



SHARKFEST '13

Wireshark Developer and User Conference

Packet Trace Warehouse AppMapper
Xpert
AppTransaction Xpert

Bill Eastman

Director, Systems Engineering

Riverbed Technology

Agenda

Packet Capture Agents

Packet Trace Warehouse

Application Mapping

Transactional Analysis

Packets Traces are a Key Troubleshooting Tool

- Packet traces are the best and sometimes the only way to troubleshoot a problem
 - Direct form of evidence
 - Valuable for deep troubleshooting and forensic analysis
- Traditionally, packets traces have been challenging to acquire
 - Requires investment in hardware
 - Appliances must be placed strategically
- Agents facilitate convenient packet capture and retrieval
 - Tactically deployed on end-user stations or at remote locations
 - Distributed enterprise-wide with low overhead

Packet Capture Agents

- Makes packet captures easy to acquire
- Capture packets from multiple vantage points simultaneously
- Continuous capture
 - Always-on capture continuously saves packets into a rolling buffer
 - Ideal for troubleshooting intermittent problems
- On-Demand capture
 - Real-time capture for targeted troubleshooting
- Agent security
 - Anonymous (Level 1) encryption
 - Encrypted connection, but no authentication
 - Certificate (Level 2) encryption
 - Encryption and authentication
 - Requires SSL certificates that were validated by a trusted CA

Supported OS

AIX

FreeBSD

HP-UX

Linux

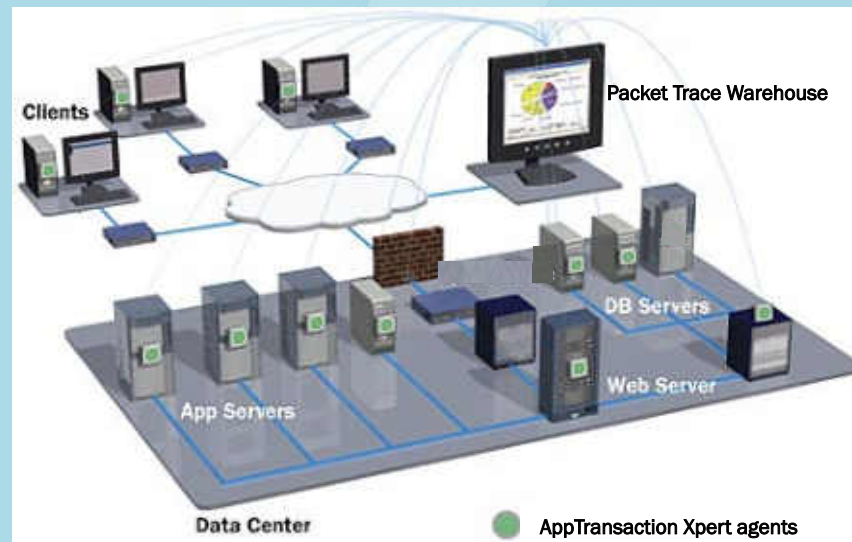
Mac OS

Solaris

Windows

Packet Trace Warehouse

- Delivers secure, centralized control of enterprise-wide agents
- Enables easy deployment of agents across the enterprise
- Reduces TCO to manage large scale agent deployments
- Manages ubiquitous packet capture via freely deployed agents



Packet Trace Warehouse

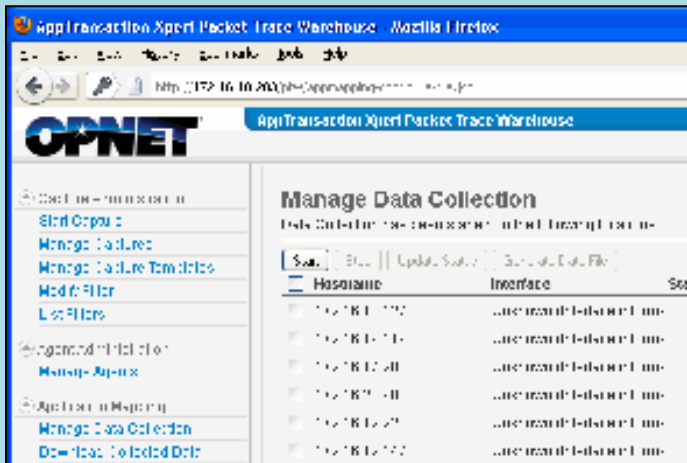
- Web-based capture operations
 - Start and stop packet captures
 - Preview capture buffers remotely
 - Download captures
 - Configure and save capture templates
- Agent discovery
 - Automatically discover all installed agents by searching a specified range of ports and IPs
 - Maintain centralized inventory of installed AppResponse Xpert™ agents
- User management
 - Set user roles and privileges
 - Maintain audit log of all agent activity
- Security
 - Secure access to agents (via LDAP/AD, TACACS+, Radius, etc.)

The screenshot displays the OPNET AppTransaction Xpert Packet Trace Warehouse interface. The top section, titled 'Manage Agents', includes a search bar and a table with columns for 'Hostname' and 'Agent Description'. Below this, the 'Preview: optest' window shows a 'Network Throughput' graph with a blue line representing data over time. Below the graph is a table with columns for 'Selected network high priority throughput (KB/s)', 'Data transferred', and 'App response throughput'.

Selected network high priority throughput (KB/s)	Data transferred	App response throughput	
172.16.19.85	73.028.17	26 MB	127 KB/s
172.16.19.85	73.028.17	43.9 MB	126 KB/s
172.16.19.85	73.028.17	3.8 MB	94 KB/s

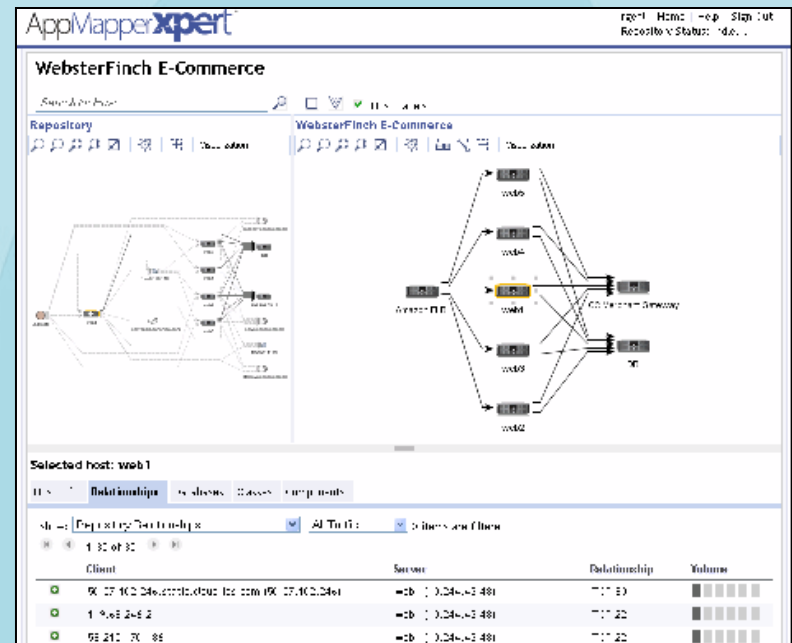
Application Mapping

- Automatically create application maps leveraging enterprise-wide agent deployment
 - Discover application infrastructure components and dependencies using agents
 - Build accurate, up-to-date application maps based on run-time data
 - Supports applications in the data center, public cloud, or hybrid environments



The screenshot shows the OPNET AppTransaction Xpert Packet Trace Warehouse interface. The main window is titled 'Manage Data Collection' and contains a table with columns for 'Hostname', 'Interface', and 'Scan'. The table lists several hosts (e.g., 192.168.1.100, 192.168.1.101) and their interfaces (e.g., eth0, eth1). The interface includes various navigation and management options on the left and top.

Configure packet capture agents to automatically generate relationship information



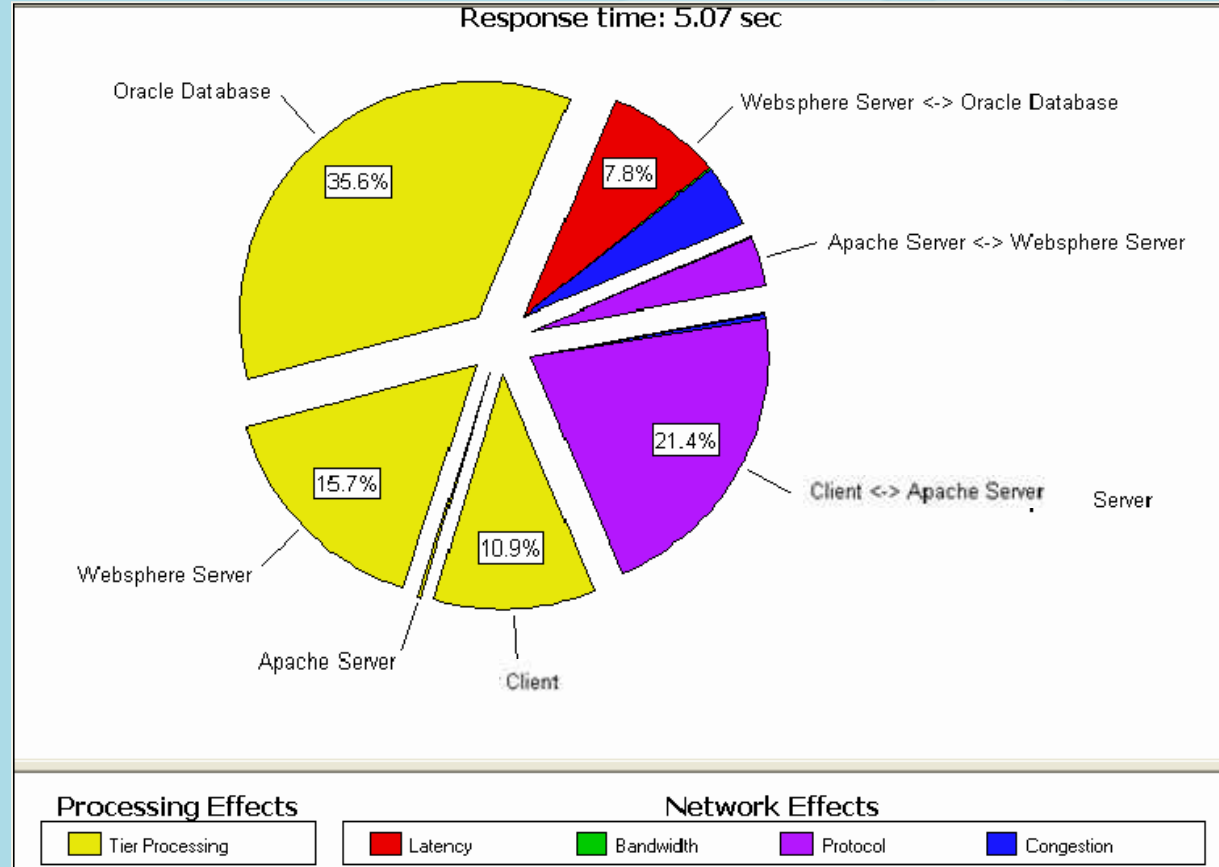
The screenshot shows the ApplMapper xpert interface displaying an application map for 'WebsterFinch E-Commerce'. The map is a complex network diagram with nodes representing different components and their relationships. The interface includes a 'Repository' section, a 'Selected host: web1' section, and a table showing the details of the selected host.

Client	Server	Relationship	Volume
192.168.1.100	192.168.1.101	1:1	100
192.168.1.101	192.168.1.102	1:1	100
192.168.1.102	192.168.1.103	1:1	100

Application map built exclusively from capture agents in the Amazon Cloud

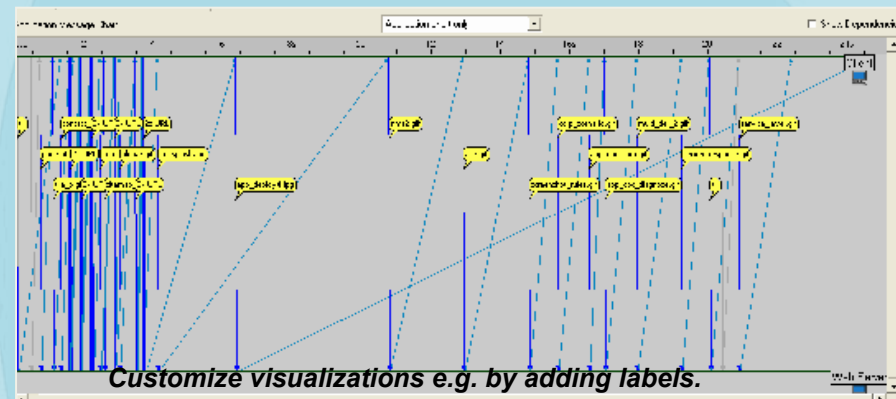
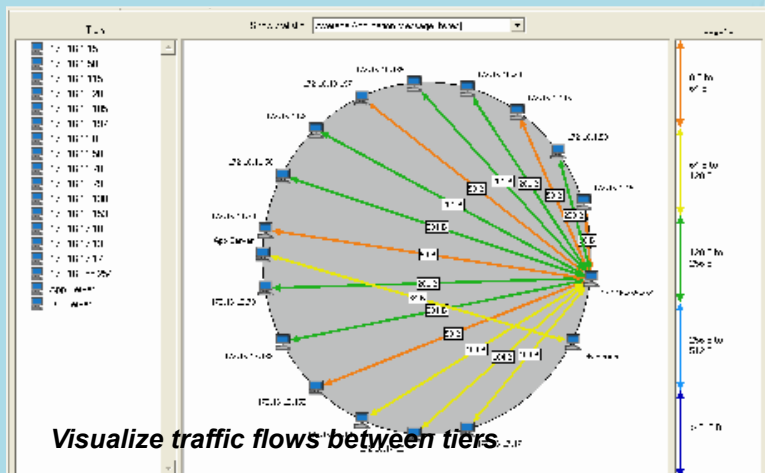
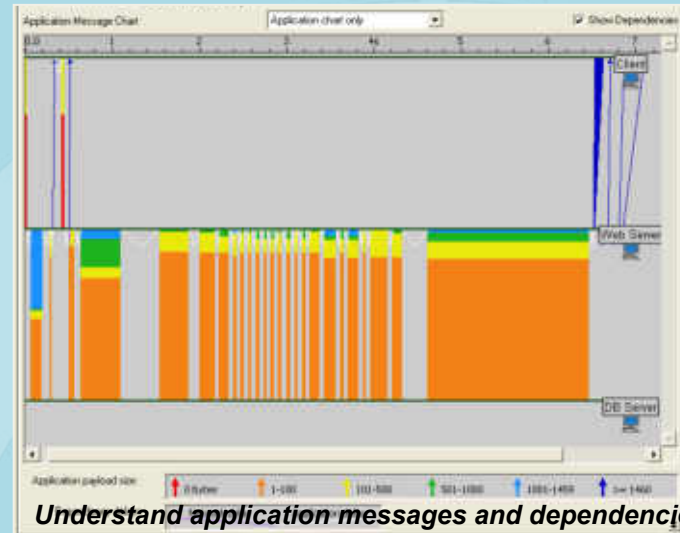
AppTransaction Xpert “AppDoctor”

- Automatically diagnose performance bottlenecks
- Summarize components of response time delay
- Integrate with OPNET AppInternals Xpert™ for in-depth analysis of server-based delays
- Rapidly troubleshoot root causes of performance issues



AppTransaction Xpert “Trans. Visualizer”

- Isolate application message flows
- Visualize application performance, including
 - Application message turns
 - System performance statistics
- Drill down into application messages
- Understand dependencies impacting performance



AppTransaction Xpert “QuickPredict”

- Predict response times in numerous what-if scenarios

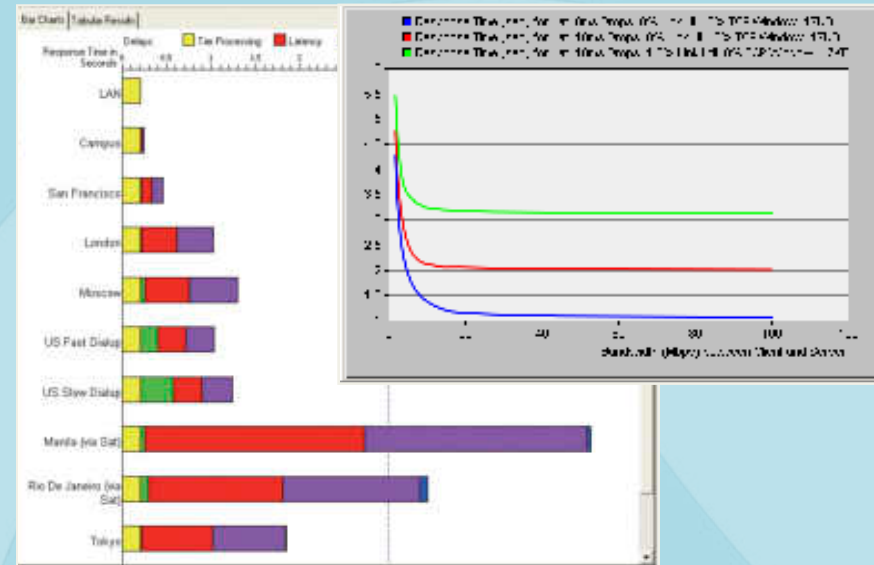
- Plot response time over a range of network conditions
- Immediately assess the effects of adjustments to network and application parameters

- Bandwidth
- Latency
- Packet loss
- TCP window size
- Number of application turns
- Message size
- Etc.

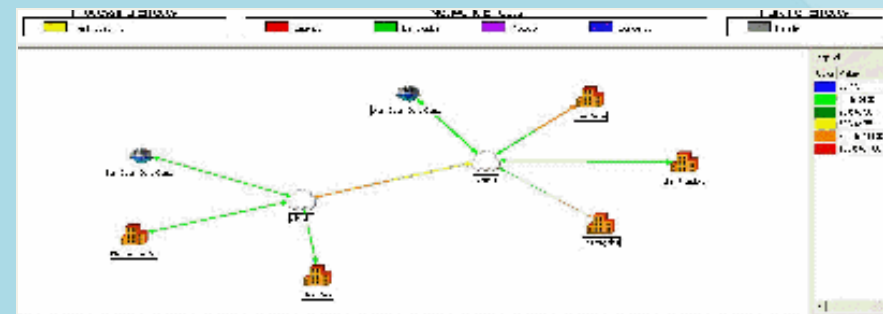
- Validate solutions to performance problems before deployment

- Study impact of many simultaneous transactions (multiple clients, servers & apps)

- Ensure efficient, effective infrastructure investments



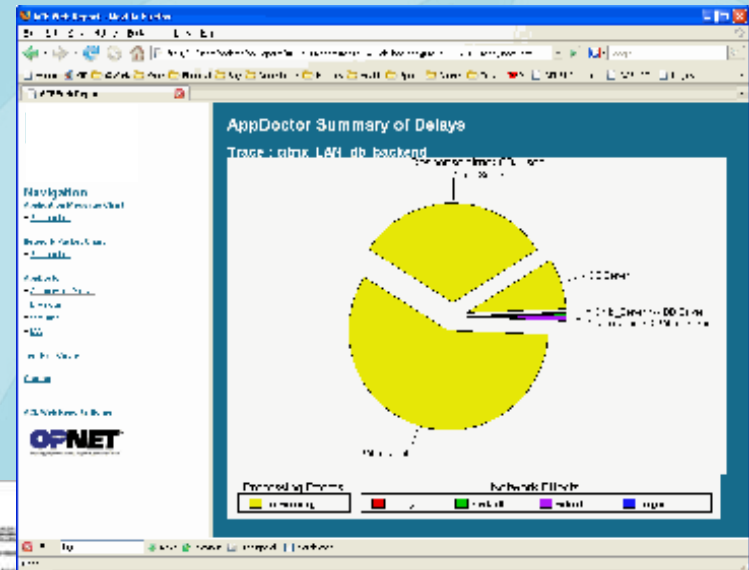
Predict response times



Plan capacity for access links

AppTransaction Xpert Reporting

- Automatically generate professional-quality reports
- Choose from a variety of report types
 - MS Word Report
 - Web Report
 - Multiple Transaction Report
 - Comparison Report
 - Difference Report
 - Statistics Report
- Easily customize report content





SHARKFEST '13

Wireshark Developer and User Conference

DEMO

