

# NetReality<sup>®</sup>

## QoS Enforcement and Application Performance Monitoring



performance SLA Reporting WAN frame relay ROI  
centralized management quality of service

- Observe WAN and frame relay activity
- Actively manage network traffic with QoS
- Monitor network health
- Centrally manage devices, monitor & report

Enterprises with multiple offices face unique challenges. Like enterprises of all sizes, they struggle to manage the exponential growth in the use of the Internet and the corporate WAN, as well as the unprecedented demands for IP networking resources. As network managers at these organizations seek to allocate network resources based on business priorities, effective management of VoIP, Oracle and Citrix requires active traffic management and visibility beyond the LAN and into the WAN.



Empowering Networks for Business

## Policy-Powered Networking

Allot Communications NetReality® network bandwidth management devices let you link your business policies to specific network actions that improve and control users' productivity and satisfaction. Deployed on the WAN, NetReality offers full visibility of all traffic running on the network. NetReality, the WanXplorer server and the WanXplorer console enable you to prioritize network traffic and create real-time and historical reports on application performance.

## Three Steps to Policy-Powered Networking

**Policy-Powered Networking lets you efficiently manage traffic crossing the WAN of an enterprise network. The process of implementing a Policy-Powered Networking solution includes three steps:**

### 1. Autodiscover WAN connections and PVCs

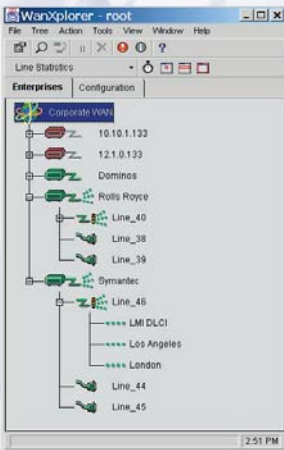
Use the NetReality devices to autodiscover physical interface configurations, logical circuits and traffic. After several moments, the WanXplorer console Topology Tree displays your network topology with color-coded icons that indicate your network's health.

### 2. Monitor WAN traffic

Monitor network traffic using the WanXplorer console. Use detailed traffic reports to provide real time troubleshooting of congested circuits. Determine which applications and traffic flows are business-critical or affect network performance and require management.

### 3. Define policies and enforce the rules

Use the WanXplorer console to define desired QoS policies. Assign minimum and maximum bandwidth boundaries for your traffic flows and prioritize traffic. For example, guarantee each Citrix conversation a minimum of 16 Kbps on all WAN connections during peak business hours, while limiting Citrix remote printing to 20% of the circuits.

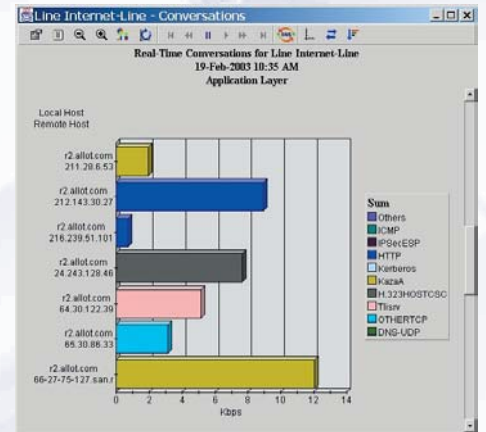


The WanXplorer Topology Tree

## Features and Benefits

### Observe WAN and Frame Relay Activity

NetReality's unique position on the WAN lets you observe WAN and frame relay activity throughout your network. NetReality's high-performance hardware analyzes all frames that flow through the WAN link and transports the analyzed and statistical information to the centralized WanXplorer server for analysis and reporting.



The Real-Time Conversation Monitor

### Actively Manage Network Traffic with QoS

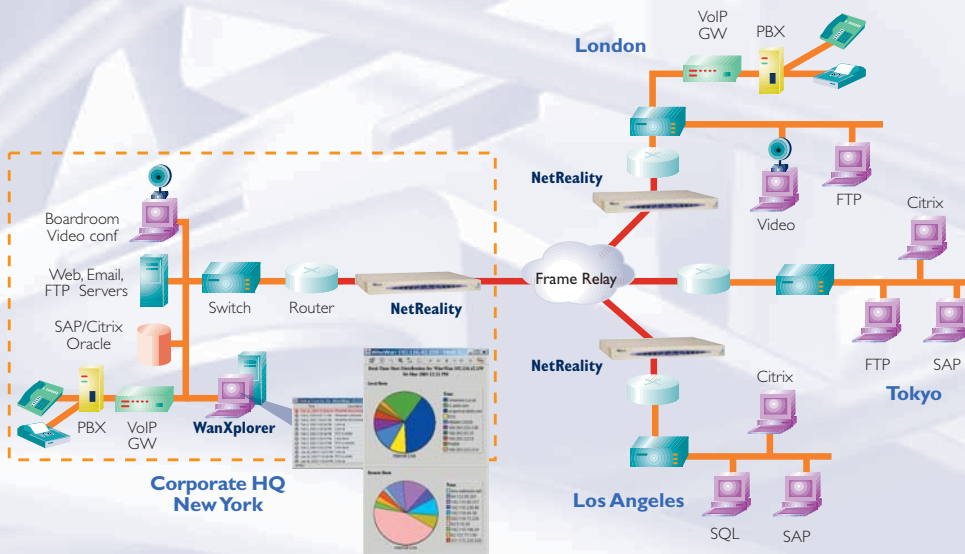
More than a passive monitoring device, NetReality lets you apply quality of service (QoS) to congested links, shaping and prioritizing traffic in order to maximize application performance. The product's unique WAN placement also lets you apply bandwidth management to traffic flows between WAN links that do not reach the LAN segment.

### Monitor Network Health

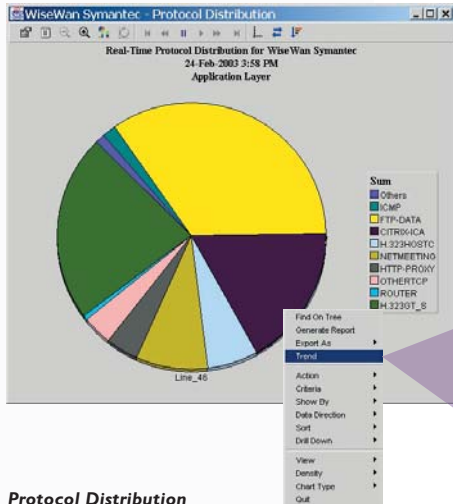
The color-coded WanXplorer Topology Tree lets you quickly and easily view the status of your network links and gives you an overall indication of your network's health. Real-time performance reports offer macro and micro views of WAN traffic and performance. For example, you can view top consumers of bandwidth or discover who is downloading large digital music files during business hours.

### Centrally Manage Devices, Monitor & Report

NetReality's WanXplorer server and management console let you centrally manage NetReality devices as well as perform real-time monitoring, historical analysis and reporting. NetReality provides statistical information for the centralized WanXplorer database. WanXplorer uses this information to create trend, statistical, and analytical reports that enable you to learn your network's current, daily, or weekly behavior.

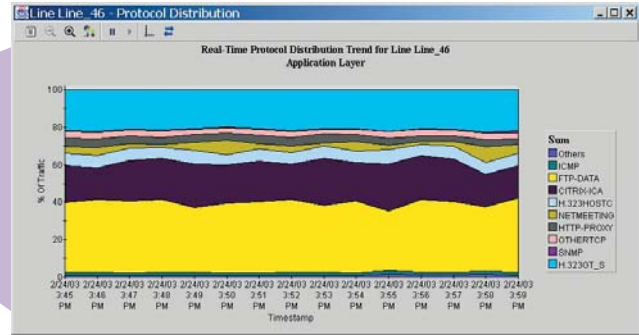


NetReality and WanXplorer in a multi-site enterprise network



**Protocol Distribution**

View the distribution of protocols on a line or PVC at the application level. Then drill-down to see the developing trend.



**Maximize ROI on Existing Network Infrastructure**

Maximize the ROI on your existing corporate network by using NetReality to effectively manage bandwidth contention. On many networks as little as 5% of the users use up to 80% of the bandwidth, often for non-business purposes. By limiting these bandwidth abusers with NetReality, you can delay upgrading your WAN connection until it is truly a business requirement—and thereby let NetReality actually pay for itself.

**Receive Intelligent Alerts**

With NetReality, there is no need to babysit the network. NetReality's intelligent alerts can inform you by email, pager or cellular phone when there is an SLA breach or a network link failure. This enables you to take corrective action before the problem becomes costly. In addition, you can also automate network reactions to specific events or alarms by selecting from among a variety of programs/scripts or designing your own.

Time	Description	Severity	Source	Initial	Warning
Feb 24, 2003 10:29:03 AM	WiseWan disconnect	100	WiseWan 12.1.0.133	0	0
Feb 6, 2003 8:31:11 PM	WiseWan connected	0	WiseWan 12.1.0.133	100	0
Feb 6, 2003 7:55:51 PM	WiseWan disconnected	0	WiseWan 12.1.0.133	100	0
Feb 2, 2003 3:30:36 PM	Line up	0	Line_Line_25	0	0
Feb 2, 2003 3:28:36 PM	Line up	0	Line_Unclassified_Traffic_27	0	0
Feb 2, 2003 3:28:36 PM	PVC is active	0	DLCX-Tunnel_Unclassified_Traffic	0	0
Feb 2, 2003 3:28:32 PM	Line down	0	Line_Line_25	100	0
Feb 2, 2003 3:28:32 PM	PVC is inactive	0	DLCX-Tunnel_Unclassified_Traffic	100	0
Feb 2, 2003 3:28:32 PM	Line down	0	Line_Unclassified_Traffic_27	100	0
Jan 30, 2003 7:19:27 PM	Line up	0	DLCX-Tunnel_Unclassified_Traffic	0	0
Jan 30, 2003 7:19:26 PM	PVC is active	0	DLCX-Tunnel_Unclassified_Traffic	0	0
Jan 30, 2003 7:18:24 PM	Line up	0	Line_Line_26	0	0

The WanXplorer Global Events Window

**Verify Service Level Agreements**

By tracking your WAN performance against committed information rates (CIR), you can verify whether your service provider is meeting your service level agreement for frame relay, IP services or particular application. For example, use NetReality to create standards-compliant reports for MTBF or SLA breaches.

PVC Name	Available (K)	MTBF (Min)	MTBF (Max)	Average RT (Sec)	RT exceeds threshold (Kb/min)	RT to white out (Kb/min)	Failure
DCLX_100_200	66.00	107.24	7.21		0.00	0.00	0
DCLX_100_200	97.00	107.00	7.20		0.00	0.00	0

An SLA Breaches Report

**Intuitive Java-based GUIs**

NetReality's WanXplorer management console has intuitive Java-based GUIs and menus for device configuration, policy editing and creation, traffic monitoring, and reporting/analysis. Extensive use of right-clicks and double-clicks ease navigation and speed access to critical network traffic information.

**Multi-Layer Policy Support**

The NetReality's multi-layer policy support is especially designed for the QoS needs of corporate networks. Create policies and rules that guarantee bandwidth for mission-critical applications such as Oracle, Citrix and VoIP or limit bandwidth to excessive consumers such as SQL or FTP.

Class	Direction	Schedule	Local	Remote	Group	Protocol	Priority	Bandwidth Policy	Queueing	Rate	Feedback	Class
FTP	Both	Always	ANY	ANY	ALL	Medium-High	Competition	+	30%			
Radio-Modem	Both	Always	ANY	ANY	ALL	Medium		+	75%			

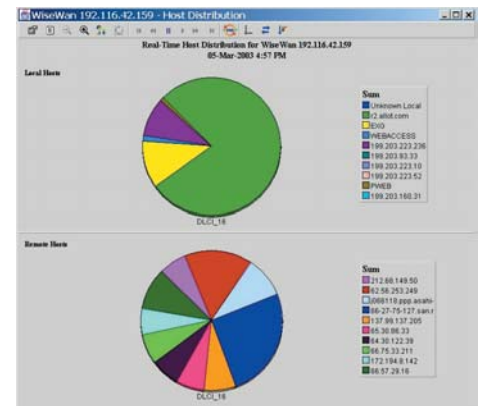
The Policy Editor

**Implement WAN-Based Accounting (Optional)**

The WanAccountant software add-on for NetReality is an application and content usage management tool for frame relay and IP networks. WanAccountant works in conjunction with the WanXplorer management system to create graphical accounting reports for cost accounting and xSP verification, capacity planning, and resource management.

**Monitor and Prioritize VoIP Traffic (Optional)**

The NetReality WanTel software add-on enhances your NetReality with voice-over-WAN capability. WanTel enables you to monitor and analyze integrated voice/data calls, prioritize and shape voice traffic, and perform WAN accounting for data and voice.



The Host Distribution Monitor

## Product Specifications

### NetReality

#### Supported Interfaces

- **Serial** - V.35, X.21, X.24, RS-232, RS-449, EIA-530 (Up to 12 Mbps)
- **CSU** - V.35, X.21, RS-232, RS-449, EIA-530 (T1/E1)
- **Broadband** (Ethernet) - RJ-45 (10/100 Mbps)
- **HSSI** -SCSI 2 (Up to 52 Mbps)

#### Traffic Classification

- IP address, IP range, subnet, host name
- Network protocols, IP protocols and applications
- Dynamic port applications (e.g., FTP, MS Exchange, TFTP and SIP)
- Application content for HTTP (URL, content type), Citrix (published application), Oracle (database name, user name, application name) and H.323 (audio/video)
- Time of day/week

#### QoS Enforcement

- Automatic hierarchy of policy rules with in/outbound traffic management
- Min/max bandwidth enforcement per PVC (DLCI) or line
- Six levels of priorities
- Per PVC guaranteed bandwidth, burst rate, CBR
- Fairness between equal-level-priority traffic flows
- Bandwidth limit/guarantee per flow/class in Kbps
- ToS byte - DiffServ bits marking
- DE bit marking/unmarking (frame relay header)

#### Configuration and Management

- Device configuration via serial port or central WanXplorer
- Centralized policy management via WanXplorer

#### Monitoring, Reporting and Accounting

- **Monitoring** (Real-Time Reports) - Protocol/host distribution, top hosts/conversations, line statistics/bursts, DLCI traffic, response time, VoIP signaling/calls with 60-second granularity
- **Historical Reports** - Protocol/host distribution, top hosts/conversations, line utilization/bursts, DLCI traffic, response time, VoIP signaling/calls
- **Analysis Reports** (Daily/Weekly Averages) - Protocol/host distribution, line statistics/bursts, DLCI traffic, DLCI by CIR load

- **SLA Reports** - Line availability, SLA breaches summary/detail
- **Accounting** (via optional WanAccountant) - Server-based accounting of traffic per session for all sessions

#### Fail-Safe Performance

- Automatic hardware bypass (in WiseCable)

#### Network Standards Support

- **Link Layer** - Frame Relay, HDLC, PPP, Bay PPP, Timeplex
- **Frame Relay** - ITU Q.922, Q.933, ANSI T.617 Annex D, Gang of four LMI (Cisco)
- **Application Layer** - Over 500 TCP/IP application protocols, user defined TCP/UDP ports, over 150 IPX application protocols
- **Voice Over Data Network** (via optional WanTel) - ITU-H.323, H.225, H.245, T.120, RTP, SIP, Cisco RTP Header Compression

#### Dimensions and Weight

- (H) 1.75" in. [44.45 mm], (W) 17.52 in. [445 mm], (D) 14.57 in. [370 mm]
- 15.4 lbs. (7.0 Kg)

#### Power Requirements

- 85 to 265 VAC, 47 to 63 Hz, (Internal)

#### Environmental Standards Compliance & Certification

- **Safety** - UL 1950, CUL, CB, CE, JATE (200)
- **EMC** - FCC Part 15 Class B; CE, VCCI, AS/NZS
- **Telephony** - FCC Part 68 (TI), TBRI3 (EI)

#### WanXplorer System Requirements

##### WanXplorer Management Console

- Sun/Solaris 2.6 or later; or Windows 95/98/NT/2000/XP
- MS Internet Explorer 5.5, 6.0
- 64MB RAM

##### WanXplorer Policy and Monitoring Server

- Sun/Solaris 2.5, 2.5.1 or 2.7 or MS Windows NT Server, NT Workstation or Windows 2000
- 256MB RAM (minimum)
- 2GB disk space (minimum)
- CD-ROM

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#### Ordering Information

Part No.	Model	Bandwidth	Lines	Interface
K50100	NetReality WW-100	512 Kbps	1	Serial or CSU/DSU
K50201	NetReality WW-201	2 Mbps	1	Serial or CSU/DSU or Ethernet
K50230	NetReality WW-230	2 Mbps	1	Channelized T1 or E1
K50401	NetReality WW-401	12 Mbps	1	Serial or HSSI or Ethernet
K50402	NetReality WW-402	12 Mbps	2	Serial
K50601	NetReality WW-601	52 Mbps	1	HSSI or Ethernet
K51001	NetReality WW-1001	100 Mbps	1	Ethernet
WANX	WanXplorer NMS for Solaris and Windows NT			

