devices, test service provider SLAs and QoS, and troubleshoot problems from end to end, at up to a full line-rate of 10 Gbps

The Tablet for Network Engineers

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.

- 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 intuitive, customizable dashboards and maps
- Provides performance testing, 'on-the-wire' and 'in-the-air' automated analysis up to 10 Gbps
- Enables proactive analysis by monitoring and analyzing the information you need before problems arise
- Out-of-the-box and customizable reports and maps

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Performance Testing - Highlights

- Troubleshoot network bottlenecks, assess networks for new technology or application deployments, validate new architectures, and test service providers SLAs and QoS
- Test service provider SLAs, troubleshoot network bottlenecks, validate new architectures, and assess networks for new technology or application deployments
- OptiView Performance Test Remote (PTR) - A cost-effectice way of instrumenting multiple points in the network with a 10G device for performance testing, troubleshooting and installation validation
- Measures end-to-end network performance in terms of bandwidth, latency, jitter, loss, QoS and availability up to 10 Gbps
- Testing at operational speeds (less than line rate) in conjunction with Path Analysis reveals network bottlenecks
- Windows Reflector Agent - Easily-downloable software agent for instant deployment on PCs anywhere in your network, for performance testing and troubleshooting whereever it is needed
- Compliant with ITU (International Telecommunications Union) ITU-T Y.1564 standard for performance testing
- Class-of-Service testing and multiple test streams (up to 8 simultaneous) ensures availability and performance of QoS throughout your network, and whether carrier links are supporting QoS

Network Performance Testing

The OptiView XG Network Analysis Tablet is the fastest way to find the root cause of network problems. The Network Performance Test feature (NPT, released in OptiView XG version 10) allows users to test and troubleshoot high performance links across wide area networks, campuses, or within data centers and to remote sites. Engineers managing enterprise or service provider networks now have a single tool for measuring performance and troubleshooting complex network and application problems. NPT quantifies the performance of the network in terms of bandwidth, latency, jitter and loss up to line-rate 10 Gbps, giving engineers solid data about the capabilities of their infrastructure and its ability to support current and future applications.

The latest version of OptiView XG software is available free of charge for Gold Support customers and to all new OptiView XG owners.

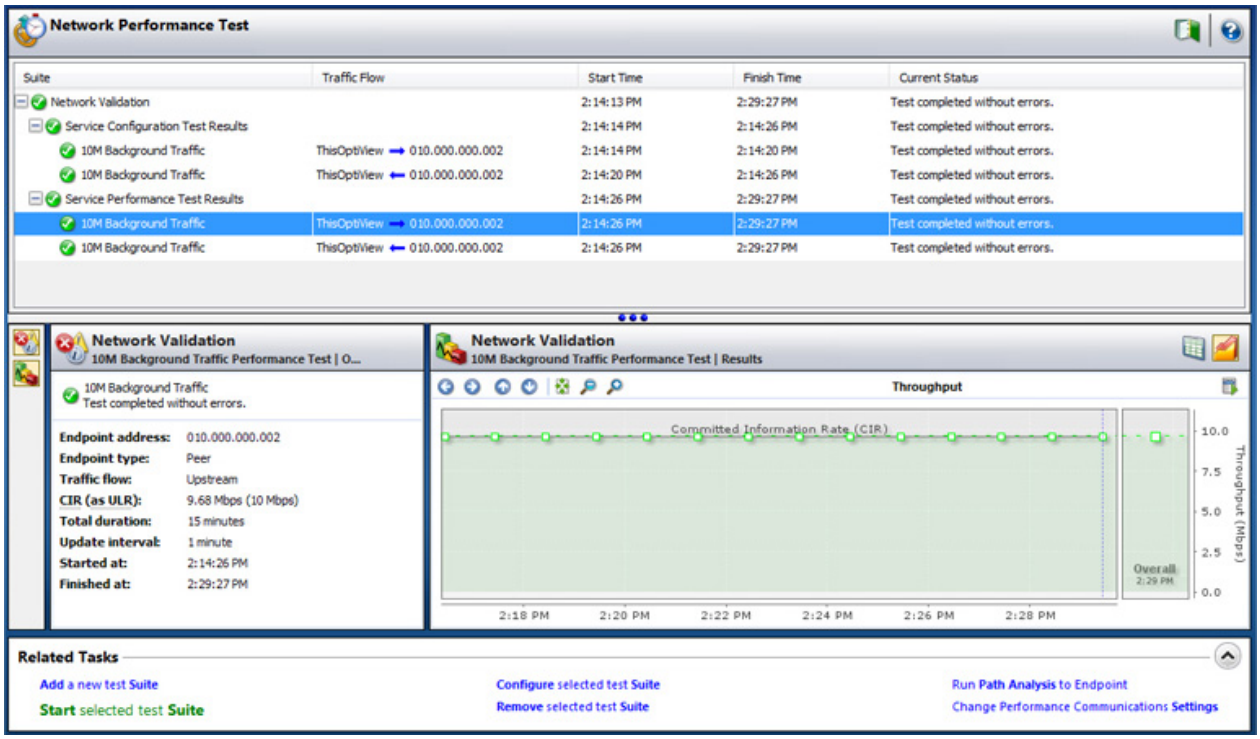
Service providers and system integrators can use OptiView XG to validate layer 2 services and provide "value added" support of customer enterprise networks, from troubleshooting application performance problems to conducting network assessments and new technology rollouts, such as VoIP and video.

Enterprises Can Use XG's Network Performance Testing To:

- Troubleshoot network and application performance problems
- Assess network performance prior to deployment of new services such as video or VoIP
- Validate the performance of new infrastructure elements and critical links within their data center
- Independently determine if their service providers are meeting agreed upon service levels (SLAs) and maintaining QoS end-to-end

Key Capabilities:

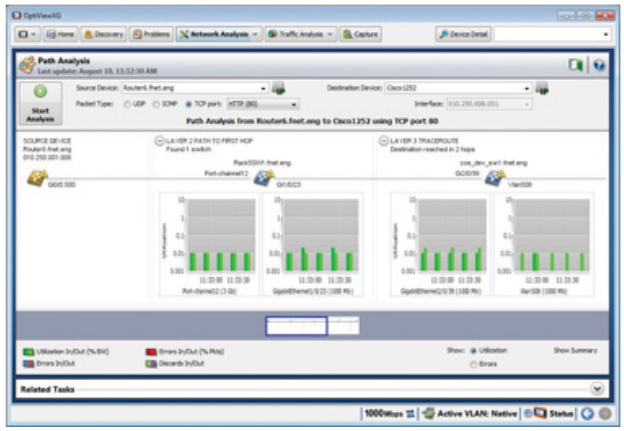
- Find the location of performance bottlenecks with Graphical Path Analysis
- Bi-directional testing, from operational levels (for troubleshooting) up to full line-rate 10 Gbps (for validation)
- Programmable streams of up to eight simultaneous flows with independent upstream/downstream SLA parameters including Committed Information Rate, Committed Burst Size, Excess Information Rate, Excess Burst Rate, and Frame Sizes
- Flexible Layer 2 and Layer 3 settings including source and destination MAC and IP addresses, VLAN settings, TOS with DSCP or IP precedence, UDP port number and frame contents
- Complete setting of Service Acceptance Criteria limits for availability, throughput, frame loss, delay, and jitter (delay variation)
- Thorough reporting with pass/fail indication based on Service Acceptance Criteria



Network Performance Test User Interface

Path Analysis Testing Pinpoints Network Failure Points

While other tools can send traffic over the network, and may tell you there is a problem, only OptiView XG can test for problems AND show you the location of the issue! Graphical Path Analysis shows the complete layer 2 and layer 3 paths across your network, displaying the performance of switches and routers along the path of the data flows in real time – while NPT tests are underway! -- allowing you to instantly see overloaded or erred interfaces, discarded packets, CPU and memory utilization issues, or even devices rebooting. This allows instant diagnosis of bottlenecks along the data path for quick resolution.



Graphical Path Analysis Pinpoints Network Bottlenecks During Performance Tests

Conduct Network Assessments Before New Technology Rollouts

Use NPT's multi-stream capability to generate different flows of traffic with different QoS and rates to determine if your network can support new or additional traffic like VoIP and video.

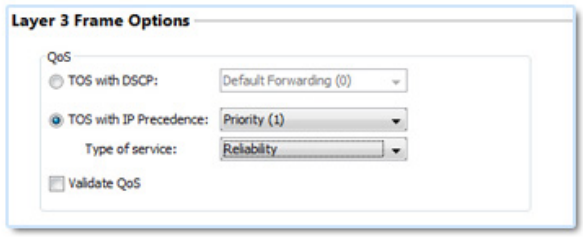
Network Validation
10M Background Traffic Performance Test | Results

Overall Status	Throughput (Mbps) Min	Avg	Max	Frame Loss Count	Ratio	Latency (ms) Min	Avg	Max	%	Jitter (ms) Min	Avg	Max	%	Avail %	Unavail Seconds
Overall Results	9.54	9.58	9.62	18254	0.01003	12	18	24	100	0	0.75	17.93	100	100	0
02/20 2:29 PM	9.56	9.58	9.6	1224	0.01009	13	18	23	100	<0.01	0.75	15.38	100	100	0
02/20 2:28 PM	9.56	9.58	9.6	1190	0.00981	13	18	23	100	<0.01	0.75	15.6	100	100	0
02/20 2:27 PM	9.55	9.57	9.61	1224	0.01009	12	18	23	100	<0.01	0.75	16.15	100	100	0
02/20 2:26 PM	9.54	9.58	9.62	1204	0.00992	13	18	23	100	0	0.75	15.18	100	100	0
02/20 2:25 PM	9.54	9.58	9.59	1267	0.01044	12	18	24	100	0	0.75	15.01	100	100	0
02/20 2:24 PM	9.54	9.57	9.6	1260	0.01038	13	18	23	100	<0.01	0.75	17.93	100	100	0
02/20 2:23 PM	9.56	9.58	9.6	1219	0.01004	13	18	23	100	<0.01	0.75	15.46	100	100	0
02/20 2:22 PM	9.54	9.58	9.6	1216	0.01002	13	18	23	100	<0.01	0.75	14.99	100	100	0
02/20 2:21 PM	9.54	9.58	9.61	1188	0.00979	13	18	23	100	<0.01	0.75	16.21	100	100	0
02/20 2:20 PM	9.55	9.58	9.59	1213	0.00999	13	18	23	100	0	0.75	16.51	100	100	0
02/20 2:19 PM	9.54	9.58	9.59	1217	0.01003	13	18	23	100	0	0.75	16.42	100	100	0

Detailed Results with Clear Pass/Fail Indicators

Validate and Troubleshoot Quality of Service / Class of Service

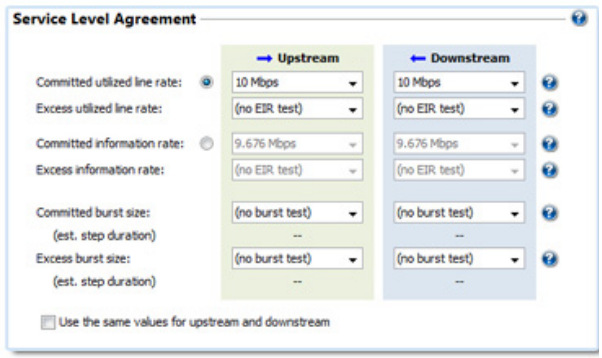
The Network Performance Test features the ability to generate streams of various Layer 2 (VLAN priority) and Layer 3 (TOS with DSCP or TOS with Precedence) traffic, validating the ability of your network (and service provider's network) to maintain QoS from end to end. Generating different traffic rates at different QoS settings allows the testing of traffic prioritization, ensuring that high priority traffic is treated as such throughout your network.



Validate QoS

Validate Service Provider SLAs

When applications are slow over internet or WAN links, the blame game is only just beginning. With NPT and OptiView XG, enterprises don't have to rely on service provider metrics, but can test and validate SLAs and net capacity directly. End the finger pointing and know you're getting what you paid for by generating your own performance reports.



Test and validate SLAs

Validate Data Center Performance with Full-Duplex Testing at 10 Gbps

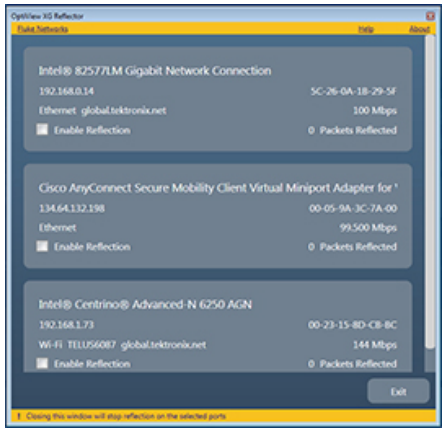
By pairing two OptiView XG's together, you can fully test 10Gig links with independent upstream/downstream flow rates, up to full line-rate 10Gbps. The independent management port allows complete control without impacting tests. You've invested a great deal in high performance hardware - ensure that you are getting the results you expected!

A “Good – Better – Best” strategy for instrumenting your network

NEW Windows® Reflector agent – “Good”

Travelling to remote sites, whether across town or across the country, is time-consuming and inefficient – the more problem-solving engineers can do from their desk, the more effective they can be. When troubleshooting remote user performance problems, you need deeper visibility into what the user is actually experiencing in order to get to root cause.

The OptiView XG Windows Reflector agent is an easily-downloadable software agent for instant deployment on PCs anywhere in your network, for performance testing and troubleshooting wherever it is needed. Simply direct your remote user to point their web browser at OptiView’s IP address, then download and install the small footprint application. Then, target the user’s PC with OptiView’s Network Performance Test to get a fast reading of roundtrip throughput, packet loss, jitter, and latency. Combine that with Graphical Path Analysis to visually see where performance issues might be hiding.



The agent provides symmetric upstream/downstream flow rates up to approximately 900 Mbps to a PC connected via a 1 Gbps NIC. Actual performance can vary based on the performance of the client’s operating system and TCP/IP stack. Importantly, the agent can also be used on PCs connected via Wi-Fi, allowing troubleshooting of performance through the wired AND wireless infrastructure.

Note: The Windows Reflector supports Windows 7, Windows 8, and Windows Server 2008 R2, both 32 and 64 bit editions.

LinkRunner™ – “Better”

The LinkRunner™ AT 2000, LinkRunner CE or Pro with Reflector Option act as remote devices for symmetric upstream/downstream flow rates up to line-rate 1Gbps over copper or fiber. An economical alternative for hardware-based endpoints, using these tools as hardware reflectors at critical sites throughout your network provide an “always on” means of testing and troubleshooting performance and service provider SLAs anytime. Using LinkRunner provides a “known standard” instrument for performance testing that is not impacted by the performance of the client’s operating system, or TCP/IP stack. Equipping remote sites with LinkRunner units to be used as needed for performance testing is good practice, but another benefit is that having them onsite also equips local frontline technicians with simple tools for solving user connectivity problems.

NEW OptiView XG Performance Test Remote – “Much Better”

The Performance Test Remote (PTR) instrument allows bi-directional testing (asymmetric, up to 4 separate, simultaneous streams) at up to full line-rate 10Gig on copper or fiber. Whether used at 1G or 10G rates, bi-directional testing is essential for assessing a network’s capacity for voice and video traffic. The Performance Test Remote provides a cost-effective way of instrumenting multiple points in the network with a 10G device for performance testing, network assessment, and validation of critical, high-performance links.

The instrument comes with both copper (100/1000/10G) and fiber (1/10GBASE-SR, 850nm multimode SFP+) network interfaces. Alternatively, different SFP+ modules may be used for different standards/distances (LR, LRM.)

Specifications:

Battery Type - Rechargeable lithium battery pack

Temperature:

Operating - 0° C to 50° C (no battery installed)

Operating - 0° C to 40° C (lithium battery installed)

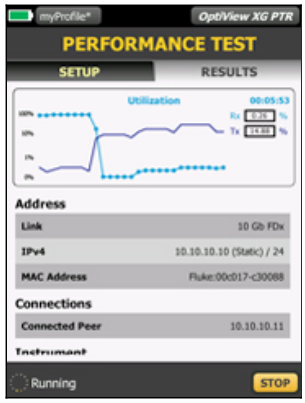
Charging - 0° C to 40° C

Storage - -40° C to 71° C

Safety: IEC/EN 61010-1

Operating altitude - 13,123 ft (4,000 m) 10,500 ft (3,200 m) with ac adapter

Storage altitude - 39,370 ft (12,000 m)



Part of the Versiv family

The OptiView Performance Test Remote is a new high-performance network test module on Fluke Networks’ modular Versiv™ test platform. Versiv expands testing capabilities through the addition of new modules as testing needs evolve, providing total flexibility for copper or fiber cable testing and certification with the DSX-5000 CableAnalyzer™, CertiFiber® Pro and OptiFiber® Pro OTDR modules. Network Technicians can use the OneTouch™ AT Network Assistant 1T-3000 module for access-layer user network connectivity and performance troubleshooting on copper, fiber and Wi-Fi networks. (See ordering information for the OptiView Performance Test Remote and 1T-3000 module kit.)

When not being used for performance testing, the OptiView XG Remote can be quickly converted into any one of these instruments with the replacement of the optional slide-in module.

OptiView XG – “Best”

A second OptiView XG provides the best performance overall as a test endpoint, with its capacity for eight bi-directional streams at up to 10 Gbps. When not used for performance testing, engineers at the remote site have the most powerful tool available for local wired and wireless troubleshooting, assessment, mapping and more.

Unmatched Network and Application Performance Analysis

OptiView XG is at home in the data center, with support for 10 GbE and virtualized servers; at the users' office supporting 802.11a/b/g/n/ac and application analysis; and with the switches and routers in between. Use it to find problems from your desk or take it with the data it collected to the trouble spot for first-hand analysis. Its unique troubleshooting system is based on proactive analysis, path analysis, and application-centric analysis, which provides expert guidance that automatically identifies the root cause of problems. No other tool combines powerful performance testing with in-depth troubleshooting and analysis!

More Flexible and Powerful than Other Testing Methods

Based on ITU-T Y.1564, the newest standard for testing real-world Ethernet performance, OptiView XG's NPT provides enhanced performance compared to older standards such as RFC2544, including:

Faster—the LRPT option measures all key performance Service Level Criteria (SLC's)—availability, throughput, frame loss, delay, and delay variation (jitter)—in a single test instead of multiple independent tests.

Fixed Test Times—a single lost frame during an RFC 2544 throughput test requires it be run again, so a test may take many times its set length. ITU-T Y.1564 tests only need to run one time for a complete measurement.

More thorough—measures additional key Service Level Agreement (SLA) requirements including Excess Information and Excess Burst Rates (EIR/EBR), and availability. Measures delay and jitter on every frame in the test.

More flexible—supports multiple simultaneous flows with independent destinations, SLAs and SLCs, CoS and VLAN settings.

Measurement/Feature	Basic Throughput Test	RFC 2544	ITU Y.1564 (NPT)
Throughput	✓	✓	✓
Loss	✓	✓	✓
Latency		✓	✓
Jitter			✓
Multiple Streams			✓
Class of Service Testing			✓
Asymmetric Link Testing			✓
Excess Information Rate			✓
Excess Burst Rate			✓
Traffic Policing			✓

Network Test Specifications	
Compatible remote devices	OptiView XG (up to 10 Gbps FDX with independent upstream/downstream flows); LinkRunner AT 2000, LinkRunner CE, LinkRunner Pro or Duo with Reflector Option (up to 1Gbps FDX with symmetric upstream/downstream flows)
Test Configuration	Each test may be made up of an unlimited number of suites which run sequentially. Each suite may measure a maximum of eight bi-directional test flows from one to eight endpoint devices (peer or reflector).
Service Level Agreement (SLA)	Committed Utilized Line Rate (ULR) Excess Utilized Line Rate Committed Information Rate (CIR) Excess Information Rate Committed Burst Size Excess Burst Size
Service Acceptance Criteria (SAC)	Availability Latency (Frame Transfer Delay) Jitter (Frame Delay Variation) Frame Loss Ratio Separate values may be set for upstream and downstream flows when used with a peer endpoint (a second OptiView XG). The test may be configured to check for preservation of VLAN Priority and Class of Service markings.
Frame size	User-defined fixed frame size up to 10,018 bytes or a sequence of specific frame sizes.
Layer 2 Frame Settings	Destination MAC; VLAN ID number, priority, and tag protocol identifier.
Layer 3 Frame Settings	TOS with DSCP or IP precedence; source IP address; UDP port number
Flow Options	The duration of the performance test may be set to one of the pre-defined values ranging 1 minute to 24 hours. Intermediate test results may be produced on an interval ranging from 1 minute to 60 minutes.
Reported Results	Test results are compared to the user defined Service Acceptance Criteria with pass/fail status given with respect to these criteria. The user may set specific values for: Availability threshold (%), Latency threshold (msec), Jitter threshold (msec), and Frame Loss Ratio.

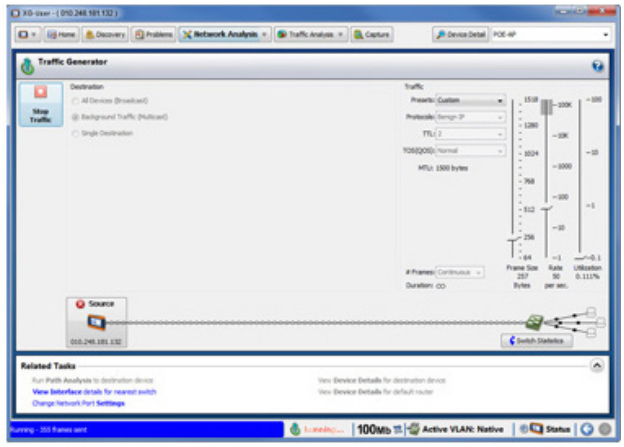
Ordering Information – OptiView XG Performance Test Peer	
OPVXG-PTR	OptiView XG Performance Test Remote (Versiv™ mainframe with PTR module attached)
OPVXG-PTR-MOD	OptiView XG Performance Test Remote Module Only (for use with your existing Versiv™ product)
OPVXG-10G/PTR	10G Performance Test Kit Contains: OptiView 10 Gig tablet (OPVXG-10G) plus Performance Test Remote (OPVXG-PTR)
OPVXG-EXPT/PTR	10G Performance Test Kit with Wireless Analysis Contains: OptiView 10 Gig tablet with WLAN options (OPVXG-EXPT) plus Performance Test Remote (OPVXG-PTR)
OPVXG-PTR-KIT	OptiView XG Performance Test and Troubleshooting Kit Contains: Performance Test Remote (OPVXG-PTR) plus OneTouch AT 3000 test module (1T-3000-MOD)
Ordering Information – Gold Support	
GLD-OPVXG-PTR	1 Year Gold Support, OptiView XG Performance Test Remote
GLD3-OPVXG-PTR	3 Years Gold Support, OptiView XG Performance Test Remote
GLD-OPVXG-PTR-MOD	1 Year Gold Support, OptiView XG Performance Test Remote Module (Use this if purchasing the OPVXG-PTR-MOD for use on an existing Versiv platform)
GLD3-OPVXG-PTR-MOD	3 Years Gold Support, OptiView XG Performance Test Remote Module (Use this if purchasing the OPVXG-PTR-MOD for use on an existing Versiv platform)
GLD-OPVXG-10G/PTR	1 Year Gold Support, OptiView XG 10G Performance Test Kit (Provides Gold Support coverage for both OPVXG-10G tablet and OPVXG-PTR remote.)
GLD3-OPVXG-10G/PTR	3 Years Gold Support, OptiView XG 10G Performance Test Kit (Provides Gold Support coverage for both OPVXG-10G tablet and OPVXG-PTR remote.)
GLD-OPVXGEXPT/PTR	1 Year Gold Support, OptiView XG 10G Performance Test Kit with Wireless Analysis (Provides Gold Support coverage for OPVXG-EXPT tablet, the included AirMagnet Wi-Fi Analyzer and Spectrum XT Software, and for OPVXG-PTR remote.)
GLD3-OPVXGEXPT/PTR	3 Years Gold Support, OptiView XG 10G Performance Test Kit with Wireless Analysis (Provides Gold Support coverage for OPVXG-EXPT tablet, the included AirMagnet Wi-Fi Analyzer and Spectrum XT Software, and for OPVXG-PTR remote.)
GLD-OPVXG-PTR-KIT	1 Year Gold Support, OptiView XG 10G Performance Test and Troubleshooting Kit (Provides Gold Support coverage for both OPVXG-PTR remote and 1T-AT3000 module.)
GLD3-OPVXG-PTR-KIT	3 Years Gold Support, OptiView XG 10G Performance Test and Troubleshooting Kit (Provides Gold Support coverage for both OPVXG-PTR remote and 1T-AT3000 module.)
Ordering Information – OptiView XG Performance Test Peer Models with Bundled Gold Support (Available in USA only)	
OPVXG-10G/PTR/GLD	OPVXG-10G/PTR with 1 Year Gold Support included (USA ONLY)
OPVXG-10G/PTR/GLD3	OPVXG-10G/PTR with 3 Years Gold Support included (USA ONLY)
OPVXG-EXPTPTR/GLD	OPVXG-EXPTPTR with 1 Year Gold Support included (USA ONLY)
OPVXG-EXPTPTR/GLD3	OPVXG-EXPTPTR with 3 Years Gold Support included (USA ONLY)
OPVXG-PTR-KIT/GLD	OPVXG-PTR-KIT with 1 Year Gold Support included (USA ONLY)
OPVXG-PTR-KIT/GLD3	OPVXG-PTR-KIT with 3 Years Gold Support included (USA ONLY)

Basic 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.



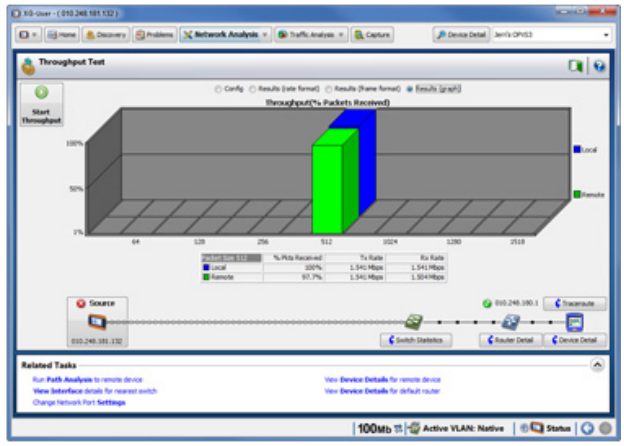
Traffic Generation - up to full 10 Gbps

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



Troughput Testing - up to full 10 Gbps

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.

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. 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.

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