



Application Analysis

Get Unique Depth and Detail from One System

Solve Application Headaches Quickly and Effectively

It's no longer the network—it's the application. Network managers and engineers are switching their focus from network performance issues to application problems. Whether it's custom applications, VoIP traffic, or HTTP, Network Instruments® provides comprehensive application analysis, allowing for rapid problem resolution and long-term planning.

Network Instruments is the only monitoring company to fully integrate application performance management into its entire line of monitoring solutions.

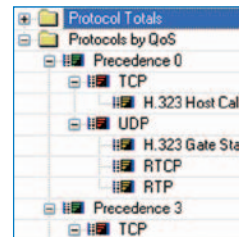
Network Instruments Application Analysis allows you to:

- Monitor application response times and latency
- Gain in-depth information for business-critical applications
- Monitor server delay
- Isolate transaction issues
- Track multi-tier applications

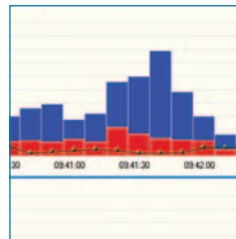
TRACK Application Latency



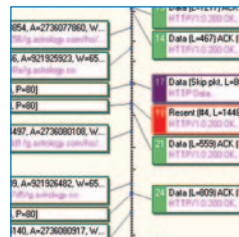
SOLVE VoIP Call Quality Issues



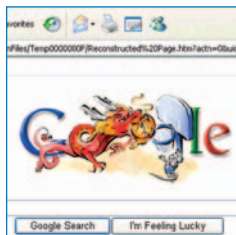
MONITOR Response Time



PINPOINT Application Slowdowns



RECONSTRUCT Application Data



Track Application Response Time and Performance Degradation

Measuring and monitoring application response time is critical in today's on-demand environment. Fortunately, Network Instruments Observer® provides response time data for thousands of standard and user-defined applications. Understand application performance enterprise-wide or focus on specific locations with the Observer Reporting Server. Our solutions also provide historical views to measure response time degradation and better plan for future updates.

Our Connection Dynamics view is especially useful in applications like VoIP that depend on more than one connection. For example, if VoIP analysis indicates call-setup time is increasing, Connection Dynamics will show whether the client or the call manager is causing the problem. With Observer it's easy to pinpoint the exact cause of application slowdown.

Measure Performance Degradation

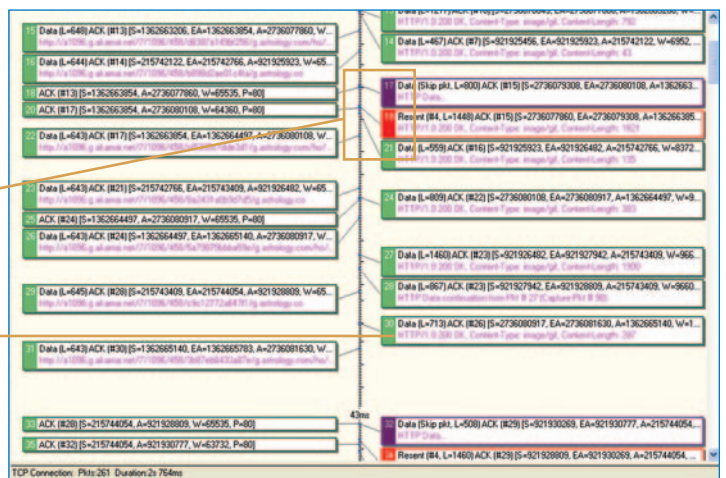
Server latency, transaction issues, network delay—all of this impacts application availability. Observer provides detailed metrics that allow you to pinpoint the exact cause of bottlenecks or slowdowns—ensuring a faster time to resolution.



Application Response Time

Review errors and resent packets

View server response detail



Connection Dynamics

Unmatched Application Detail

Sometimes response time is not enough to accurately troubleshoot performance problems. In those instances, our Application Transaction Analysis goes beyond tracking response times to provide detailed application-specific performance metrics. Observer has hard-coded knowledge of how applications are designed and how clients and servers communicate. Utilize Observer's application and server discovery, obtain error statistics, and gain up-to-the-minute application performance metrics for common applications including:

- Citrix
- DHCP
- DNS
- Exchange
- FIX
- FTP
- HTTP
- LDAP
- IMAP
- MS Networking (SMB)
- MSRPC
- Oracle (TNS)
- POP3
- SMTP
- SNMP
- SQL (TDS)
- Telnet
- VoIP

Track trade executions and performance

Order Type	Response Time (Min)	Response Time (Max)	Response Time (Average)	Total Requests	Latest Request Time
12:129:92:149 (FOQ)	0.244	7473.290	2810.936	42503	4/3/2007 10:53:14
Order - Single	9.209	3630.601	926.141	21454	4/3/2007 10:53:14
Execution Report (F# (Replaced))	343.405	3630.601	2241.987	5	4/3/2007 09:08:26
Execution Report (New)	9.209	681.325	27.956	21447	4/3/2007 10:53:14
Execution Report (Partial B# (Replaced))	217.846	799.117	508.481	2	4/3/2007 09:18:42
Order Cancel (Pending)	0.244	657.722	2.374	21040	4/3/2007 10:53:14
Execution Report (Cancelled)	8.263	657.722	32.379	30584	4/3/2007 10:53:14
Order Cancel (Recent)	0.244	656.488	34.222	464	4/3/2007 10:53:14
Other Messages	7473.290	7473.290	7473.290	1	4/2/2007 19:00:04
Logon	7473.290	7473.290	7473.290	1	4/2/2007 19:00:04
172:28:62:7 (F#)	0.343	324.694	218.694	29	4/3/2007 10:53:57
Execution Report	0.343	324.694	218.694	29	4/3/2007 10:53:57
Order - Single	0.343	324.694	199.095	18	4/3/2007 10:53:57
Order Cancel Request	218.743	307.188	240.213	11	4/3/2007 10:53:57

FIX Statistics

Review minimum, maximum, and average response time

Track and Solve Transaction Issues

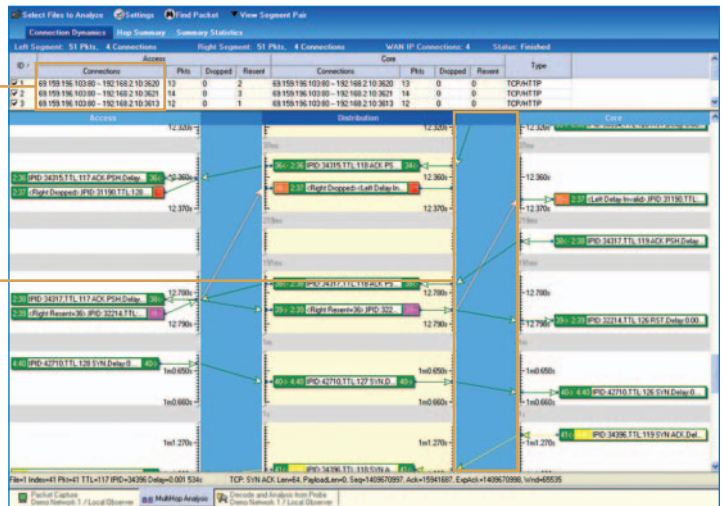
Observer's application analysis makes it easy to pinpoint transaction problems. Observer provides unique views of system conversations for instant identification of abnormal response times. For example, retransmissions and lost packets are flagged for quick identification.

Find problems caused by network congestion, fragmentation, and packet loss by isolating transaction problems, delay, and intermittent connectivity.

Observer's application performance tools provide insight into complex applications which may involve routers, switches, load balancers, and multiple servers. Its MultiHop Analysis tool answers the critical question, "Is it the access layer, the core, or my service provider?" by starting and automatically synchronizing simultaneous packet captures from different network segments.

Track individual network segments

Pinpoint transaction delay



MultiHop Analysis

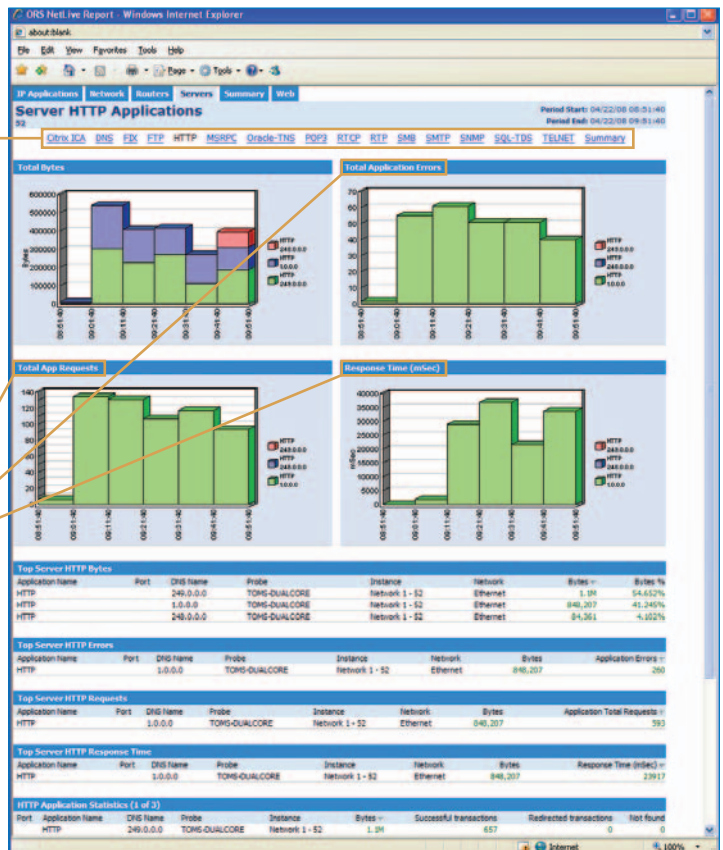
Aggregate Application Reporting for the Enterprise

Does the call center have enough bandwidth to run their applications? Is the new CRM package slowing your servers? Observer provides large-scale, network-wide reporting with the unique ability to drill down from the report to begin immediate problem resolution. Use this data to gauge long-term application use, monitor trends, and segment application health by location or department.

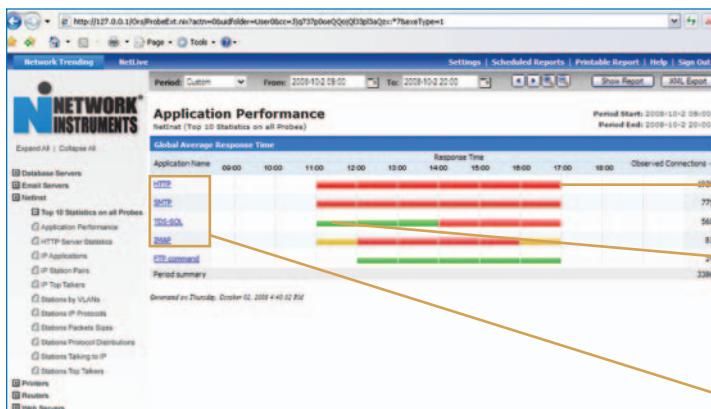
Now with ORS NetLive receive real-time application health on a global scale. NetLive provides 20-second resolution on top applications, response times, and other critical network and application metrics. Organize reports by business group and allow anyone in your organization access via a web secure login.

Quick list of commonly used applications

Instantly obtain error rates, total requests, and response time



Observer Reporting Server NetLive



Application Performance

Provides transaction volume

Visual display of performance rankings that are met or exceeded

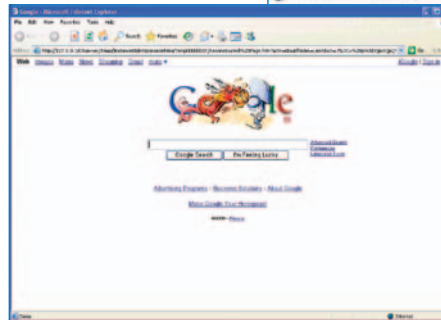
Aggregate application list

Forensics Analysis with Stream Reconstruction

When troubleshooting application problems, it is often important to know what file was accessed, what spreadsheet was sent, or what web page was viewed. Observer's Stream Reconstruction helps maintain corporate Internet usage policies, assist law enforcement, and contribute towards Sarbanes-Oxley, PCI, and HIPAA compliance.

Use Stream Reconstruction for:

- Web pages (including images)
- E-mails
- Documents
- Instant messaging



Client IP	Server IP	Type	Start Time	End Time	Description
10.0.0.20	10.233.147.99	HTTP	2008-08-14 14:05:22.210	2008-08-14 14:05:22.420	http://www.google.com
10.0.0.20	10.14.207.104	HTTP	2008-08-14 14:05:25.432	2008-08-14 14:05:31.207	http://www.rut111t1paker.com
10.0.0.20	106.18.125.55	HTTP	2008-08-14 14:05:37.180	2008-08-14 14:05:00.562	http://www.rdbor.com
10.0.0.148	101.107.115.28	HTTP	2008-08-14 15:53:46.803	2008-08-14 15:53:22.888	http://ol.microsoft.com
10.0.0.148	10.55.25.125	HTTP	2008-08-14 15:54:09.094	2008-08-14 15:54:09.339	http://update.microsoft.com
10.0.0.148	109.84.4.126	HTTP	2008-08-14 15:54:09.902	2008-08-14 15:54:16.909	http://download.windowsupdate.com
10.0.0.148	107.46.209.122	HTTP	2008-08-14 15:55:20.014	2008-08-14 15:56:16.725	http://www.update.microsoft.com
10.0.0.148	107.46.20.252	HTTP	2008-08-14 15:55:30.119	2008-08-14 15:55:30.191	...
10.0.0.148	10.55.19.789	HTTP	2008-08-14 15:56:19.789	2008-08-14 15:56:28.203	http://www.download.windowsupdate.com
10.0.0.148	16.04.04.673	HTTP	2008-08-14 16:04:04.673	2008-08-14 16:04:05.745	http://ol.verisign.com
10.0.0.148	16.05:25.493	HTTP	2008-08-14 16:05:25.493	2008-08-14 16:05:27.818	http://download.windowsupdate.com
10.0.0.148	16:05:27.818	HTTP	2008-08-14 16:05:27.818	2008-08-14 16:05:27.818	http://www.update.microsoft.com
10.0.0.148	16:05:41.835	HTTP	2008-08-14 16:05:41.835	2008-08-14 16:05:58.619	http://www.download.windowsupdate.com
10.0.0.148	16:11:36.100	HTTP	2008-08-14 16:11:36.100	2008-08-14 16:16:12.125	http://www.download.windowsupdate.com

Stream Reconstruction

Review what web sites were visited and reconstruct pages as they appeared when accessed

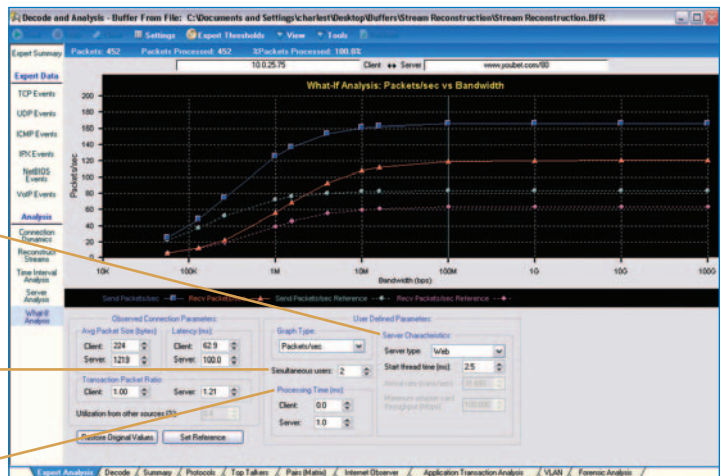
Manage Application Rollouts

Measure twice, cut once. Too often organizations roll out applications without adequate testing. With Observer it is simple to test and review application impact before deployment. Observer offers on-board tools to conduct network assessments, identify potential deployment obstacles, and make configuration adjustments. Use Observer's predictive expert to forecast the impact of new applications on current bandwidth conditions.

Modify server variables

Simulate network response with more or less users

Simulate a faster client or server



Application Rollouts

Application Analysis Options

Network Instruments provides Application Analysis capabilities throughout our solution set. The Observer Product Family includes consoles and probes to help track application performance and provide response time and detailed conversation metrics. The Observer Reporting Server connects to Observer Suite consoles for large-scale, enterprise-wide application performance monitoring. For complex application problem resolution, the GigaStor™ provides long-term packet capture and data mining for back-in-time or retrospective network analysis. Finally, Observer Infrastructure monitors at the device and infrastructure level and provides application status by detailing which servers are up or down.

About Network Instruments

Network Instruments, a leading provider of performance management and troubleshooting for over sixteen years, helps organizations ensure the delivery of business-critical applications. The company's platform of management and reporting products provides comprehensive visibility into networks and applications to optimize performance, speed troubleshooting, and assist long-term capacity planning. Network Instruments achieved profitability in its first quarter and posted growth every year since its founding – without any external funding. Network Instruments is headquartered in Minneapolis with sales offices worldwide and distributors in over 50 countries. For more information, please visit www.networkinstruments.com.



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