HP Internet Advisor — LAN
Stimulus/Response Testing

**Internet Advisor — LAN
problem solving series — No. 9.**

Most protocol analyzers provide protocol decodes and perhaps some rudimentary statistical measurements, but very little stimulus/response testing capability. Limiting troubleshooting to passive monitoring significantly restricts your ability to isolate many common problems. To maximize your productivity, the HP Internet Advisor for LAN combines comprehensive protocol decoding and unmatched statistical performance monitoring with powerful active testing capability, all available simultaneously.

Some network faults cannot be isolated without active stimulus/ response testing; that is, without actively communicating with devices on the network. For example, observing Ethernet frames with the same IP address and different MAC addresses might indicate a duplicate IP address problem — but it might also just be the result of a complex router topology. You could search through thousands of captured frames and eventually figure it out, but by ARPing the stations for their addresses, you'll know in seconds.

Today, the most popular trouble-shooting paradigm is to use a protocol analyzer to monitor the network while doing active testing from a nearby workstation, server, or network management system. The troubleshooter must physically move from device to device, assemble the various bits of

information discovered, and hope that the analyzer has captured the event in its buffer.

The Internet Advisor for LAN allows both active and passive testing from one console. With active testing, you can query a station for its address, send a
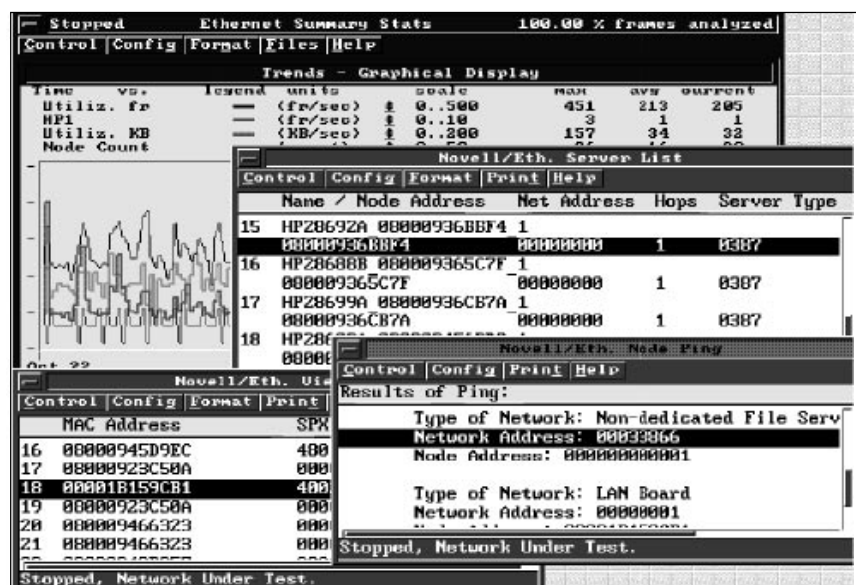
With statistical network performance measurements continuing to run in the background, the Internet Advisor for LAN uses stimulus/response tests to list all active Novell servers and clients, and to verify connectivity.

"ping" message to verify connectivity, find the nearest Novell server, list all bridges, list all active stations, and much more. All these tests are preconfigured; there are no drivers to load, no complex setup screens to configure. You simply select the test you want, provide some simple parameters (such as IP address or node name of the station to ping), and run it.

Because the Internet Advisor for LAN is a true multitasking machine, any of the active stimulus/response tests can be executed while simultaneously monitoring the effect on the network. Capturing data traffic, or monitoring network performance with the statistics measurements, for example, can continue uninterrupted, ensuring that you haven't missed anything.

With active testing capability, you can learn a great deal about the network. The Internet Advisor for LAN provides you with answers to the right questions —with an extensive array of pre-written and pre-configured test sequences, and with more tests being added with every software revision. Each test can also be customized, if desired, and saved — creating a library of powerful test sequences tailored to your application.

Following are examples of pre-written stimulus/response test sequences available on the current software release:

Media Tests
Token-ring lobe test
Token-ring ring length
Ethernet cable integrity test

Response Time Measurements
Token-ring: Active station list
                   Request station ID (LLC XID) (local or source-routed)
                   Station adapter status
                   ICMP Ping
                   ARP request
                   RARP

Ethernet: ICMP Ping
                   ARP request
                   RARP

FDDI: ICMP Ping
                   ARP request
                   RARP

Novell network tests (Ethernet, token-ring, or FDDI)
Server Query (test server reachability)
Find nearest server (in time, or nearest server of a specific type)
Server List (list all active Novell Servers)
View Nodes (list all Novell clients)
Node Ping (test client reachability)
Determine connected networks (addresses and names of remote networks)

Token-ring topology tests
(list the station address, NAUN, physical location, group, station function, and function address for each of the following)
Identify Active Monitor
List all bridges
List all stations
List Configuration Report Servers
List LAN Managers
List NetBIOS Stations
List Novell Stations
List Ring Error Monitors
List Ring Parameter Servers

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