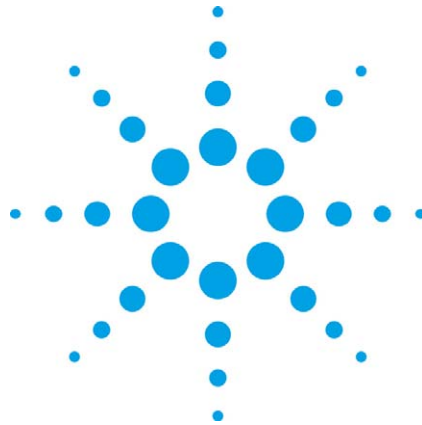




Agilent Network Analyzer Software

Technical Overview



**Technology
to quickly solve problems
in today's complex fixed networks**



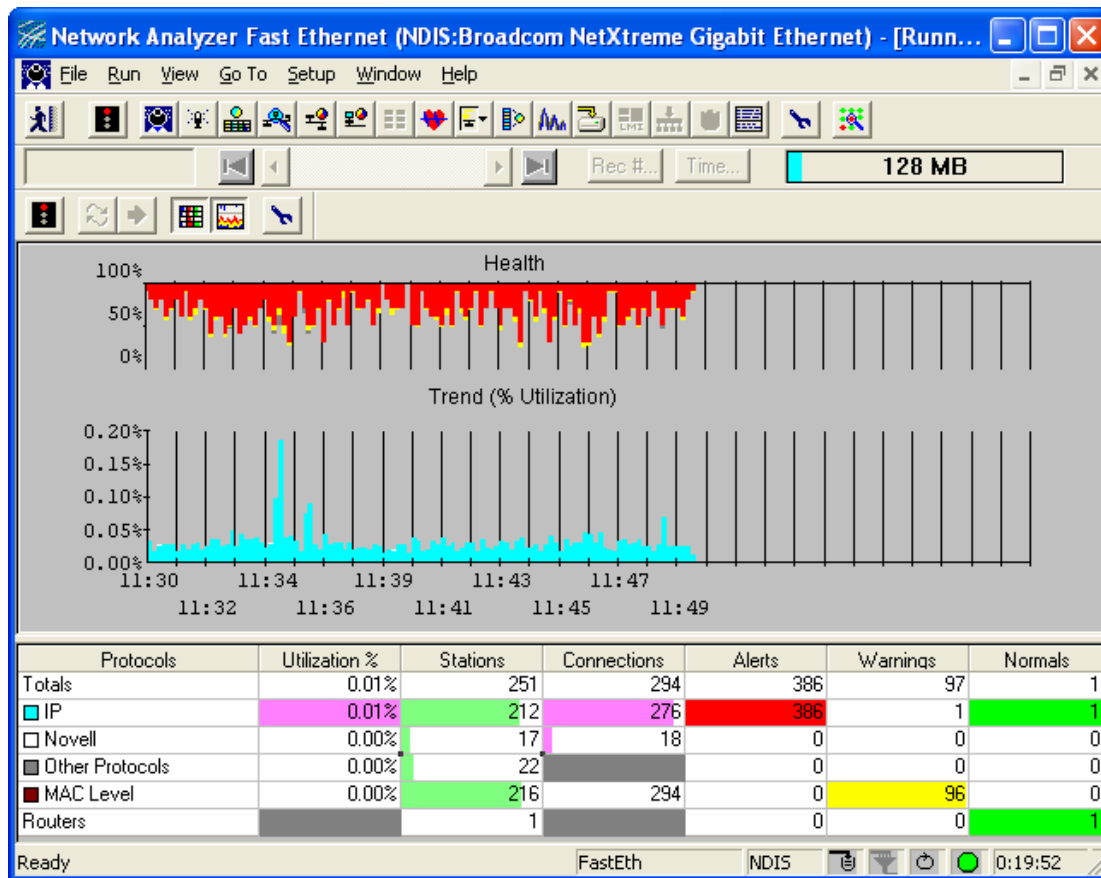
Agilent Technologies

Network Analyzer Software

The Network Analyzer software allows network professionals to maintain and optimize voice, data, and video services quickly over next-generation networks, and to decrease operational costs by testing any technology, over any interface, from anywhere and by anyone.

The Network Analyzer software, in coordination with Distributed Network Analyzer hardware, provides an expert network testing and troubleshooting solution that supports real-time measurements in LAN, WAN, and ATM environments. In addition, this solution provides SNMP/RMON2 data collection and can be deployed so that network monitoring and troubleshooting activities can be coordinated from a single, centralized location.

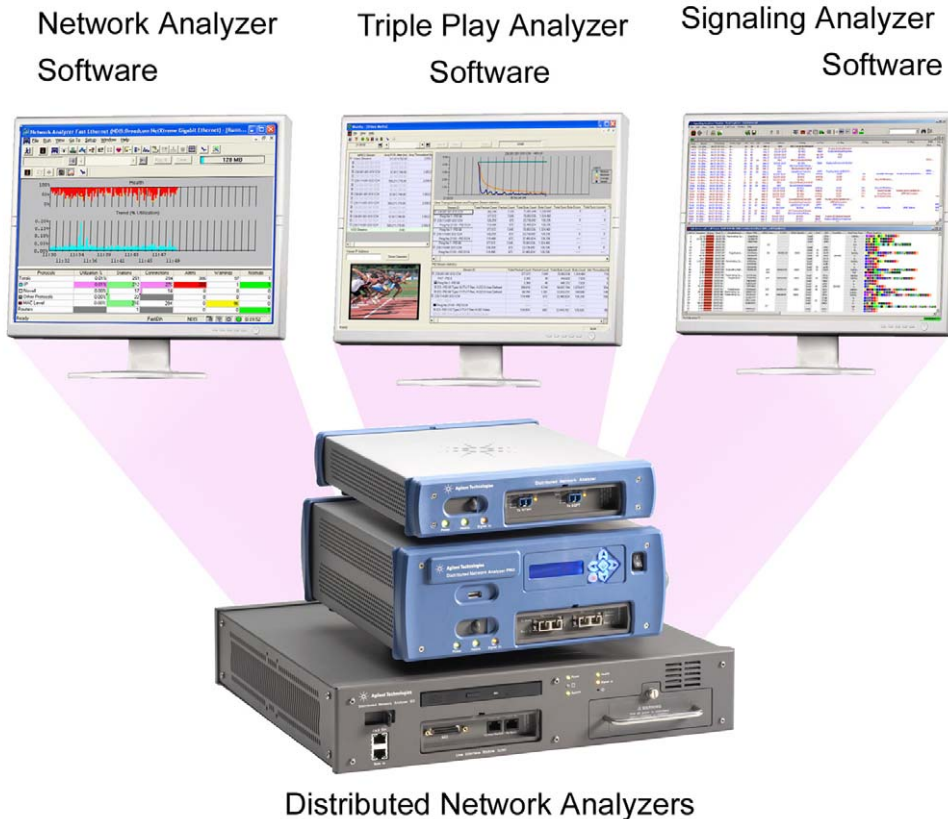
The Network Analyzer software runs on a standalone PC or on the Distributed Network Analyzer platform. Several additional elements complement the Network Analyzer software solution, such as Network Troubleshooting Center, Report Center, Instrument Manager, File Converter, etc.



The Network Analyzer software provides expert commentators for network performance advise and problem resolution

Network Analysis and Troubleshooting Solutions Overview

Agilent Network Analyzer software is one of the key software applications that runs on the scalable Network Analysis and Troubleshooting Solutions platform. This platform provides the foundation of advanced protocol analysis. Take advantage of extensive diagnostic capabilities for troubleshooting and optimizing voice, video, data networks, as well as 2G, 2.5G and 3G mobile networks.



Combine your DNA platform hardware with Signaling Analyzer software for mobile network testing, with Network Analyzer software for fixed wireline network testing, and with Triple Play Analyzer software to test next generation services over IP

The DNA hardware platform brings greater power for collecting and analyzing real-time data over multiple technologies such as Ethernet, ATM, POS, Frame Relay, IPv6, MPLS, VoIP, IPTV, HSDPA, HSUPA, UMTS, CDMA 2000, GPRS, etc.

The scalable DNA hardware platform provides the foundation of advanced protocol analysis architecture for fixed and mobile network applications. Couple the hardware with the Network Analyzer software application and you have a powerful wireline solution for LAN and WAN networks; couple the DNA platform with the Triple Play Analyzer software for IPTV, VoD, VoIP QoE analysis. Similarly, use the hardware in conjunction with Signaling Analyzer software to create an advanced mobile network analysis solution for 2G, 2.5G and 3G technologies.

Network Analyzer Solution Components

Network Analyzer Software	J6840A	Network Analyzer Software
	J6839A	Network Analyzer Software Professional Edition
		Network Analyzer Software Standard Edition
Add-On Licenses	J6844A	Telephony Network Analyzer
	J6765A	Network Analyzer RFC2544 LAN benchmarking
	J6766A	MPLS Analysis
	J5425A	Switch Advisor
	J6825A	Inverse Multiplexing for ATM (IMA) and Multi-Link WAN Technologies License.
	J6842A	3G UMTS/W-CDMA Test Software
	J6845A	3G cdma2000 Test Software
Data Acquisition Platform	J6801B	DNA
	J6802B	DNA MX
	J6803B	DNA PRO
	J6835A	NDIS Server Personal Computer - Windows
Access and Management		Web Browser
		Instrument Manager
	J6782A	Network Troubleshooting Center
Utilities	J6848A	Report Center
		File Translator
		Time Sync Data File Merge Utility

Network Analyzer Software

J6840A Network Analyzer Software

The J6840A Network Analyzer Software has extensive capabilities:

- It is the base software for controlling the Distributed Network Analyzer family of products.
- It runs on PCs as a software analyzer, using off-the-shelf NDIS network interface cards (NICs) as measurement interfaces for LAN (10/100/1000 Mb/s Ethernet, Token Ring and FDDI). For example, the 10/100 PC Cards (PCMCIA cards) found in most PC laptops can be used as the test interface for monitoring the LAN network traffic, even while this card is simultaneously providing the network connection for the PC.
- It is the client software and GUI for accessing the J6835A Network Analyzer NDIS Server running on another PC.
- It provides off-line analysis, allowing previously captured and saved LAN and WAN data from any Network Analyzer hardware platform, Agilent Advisor or NDIS-based NIC to be re-analyzed using the full features available on-line for captured data.

Network Analyzer Software is pre-loaded and runs on the embedded PC in the J6802B and J6803B platforms. It is also shipped on CD media with the J6801A DNA, together with a single-use license key to enable the software on a PC/laptop. License keys plus manuals and CD media for running the software on additional PCs can be purchased as the J6840A Network Analyzer Software product. For example, a second engineer can control an existing DNA from his/her PC, with the purchase and installation of the J6840A software product. The engineer can also use the software to perform LAN testing with an NDIS-based NIC, or perform offline analysis of previously captured LAN or WAN data.

J6839A Network Analyzer Software Professional Edition

The J6839A Network Analyzer Software Professional Edition is a lighter version of the Network Analyzer Software. It is designed for non-distributed real-time analysis on a standard PC. It has all of the capabilities of the J6840A Network Analyzer Software except for NTC agent capability, RMON measurements, and Distributed Network Analyzer LIM (Line Interface Module) control. It has the following capabilities:

- It runs on PCs as a software analyzer, using off-the-shelf NDIS network interface cards (NICs) as measurement interfaces for LAN (10/100/1000 Mb/s Ethernet, Token Ring and FDDI). For example, the 10/100 PC Cards (PCMCIA cards) found in most PC laptops can be used as the test interface for monitoring the LAN network traffic, even while this card is simultaneously providing the network connection for the PC.
- It provides off-line analysis, allowing previously captured and saved LAN and WAN data from any Distributed Network Analyzer hardware platform, Agilent Advisor or NDIS-based NIC to be re-analyzed using the full features available on-line for captured data.

Network Analyzer Software Standard Edition

The Network Analyzer Standard Edition is free network analysis software suitable for evaluation purposes and for entry-level use.

- It can determine who is on the network, who is using bandwidth, and where errors may be occurring on the network, identifying problems before they become serious issues that impact productivity and performance.
- Expert analysis tools can be used to solve network problems quickly and effectively by reducing thousands of IP and Novell frames into a handful of significant events.
- It can capture and analyze network traffic in real-time using a PC's local NDIS Ethernet adapter.
- It can analyze LAN data offline and quickly pinpoint problems on the network.

Download the software and obtain a 6-month License Key at www.agilent.com/comms/freenetworkanalyzer .

Network Analyzer Software Comparison

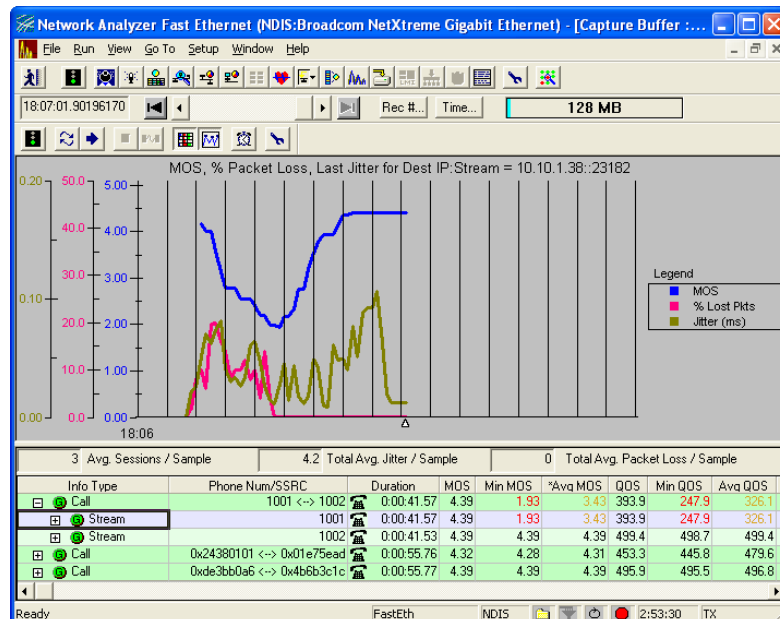
	J6840A Network Analyzer Software	J6839A Network Analyzer Software Professional Edition	Network Analyzer Software - Standard Edition (Freeware)
Offline Analysis	LAN/WAN/ATM	LAN/WAN/ATM	LAN only
Connect to Analyzer HW	Yes	No	No
Used as Agent for NTC	Yes	No	No
Used as RMON for NTC	Yes	No	No
Can be used with NDIS Server J6835A	Yes	Yes	No
Full NDIS Functionality	Yes	Yes	No
Install Footprint	~550MB	~50MB	< 50MB

Add-on Licenses

J6844A Telephony Network Analyzer

The Telephony Network Analyzer simplifies and expedites the resolution of quality and signaling problems in IP telephony networks. It provides simple and precise diagnostics of VoIP Quality of Service (QoS) through non-intrusive measurements, including voice quality measurement technology known as predictive Mean Opinion Scores (MOS). It also provides simplified troubleshooting of call signaling and control through embedded expert analysis of VoIP protocols. The Telephony Network Analyzer supports testing over LAN and WAN networks as part of the Agilent Network Analysis and Troubleshooting Solutions. This powerful tool offers the most advanced VoIP signaling and service quality troubleshooting capabilities available:

- Non-intrusive voice quality measurements using breakthrough predictive MOS technology for passive voice clarity MOS scoring
- VoIP analysis on MPLS and IPv6 networks
- Simple analysis that exposes the impairments to voice quality
- RTCP and RTP voice session sorting and prioritization for easy drilldown to problem areas
- H.323, MGCP and SIP commentators with CDR completion statistics
- Precise measurements of IP network performance for VoIP services
- Diagnostics for troubleshooting and identifying problems at the root cause
- Simplified troubleshooting of call signaling and control to quickly turn-up or restore service
- AMR codec support for audio playout



Telephony Network Analyzer provides MOS scores and network impairments over time that affect the quality of service

For full details of this product, refer to the Telephony Network Analyzer Technical Overview P/N 5988-7901EN

J6765A RFC2544 Gigabit and 10/100 Ethernet Benchmarking

The RFC2544 Gigabit and 10/100 Ethernet Benchmarking software license enables active performance benchmarking for Gigabit and 10/100 Ethernet devices and LANs. Measurements include throughput, latency, frame loss, and back-to-back frames without loss, all for varying frame sizes per IETF RFC2544.

This RFC2544 measurement enables fast and efficient benchmarking of network devices to certify and troubleshoot network installations. Testing is enabled using the J6830A 10/100 BaseTX, J6831A 10/100 Base FX, and J6832A Gigabit Ethernet LIMs.

J6766A MPLS Analysis

The Network Analyzer captures and decodes MPLS signaling and data protocols in real time and at full line rate. The analyzer can diagnose and decode MPLS accordingly with RFC2547bis among other MPLS standards.

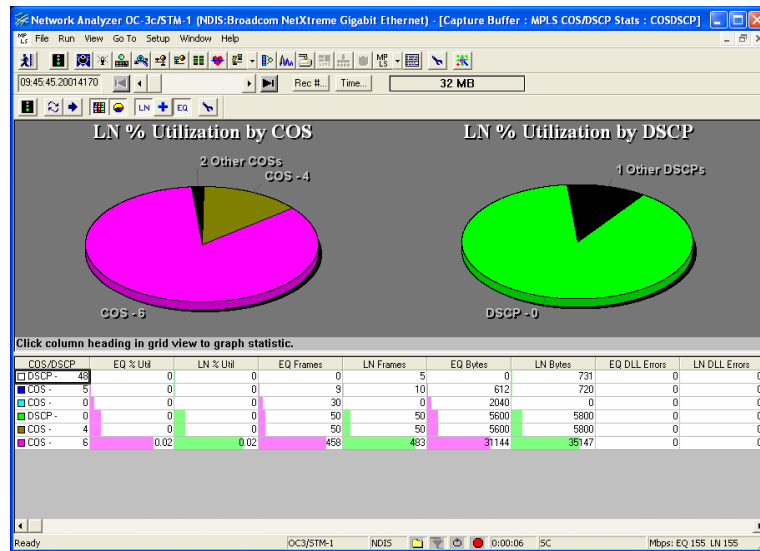
The Network Analyzer can filter single MPLS stack labels or complicated MPLS stacks up to 6 stacked labels. In real time, the MPLS signaling and data protocols are selected and stored in memory, eliminating undesirable packets and protocols and focusing on specific problems in the network.

In real time, the Network Analyzer creates a table of Label Switched Paths (LSPs) present in the network and measures the vital statistics of the VPN. It also creates a graphic for quick visualization. VoIP over MPLS performance is analyzed on the filtered traffic to indicate performance and trouble spots for a specific label-switch path or VPN.

The J6766A MPLS Analysis software keeps track of the different class priorities in an MPLS network specified by the EXP/QoS bits. In addition, the measurement analyzes the MPLS payload and detects the DiffServ priorities of the IP packet transported by an MPLS frame.

Key MPLS measurements:

- MPLS CoS analysis
- DiffServ analysis
- Routing and MPLS decodes
- MPLS Protocol filtering
- LSP statistics
- VoIP performance on VPNs
- MPLS reporting ready to be used with Agilent Report Center



MPLS Class of Service and IP DSCP correlation

J5425A Switch Advisor

The Switch Advisor provides the capability to trend switch port utilization and other vital statistics. It allows the user to monitor a suspect WAN link and any other Management Information Base (MIB) supported device simultaneously to correlate problems between the two. The user can discover switches and other MIB-supported devices via user directed search or directly enter device management IP address and graphically view current port utilization levels. The Switch Advisor sends SNMP messages over an Ethernet connection and gathers MIB data including utilization, packet information and errors.

J6825A Inverse Multiplexing for ATM (IMA) and Multi-Link WAN Technologies

The J6825A license for the J6824A Eight-port E1/T1 LIM enables software for "Inverse Multiplexing for ATM" (IMA), Multi-Link Frame Relay, Multi-Link PPP and Multi-Link HDLC on the Network Analyzer's Eight-port E1/T1 LIM.

Re-aggregated IMA traffic is analyzed in the same way as with other ATM LIMs, with cell mode and frame mode (AAL-2/AAL-5 reassembly) available plus other ATM analysis features.

J6842A 3G UMTS W-CDMA Test Software

The software provides various 3G protocol decodes for Iub, Iur, and Iu interfaces with extensive filtering capabilities. It enables accelerated development and deployment of 3G Radio Access Networks.

J6845A 3G cdma2000 Test Software

The 3G cdma2000 test software for the Network Analyzer product family makes it easy and fast to troubleshoot the new cdma2000 Ethernet-based packet-switched radio access and core network. The software enables protocol support for a variety of protocols used in cdma2000 as well as advanced filtering and statistics capability. Ethernet expert analysis coupled with cdma2000 filtering capability makes it quick and easy to troubleshoot 3G cdma2000 packet-switched networks.

Key Features:

- A3, A7, A9, A11 and Radius control plane protocols supported
- A2, A5, A8, A10 user plane protocols supported

CDMA2000 protocol filters supported:

- Mobile IP (A11)
- Radius
- Radius Accounting
- IOS A9
- GRE
- IP in IP
- Min IP in IP
- UDP Port
- Station Filters (IP Address)