



Apposite Technologies makes it easy to test the performance of applications over the wide-area network by offering high-precision network emulation appliances with unmatched ease-of-use.

FEATURES

- Emulate Network Impairments, Such As Bandwidth, Latency, Jitter, Loss & More
- Change WAN Impairments & View Results In Real Time
- Profile Live Networks & Import Into WAN Emulator
- Replay Capture Files As Background Traffic
- Configure Via Browser-Based GUI

The high-performance testing capabilities of Apposite Technologies' Netropy network emulation appliance makes it easy for users to quickly benchmark, troubleshoot, and optimize the performance of mission-critical networks and applications. Its unique emulation engine allows for the high-precision emulation of up to 15 separate WAN links to model complex network topologies or run multiple concurrent tests.

Each link can be configured with its own bandwidth, latency, loss and other properties. Packets can be assigned to the appropriate link by IP address range, VLAN, application port number, or any other packet identifier.

Netropy models are available with up to 4 separate Emulation Engines per unit, and capacities up to 100 Gbps.

The Netropy network emulator can be configured and managed through an intuitive, browser-based graphical user interface (GUI) for easy operation. A comprehensive command line, which allows for simple integration with test automation tools, is also available.

FEATURES

Easy to Use: Netropy network emulators are quick to install, intuitive to configure, and easy to operate. The Netropy GUI provides the responsiveness of an application with the convenience of a standard web browser. Test networks can be deployed in minutes.

Multiple Links: Simulate up to 15 separate WAN links through each Emulation Engine.

Multiple Engines: Take advantage of multiple emulation engines with the N91, 10G2 and 10G4 models which provide concurrent testing capabilities or multi-user environments.

Packet filtering: Assign packets to different links by IP address, VLAN, or any other packet identifier.

Bandwidths up to 100 Gbps: Precisely emulate links from 100 bits per second up to 100 Gbps.

Latency up to 20 sec.: Emulate delay and jitter of 10 seconds or more in each direction, in increments of 0.01 ms.

Flexible interfaces: The N61 and N91 are available with copper or SFP ports. The 10G1 and 10G2 offer 1/10 Gbps dual rate SFP+ ports for easy integration into 1 or 10 Gbps networks.

Loss & Corruption: Set random, burst, or periodic packet loss. Test the effects of corruption on voice and video applications.

Capture & Replay: Record the delay and loss characteristics of a production network as they vary second-by-second and replay them through the Netropy emulator.

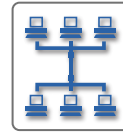
Background Utilization: Test how applications perform over a congested network. No need for costly traffic generators or a rack full of client machines with the Netropy's background utilization and PCAP replay features.

Traffic Monitor: View and download up to 24 hours of throughput graphs and link statistics.

Automated Testing: Automate testing with the comprehensive command line interface.

Unsurpassed Precision: Test with confidence. The high-precision Netropy Emulation Engine ensures accurate and reproducible results.

Priced Right: Get the functionality and performance you need at a price you can afford.



TERRESTRIAL



WIRELESS



SATELLITE



INTERNET

Application Lifecycle Testing

Network Design: Build “what-if” scenarios to choose between private lines, internet VPNs, and wireless and satellite networks to connect offices across the globe.

Save Money: Accurately determine bandwidth requirements to ensure critical applications perform as needed. Save money by avoiding overbuying bandwidth.

Application Validation: Observe application performance before going live and identify performance issues to avoid any unpleasant surprises or panic before it's too late.

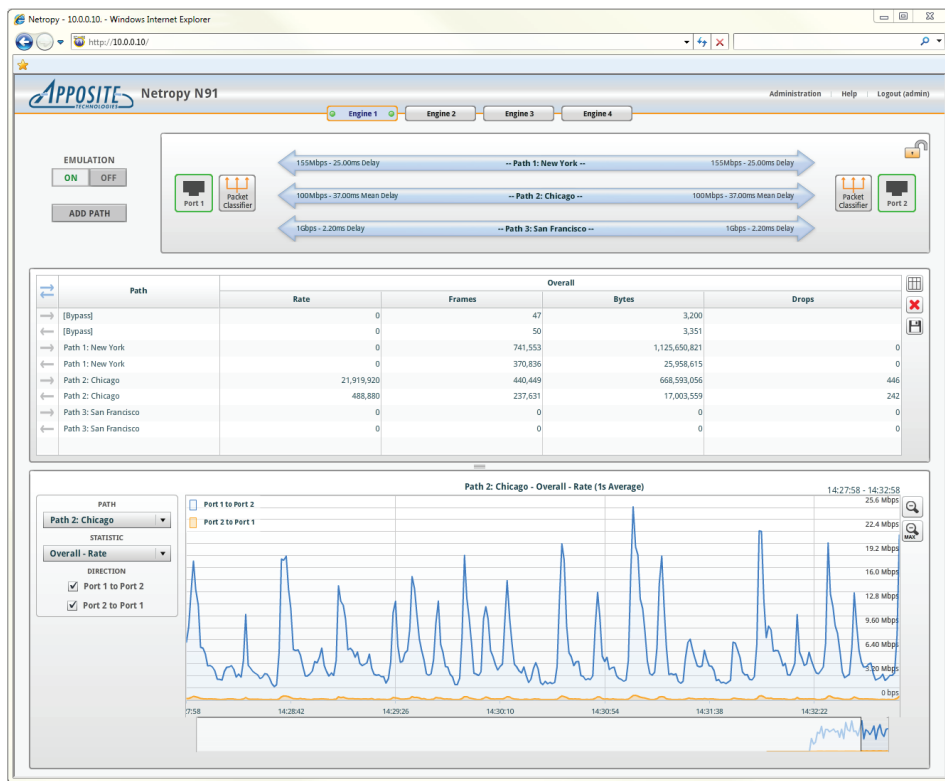
Vendor Selection: Compare products from different vendors to guide purchasing decisions and identify which one best suits the needs of your network.

Tuning: Adjust application settings and ensure optimal performance for your end users.

Optimization: Analyze the benefits of WAN acceleration and SD-WAN products to optimize the existing infrastructure.

Troubleshooting: Pinpoint the cause of reported problems and complaints, then validate potential solutions without disrupting the production network.

USER INTERFACE





NETROPY N61

Emulate complex networks up to 1 Gbps



NETROPY N91

Four separate 1 Gbps emulation engines



NETROPY 10G1

Emulate links up to 10 Gbps



NETROPY 10G2

Two separate 10 Gbps emulation engines

NETROPY 10G4

Four separate 10 Gbps emulation engines



NETROPY 40G

World's first 40 Gbps WAN Emulator



NETROPY 100G

The Industry's First 100GbE Network Emulator For 25/40/50/100Gbps Speeds

Multi-Link Emulations

Each emulation engine can simulate up to 15 separate WAN links. Each Netropy unit contains up to 4 independent emulation engines, depending on the model.

Emulate multi-site networks: Model a full enterprise network of regional, branch, and local offices, telecommuters, and partners, all connected to headquarters or a centralized datacenter.

- View applications as they will be seen by different end users
- Verify the operation of application servers with concurrent users

Side-by-side benchmarking: Run separate tests side-by-side.

- View the effects of different conditions on application responsiveness
- Compare products from different vendors
- Tune application settings
- Analyze the benefits of acceleration and optimization products

High scalability: Emulate thousands of separate clients for testing cloud-based applications, mobile apps and gaming.

Isolate individual applications: Segregate traffic from different devices and apply impairments to specific applications, behaviors, and conditions.

Concurrent testing: Test a variety of conditions by running multiple emulations in parallel.

View Impact of Network Conditions

• *Throughput*

Test bulk data applications: File transfer, network storage, remote back-up / disaster recovery

• *Responsiveness*

Test interactive applications: File sharing (CIFS), virtual desktop (VDI), database applications, CRM, ERP, remote access, web, cloud computing, SAAS

• *Quality*

Test real-time applications: VoIP, video, IPTV

Specifications	N61	N91	10G1	10G2	10G4	40G	100G
Capacity							
Emulation Ports	2 Gig Ethernet (copper or SFP)	8 Gig Ethernet (8 copper, 8 SFP, or 4 of each)	2x SFP+ 1/10 Gbps or 2x RJ45 1G/10G	4x SFP+ 1/10 Gbps	8x SFP+ 1/10 Gbps	2x QSFP 40 Gbps	2x QSFP28 100 Gbps
Max. Agg. Throughput	2 Gbps	8 Gbps	20 Gbps	40 Gbps	80 Gbps	80 Gbps	150 Gbps
Emulation Engines	1 @ 1 Gbps	4 @ 1 Gbps	1 @ 10 Gbps	2 @ 10 Gbps	4 @ 10 Gbps	1 @ 40 Gbps	1 @ 100 Gbps
Maximum Packet Rate	3 mil pps	12 mil pps	29 mil pps	59.5 mil pps	119 mil pps	32 mil pps	32 mil pps
Maximum Frame Size	9 KB	9 KB	9 KB	9 KB	9 KB	9 KB	9 KB
Emulation Capabilities							
Packet Classification	IP source & destination address range (IPv4 or IPv6), VLAN, TCP or UDP port number, IP ToS, MAC address, MPLS label, or any other packet contents						
Bandwidth	100 bps – 100 Gbps in 1 bps increments (depending on model)						
Delay	0 ms – 10, 000 ms or greater in each direction in 0.01 ms increments; constant, uniform, normal distributions; replay recorded loss, accumulate & burst						
Loss & Corruption	random, burst, periodic, BER, Gilbert-Elliott, or recorded loss; data corruption; network outage						
Background Utilization	0 – 100% in increments of 0.1%; PCAP replay						
Queuing & Prioritization	RED or tail drop queue management; priority or round robin queuing						
Additional Parameters	Packet Reordering, Packet Duplication, MTU and Fragmentation, Queue Depth, Framing Overhead						
Interfaces							
Management	1 x Gigabit Ethernet, 1 x RS-232 serial console						
Power Supply	Single	Single	Single	Redundant	Redundant	Redundant	Redundant
Security	SSL and SSH for secure management; per-user locking of engine configuration						
Warranty & Support							
Hardware Warranty	Hardware warranty is included with product license						
Support & Maintenance	Support is included with product license and software maintenance						
Ordering Information							
Part Number	N61-1G	N91-1G	N10G1-10G	N10G2-10G	N10G4-10G	N40G-40G	N100G-100G
Product License 1-Yr	N61-R1YR	N91-R1YR	N10G1-R1YR	N10G2-R1YR	N10G4-R1YR	N40G-R1YR	N100G-R1YR
Product License 3-Yr	N61-R3YR	N91-R3YR	N10G1-R3YR	N10G2-R3YR	N10G4-R3YR	N40G-R3YR	N100G-R3YR
Port Options	N61-SFP	N91-SFP N91-C4S4	N10G1-SFP	N/A	N/A	N/A	N/A

About Apposite Technologies

Apposite Technologies' award-winning WAN emulation products provide IT professionals with high precision tools for benchmarking the performance of applications across wide area networks. Distinguished by industry-best ease-of-use and unmatched value, Apposite's Linktropy and Netropy appliances inform critical decisions impacting bandwidth investment, application deployment, and end-user satisfaction. Apposite's network emulation products are used by leading enterprises, network application developers, government and military organizations, and telecommunications carriers around the world.



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