OBSERVER® 11

enhanced **VoIP** *support*

OBSERVER®

New Features Guide

Enterprise-Strength VoIP Expert

Native 64-bit Application

MultiHop Analysis
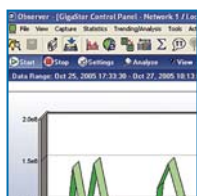
Time-Based Navigation for the GigaStor™

Stream Reconstruction

Analysis Port Flexibility

Citrix Decodes

Perl-based Filters

Network Trending Enhancements

Observer 11 delivers robust features and capabilities for distributed network analysis across your entire organization. Utilize Observer's enhanced VoIP capabilities to manage VoIP deployment and ensure Quality of Service. New MultiHop Analysis offers a unique method of quickly isolating transaction delay across multiple hops. Stream reconstruction capability helps with forensic investigations. With Observer 11 and the GigaStor, you have all you need to navigate through massive amounts of data with ease. Observer 11 is also the first multi-topology, distributed network analyzer written as a native 64-bit application while also including a 32-bit version.

Enterprise-Strength VoIP Expert

Observer's VoIP Expert is designed to help manage, troubleshoot, and maintain VoIP traffic across your network. Regardless of whether you are interested in the big picture or in a specific conversation, Observer offers real-time statistics, Expert analysis, and reports for all levels of VoIP traffic. Unlike other VoIP analysis tools intended solely for lab environments and telecommunication service providers, the Observer VoIP Expert was designed from the ground up to offer relevant and actionable VoIP conversation detail and diagnostics for today's enterprise IT administrators concerned with real, live traffic issues. Observer's VoIP Expert includes:

Convenient and Comprehensive At-a-Glance Summaries
- VoIP Traffic Summary
- Call Summary
- Voice Quality Scoring
- Precedence (QoS)
- Summary Graphs

Detailed Views with In-Depth Call Detail Records
- Addresses
- Status (Open, closed, fail)
- Number of packets, packet bytes, packet loss
- Start time, initial setup duration, duration
- Current jitter, maximum jitter
- MOS, R-factor
- QoS for each call
- Number of packets that arrive out of order
- Detailed analysis for packet loss and delay
- Gap density, average gap duration

VoIP Expert Events with over 50 Expert items
Observer offers over 50 new event-based and threshold-based VoIP Experts to immediately flag problems for faster problem resolution. Examples include alarms for above or below active jitter rates, lost packets, and alterations in the QoS stream.

Quality Scoring
Observer displays the individual Mean Opinion Score (MOS) and R-factor for every call and as an average for all calls. Quality scoring is conducted using the ITU E-Model. During VoIP Setup, you may customize the impairment factors of the E-model depending on your VoIP equipment and network characteristics. For example, VoIP quality on calls made from a factory floor over multiple hops may be scored differently then calls made within an office setting.

Jitter
Observer's VoIP Expert displays the statistical variance of packet arrival times, also known as jitter, measured in timestamp units or RTP time units.

Native 64-bit Application

Observer is the first enterprise-driven, multi-topology, distributed network analyzer written in native 64-bit Windows with a 32-bit version included. Now, whether your platform is 32-bit, 64-bit or a combination, Observer can maximize the benefits of your operating system for packet capture and analysis. For example, with 32-bit Windows, Observer offers the industry-leading capture buffer, a maximum of 4 GB. With 64-bit, the memory buffer is only limited by the operating system—with the potential for up to 128 GB.

Quality of Service
Observer's VoIP Expert reports QoS levels by call, packet, and protocol. VoIP Expert also reports on percentage of VoIP utilization compared to the rest of network traffic, allowing you to plan network upgrades. Observer allows you to sort TCP sub-protocols by the TCP Precedence bit—a mechanism for prioritizing traffic for applications such as VoIP. Observer supports QoS standards including:
- Default: RFC 1349, 1195, 1123, 791
- OSPF V2: RFC 1248, 1247
- DSCP: RFC 2474
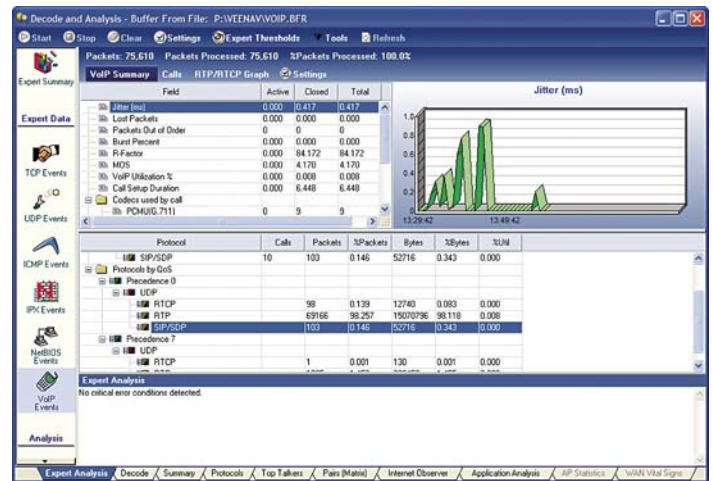
VoIP Summary

Call Flow and Call Bounce Views
VoIP Expert includes call ID and stream information including: number of packets, call setup, duration, teardown, lost packets, jitter, gap density, and other critical statistics for the entire conversation flow. Drill down further with Observer's Connection Dynamics to view call bounce showing packet-by-packet commands and delays.

VoWLAN
With the Network Instruments Distributed Network Analysis (NI-DNA™) architecture, all of Observer's VoIP enhancements are automatically available across multiple-topologies. For example, Observer's VoIP Expert has the capability to monitor VoIP traffic even over wireless networks.

Available in Expert Observer and Observer Suite.

64-bit also delivers significant enhancements for the Network Instruments' Gen2 Gigabit Capture card. With multiple port options on the card, you can now use ports individually for monitoring SPAN sessions, combine ports for full-duplex capture, and combine full-duplex ports for trunked applications or any combination of these setups.

32-bit and 64-bit versions are included with Observer, Expert Observer, and Observer Suite. Every Network Instruments Probe Appliance equipped with the Gen2 Capture Card runs native 64-bit.

MultiHop Analysis

Track conversations and transactions through up to 10 segments, hops, and routes with Observer's new MultiHop Analysis. This offers network administrators a way to quickly pinpoint delay happening at any point during transactions. MultiHop Analysis is ideal for pinpointing bottlenecks within specific conversations across multiple links or to verify if 3rd party service providers are performing to their Service Level Agreement.

### Use MultiHop Analysis on individual network conversations to:
- Determine if slowdowns are caused by network delay or system processes
- Identify packet loss and location
- Measure one-way delay, round-trip delay, and individual hop delay

MultiHop Analysis offers individual displays including:
- *Connection Dynamics*—shows packet-by-packet and hop-by-hop delay
- *Hop Summary*—shows delay from selected conversations in aggregate, providing average delay from multiple conversations over time and average time lost due to drops
- *Summary Statistics*—provides a textual summary display of selected conversations
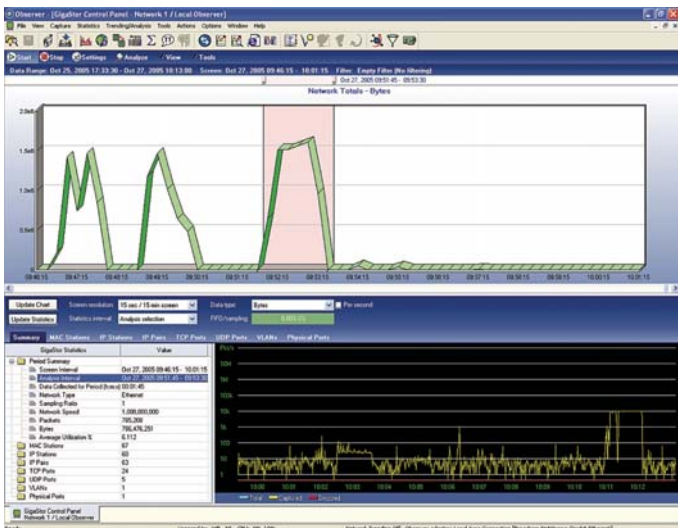
MultiHop Analysis is applicable to WAN links, Ethernet connections, wireless traffic, and gigabit networks.
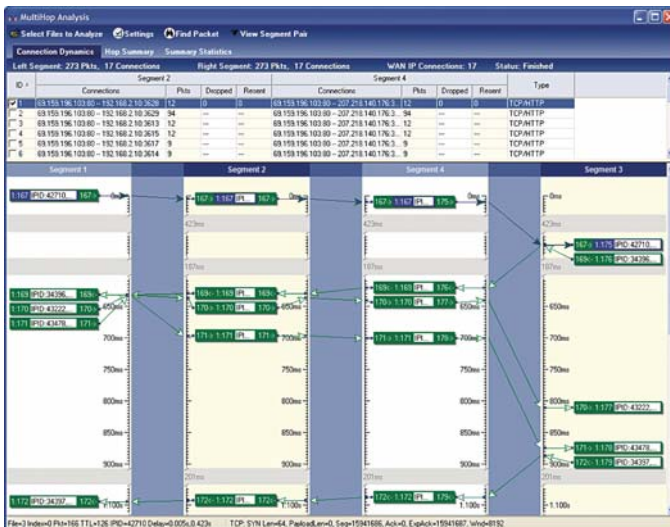
MultiHop Connection Dynamics

Available in Expert Observer and Observer Suite.

Time-Based Navigation for the GigaStor

GigaStor Interface

Observer 11 and the GigaStor unveil a new paradigm in network troubleshooting. Time-based troubleshooting and mining through enormous amounts of data is now easier than ever. Observer 11 integrates a new timeline interface for the GigaStor, which manages, displays, and analyzes capture histories as large as 8 TBs. For example, did a user complain about a problem that happened between 8 AM and 10 AM this morning? Armed with only this information and the GigaStor, it is easy to quickly isolate and resolve the issue within Observer.

The GigaStor is ideal for transaction-heavy organizations dealing with data retention compliance (such as for Sarbanes-Oxley), network forensics, and troubleshooting sporadic and elusive network issues.

Worried about analysis traffic tying up your network? The GigaStor eliminates this concern because, unlike competitive offerings, all data processing and Expert analysis is performed locally at the GigaStor. Only screen updates of the analysis results are transferred to the console. Because the GigaStor integrates seamlessly with the entire Observer product family, you can perform Expert analysis in post capture and real time for faster problem resolution.

Observer 11 and the GigaStor deliver a new and efficient way to identify, troubleshoot, and resolve network issues. This unique analysis/forensics solution is designed to maximize your troubleshooting power while minimizing network traffic load.

Observer 11 coupled with the GigaStor delivers significant enhancements:
- Navigate through massive amounts of data with ease
- Manages all data processing and Expert Analysis locally at the GigaStor
- Store up to 8 TB of data
- Capture wire-speed traffic continuously
- View conversations and transactions by time or with filters
- Obtain Expert analysis in real time and post capture
- Instantly create and save filters
- Select and auto-filter on individual ports or stations to quickly isolate issues
  - MAC Stations
  - IP Stations
  - IP Pairs
  - TCP Ports
  - UDP Ports
  - VLANs
  - Physical Ports

Available with the GigaStor and any Expert Observer or Observer Suite console connected to the GigaStor.

Stream Reconstruction

For enterprise administrators concerned with network forensics, compliance, and security, Observer can now take captured traffic and recreate the communication in an easy-to-read format. Rebuild web pages (including images), and reconstruct e-mails, and instant messages for evidence on network activity. Data reconstruction can help enforce corporate Internet usage policies, assist law enforcement, and help comply with Sarbanes-Oxley. Whether the issue is data retention compliance, corporate Internet usage enforcement, or even law enforcement, viewing web pages and e-mails exactly as they appeared to a user is essential for collecting and presenting evidence.

Available in Expert Observer and Observer Suite.

Analysis Port Flexibility

Aggregate or separate traffic streams as required or desired with Network Instruments' Gen2 Capture Card driver and 64-bit Windows. Now, every Gen2-equipped Network Instruments' probe can dissect, segment, and combine different physical ports prior to capture rather than depending on filters to sort through traffic in the post-capture phase. For example, on the Gen2 8-port capture card, you can easily set up ports 1-4 to be treated as a single trunked data stream, and separate each of the four remaining ports into separate (SPAN-based) data streams.

Available in every Gen2-equipped Network Instruments' Probe Appliance with Observer 11.

Citrix Decodes

With Observer 11, you will find new decodes for Citrix, allowing Observer users to monitor and troubleshoot Citrix-served applications in-depth. Numerous other decodes and decode enhancements are also included.

New decodes for Citrix are available in Observer, Expert Observer, and Observer Suite.

Perl-based Filters

Observer 11 includes the powerful, sophisticated pattern-matching capability of Perl-compatible regular expressions. Wildcard by single or multiple characters, range of characters, number of characters, and more.

Filtering is available in Observer, Expert Observer, and Observer Suite.

Network Trending Enhancements

Observer 11 adds further value to Network Trending by now supporting trending for Application Analysis, VLANs, and Wireless Site Survey. New reports for VLAN summary and Application Analysis are also available in the Observer ready-made report list.

Network Trending is available in Observer, Expert Observer, and Observer Suite.
Application Analysis Trending is available in Expert Observer and Observer Suite.
Web Reports are available in Observer Suite.

Ready-Made Report List

Frederick Engineering, Inc.
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Linthicum Heights, MD USA 21090
1-888-866-9001 toll-free (USA only)
(410) 789-7890 telephone
(410) 789-7670 fax
www.fetest.com
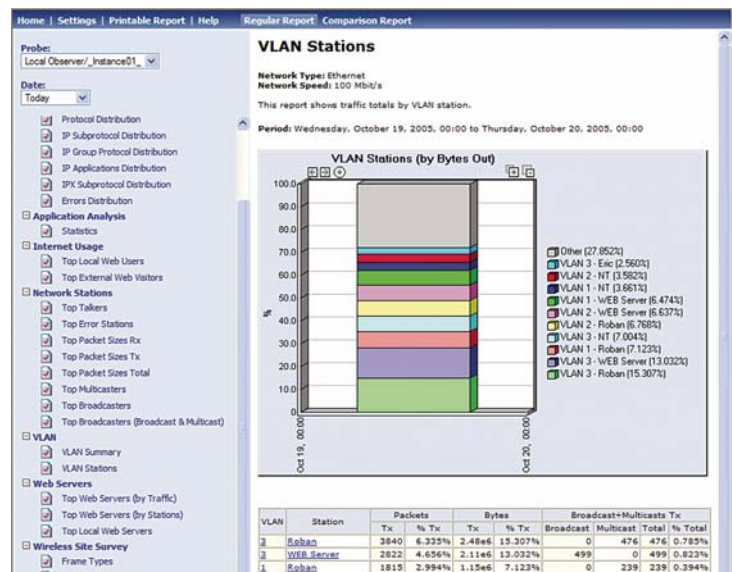
About Network Instruments
Network Instruments is the industry-leading developer of distributed, user-friendly and affordable network management, analysis and troubleshooting solutions. The award-winning Observer family of products combines a comprehensive management and analysis console with high-performance probes and network TAPs to provide integrated monitoring and management for the entire network (LAN, 802.11 a/b/g, gigabit, WAN). All Network Instruments products are designed utilizing a Distributed Network Analysis (NI-DNA™) architecture. With NI-DNA, the Observer solution set simplifies network troubleshooting and management, optimizes network and application performance and scales to meet the needs of any organization. Founded in 1994, Network Instruments is headquartered in Minneapolis, Minnesota with offices in London, Munich, Paris, Toronto, and multiple cities throughout the United States with distributors in over 50 countries. More information about the company, products, innovation, technology, NI-DNA, becoming a partner, and NI University can be found at: www.networkinstruments.com.

Solution Bundles
Contact a Network Instruments representative or dealer to ask about product bundles that cover all of your network management needs.

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