Wide Area Network Analysis

Monitor, Troubleshoot, and Maintain Your WAN Links

Wide Area Network (WAN) connectivity and throughput validation is a key part of a healthy, cost-effective remote connectivity strategy. With WAN costs potentially accounting for the majority of the network's ongoing operating budget, tracking performance is critical. The ability to monitor WAN links for errors and Service Level Agreement (SLA) verification is no longer just for carriers and expensive WAN consultants.

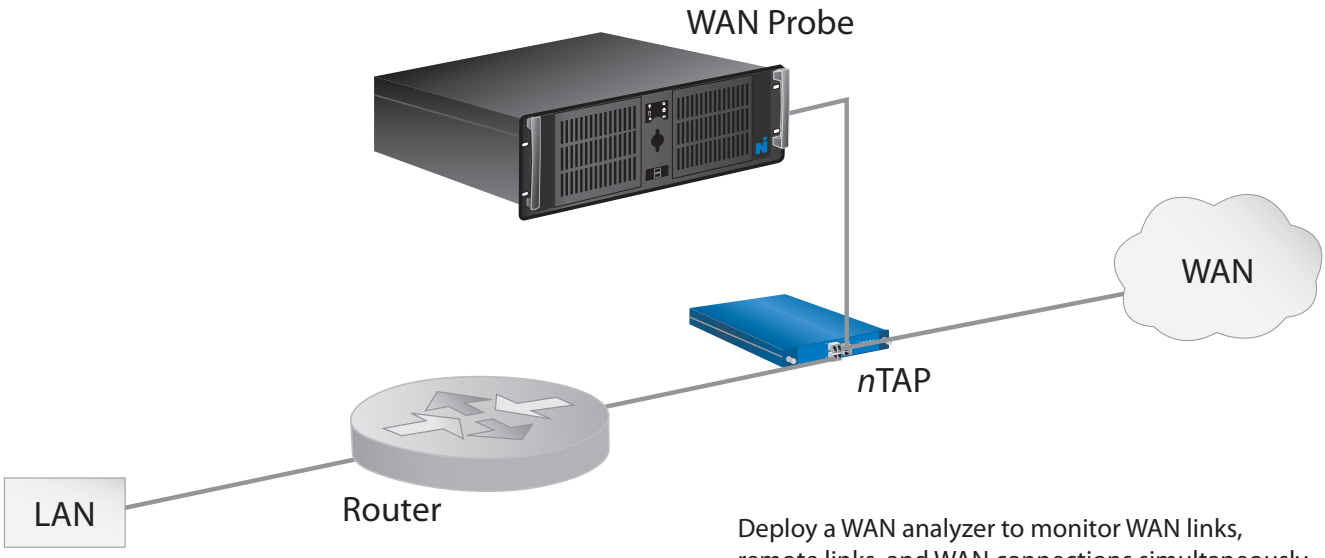
The Network Instruments® family of products provides WAN, LAN, SAN, and wireless analysis all from a single console, making monitoring your WAN as easy as monitoring other network resources. One solution keeps track of WAN links, remote links, and the network side of WAN connections simultaneously.

With a WAN analyzer from Network Instruments you can:

- Verify and enforce Service Level Agreements
- Monitor and troubleshoot problems occurring across the WAN circuit
- Analyze all WAN encapsulation and payload data
- Track real-time WAN performance and utilization metrics

Pinpoint WAN flow problems without leaving your desk

- Real-time statistics for capacity planning and provider performance measurement
- Long-term trending for reporting and baselining
- Passive capture and decode of all WAN traffic
- Real-time error displays for faster problem resolution
- Monitor and analyze OC-3c/12c traffic
- Track, isolate, and report on MPLS issues



Deploy a WAN analyzer to monitor WAN links, remote links, and WAN connections simultaneously.

Trusted, independent metrics for troubleshooting, capacity planning, and vendor SLA verification

Statistics – Observer® offers over 30 real-time statistics for WAN analysis. Real-time information is displayed by Data Link Connection Identifiers (DLCI), Private Virtual Circuit (PVC), or whole link. DLCI and Committed Information Rates (CIRs) can be automatically discovered or defined by user. Data flow rates are displayed by link, DLCI, and percentage of CIR for each DLCI, or PVC.

Errors – Recognize WAN errors instantly with Observer. Errors are displayed by link, DLCI, or PVC. Congestion control message (i.e. FECN, BECN and DE) are displayed in aggregate or when encountered as data rates are below CIR.

Alarms – Observer provides triggers and alarms to warn of congestion, errors, utilization, and the occurrence or non-occurrence of a DLCI. Set Observer to send an SNMP trap, notify by pager, e-mail, SMS (text) message, or sound an audible alarm. Run one or multiple alarms simultaneously.

Capture/Decode – Observer performs complete capture and decode of WAN encapsulation and payload data with detailed packet-by-packet information. Filter traffic by DLCI or IP address using one of the hundreds of pre-defined protocol filters, or create your own filter. Observer decodes over 600 protocols and supports packet capture buffers of up to 124 GB.

Filtering – Observer offers many WAN-specific filtering options. For example, choose the DLCI Address Filter rule to enter the address number you wish to include or exclude. Select WAN conditions to include or exclude packets based on flow direction, forward/backward congestion, and discard eligibility.

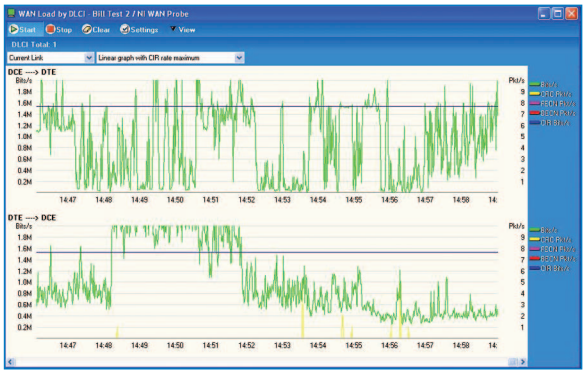
Trending – Observer's long-term trending and baselining facility helps determine usage trends and puts today's statistics into perspective. Historical information is kept for days, weeks, months, or even years. Use trending data to better plan and prepare for upgrades.

Reporting – Publish WAN reports via the web to share findings and trends with managers, outside consultants, or across the company as needed. Quickly run Observer's Ready-Made Reports or configure Custom Reports to analyze historical data. Provide non-Observer users controlled access to WAN baseline data.

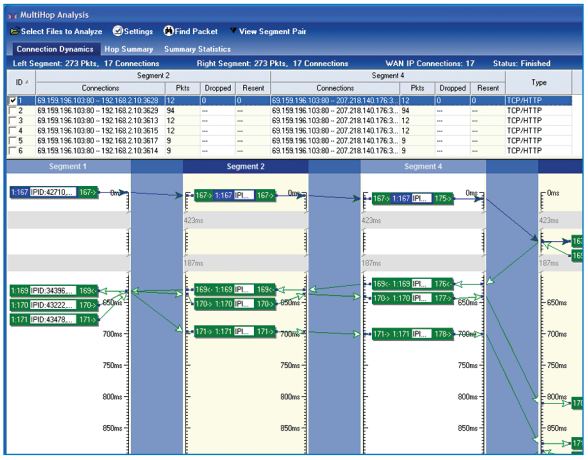
Real-Time Expert – Observer's Real-Time Expert system displays hundreds of Expert items in a format that makes troubleshooting effortless. A summary window shows critical WAN and network anomalies. Break down conversations by application or problem device for further investigation.

Passive Solution – All WAN data is accessed via a passive Test Access Port (TAP) device that continues to function whether the analyzer is installed or removed, and whether power is provided or not. Since the TAP is completely passive, WAN traffic is fully protected and data integrity is ensured.

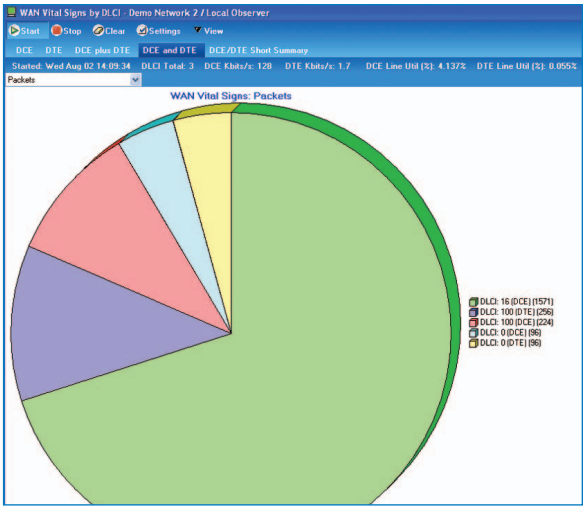
Observer Suite Interface



WAN Load by DLCI



MultiHop Analysis



WAN Vital Signs

Unique WAN Views with Observer

MultiHop Analysis – A compare capture feature with time synchronization technology to troubleshoot WAN or network delay through up to 10 hops.

- Quantifies transaction time between PC and server using our exclusive method of synchronizing captures
- Quickly determine how long it takes for data to traverse a WAN
- Measure one-way, round-trip, and individual hop delay

WAN Vital Signs – A comprehensive summary of WAN errors, statistics, utilization, and congestion. View DCE/DTE traffic individually or in aggregate.

- Review key statistics on control messages (i.e. FECN, BECN), discard eligibility packets, utilization rates, and more
- View statistics in terms of number of packets, bytes, or average and percentage ratios
- Compare between maximum line utilization and maximum CIR utilization of your WAN link

For flexibility in implementation and performance, Network Instruments offers multiple options for WAN Analysis

WAN Probe Appliance

The WAN Probe is a rack-mountable 4U system designed for real-time, full-duplex WAN analysis.

- Configures as a local console for on-site analysis
- Reports to any Observer Expert or Observer Suite console

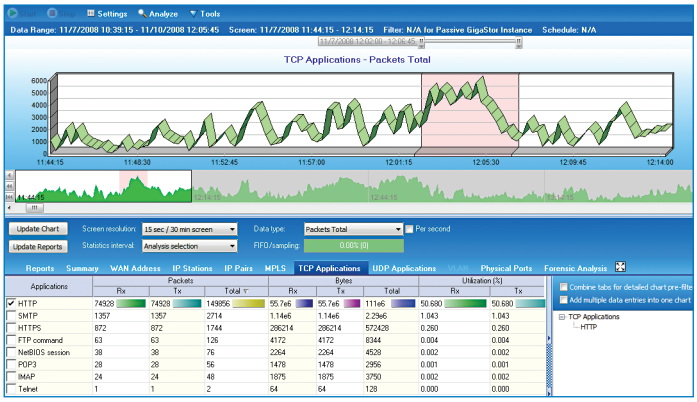
WAN Probe Appliance

GigaStor-WAN

The GigaStor-WAN is a high-capacity system specifically designed for historical data analysis on WAN links.

- Offered as a stand-alone appliance (2-12 TB), expandable unit (16-48 TB), serial-attached storage solution (16-288 TB), or offload captures to a SAN.
- A unique timeline interface makes it easy to isolate and troubleshoot past events
- Stored data can be reconstructed (web pages, e-mail, attachments, VoIP) to support forensics

GigaStor-WAN



GigaStor-WAN Interface

WAN Portable

The WAN Portable is a mobile unit that includes all the hardware and software necessary to monitor WAN links in real time.

All-in-one system

- Observer Suite console software
- WAN adapter
- 10/100/1000 Ethernet management port
- All required cabling and TAPs
- Built-in display, keyboard, trackpad, and CD-RW drive
- Durable, hard case appropriate for airline travel

WAN Portable

WAN RMON Option

The WAN Portable and the WAN Probe Appliance can be licensed for WAN RMON. The WAN RMON Probe works with Network Instruments WAN capture hardware to track WAN-specific statistics (FECNs, BECNs, etc.) through an included SNMP Management Information Base (MIB). WAN Probes licensed for WAN RMON will report back to any Observer Suite or RMON console.

Network Instruments WAN probes support the following industry standards:

- RMON1/RMON2, HCRMON
- Frame Relay DTE (Cisco)

WAN probes include the following Network Instruments MIBs:

- NetInst-Products-MIB
- NetInst-SMI-MIB
- NetInst-WAN-MIB
- NetInst-TC-MIB

RMON console functionality:

- Displays real-time statistics
- Packet capture and decode
- Post capture Expert Analysis
- Triggers & alarms

Industry Leading Performance

Network Instruments WAN probe appliances include cutting-edge technology for optimal analysis performance:

- Supports up to 16 links, which can be monitored individually or in aggregate
- Ensures full-duplex capture on serial HSSI, digital T3/DS3/E3, and serial and digital T1/E1
- Localizes processing at the probe to minimize network overhead
- Reports to any Observer Expert and Observer Suite console on the network
- Operates seamlessly into the Network Instruments' Distributed Network Analysis (NI-DNA™) architecture

Comprehensive Analysis

For complete network analysis, WAN probe appliances provide additional Observer features, including:

- UC/VoIP Analysis
- Application Analysis
- Connection Dynamics
- Top Talkers
- Internet Observer

NI-DNA

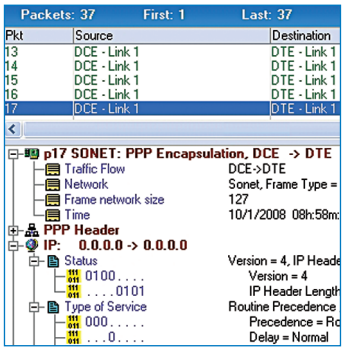
Network Instruments has a unique competitive edge in the network analyzer market with its Distributed Network Analysis (NI-DNA) architecture. All Network Instruments products are built from a **unified code set** that ensures the user experience and product functionality are identical regardless of topology or location. Observer consoles analyze local networks and connect to distributed probes to provide both **local and remote visibility** across the entire organization. With **multi-topology support**, Observer's single user interface can simultaneously manage almost every topology and technology that exists in today's networks.

T1/E1/DS3 Support

Monitor and troubleshoot fractionalized and non-fractionalized T1 lines and more. For example, monitor Internet or site-to-site connectivity for local and remote offices.

- Monitor up to 16 links individually or in aggregate
- Ensure full-duplex capture on serial HSSI, digital T3/DS3/E3, and serial and digital T1/E1
- Localize processing at the probe to minimize network overhead
- Protocols supported include: Frame Relay, Point-to-Point protocol (PPP), HDLC, and more

Full OC-3c/12c Support



- Monitor and analyze OC-3c/12c traffic
- Decode OC-related protocols
- Track POS and ATM over OC

OC-3c/12c Support

About Network Instruments

Network Instruments provides in-depth network intelligence and continuous network availability through innovative analysis solutions. Enterprise network professionals depend on Network Instruments' Observer product line for unparalleled network visibility to efficiently solve network problems and manage deployments. By combining a powerful management console with high-performance analysis appliances, Observer simplifies problem resolution and optimizes network and application performance. The company continues to lead the industry in ROI with its advanced Distributed Network Analysis (NI-DNA™) architecture, which successfully integrates comprehensive analysis functionality across heterogeneous networks through a single monitoring interface. Network Instruments is headquartered in Minneapolis with sales offices worldwide and distributors in over 50 countries. For more information about the company, products, technology, NI-DNA, becoming a partner, and NI University please visit 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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