

Simena Network Emulator NE2000

Networks in a box!

Product Description

Simena Network Emulators enable software developers and network engineers to determine how their product or service would perform under several network conditions such as speed, latency, congestion, etc. They emulate these impairments by capturing and processing data packets transparently.

Network Emulators can be used with any network protocol (IP, IPX, AppleTalk, etc.) and network device. Since they operate at the data link layer they do not require any network configuration changes on client workstations or application servers.

Simena's Network Emulators which utilize patent-pending technologies come in three different models to meet various user requirements and budget. NE2000 is the high speed model one. Its processors can provide heavy traffic emulation for performance testing. It has two Gigabit Ethernet ports for emulations and one Fast Ethernet port for the management. Its compact size allows NE2000 to be rack mountable or used as a desktop unit.

General Features

- NE2000 supports all network protocols and applications.
- Supports all server hardware and operating systems.
- Works at Ethernet level not IP level (i.e. switching instead of routing).
- Does not require a dedicated host or special GUI application.
- Easy to learn, configure and use via a web browser interface.
- Does not need any modifications in network configuration.
- Provides flexible unidirectional emulations.
- Supports several types of packet filters.
- Supports 64 DiffServ filter levels.
- Provides Command Line Interface (CLI).
- Provides custom filters with up to 4-byte long pattern matching anywhere in the packet.
- Provides up to 32 simultaneous multiple emulations.
- Provides VLAN emulations.
- Provides real-time packet modifications.
- Displays throughput in bits/second and packets/second in both directions of the traffic.
- Provides wire-mode operation.
- Provides web based remote management.
- Allows saving, loading and deleting multiple configurations.
- Provides on-line hypertext user guide.
- Provides real-time throughput graphs.
- Provides real-time packet analysis with filters.



Applications	Emulations	Filters	Modifications
<ul style="list-style-type: none"> * Client/Server * iSCSI * Bandwidth computation * SANs * SLA conformance * ToS and Diff Serv * Video conferencing * VoIP * VPN * Wireless IP * Database access * Propriety applications * Multi tiered web * xDSL access * Cable modem access * Quality assurance * Product evaluation 	<ul style="list-style-type: none"> * Bidirectional emulation * Unidirectional emulation * Simultaneous emulations * Unidirectional simul. emul. * Latency * Jitter * Accumulate & burst * Packet loss * Bandwidth throttling * Duplicate packet * Out of order packet * Congestion * Carrier loss * Queue size * VLAN * Fragmentation * BER * Jumbo frame 	<ul style="list-style-type: none"> * Ethernet source address * Ethernet destination addr. * Ethernet payload type * VLAN priority * VLAN IDs * IP source address * IP destination address * IP payload type * TCP/UDP source port * TCP/UDP destination port * IP Protocol * Diff Serv. * Custom filters * IPV6 traffic class * IPV6 flow label * IPV6 payload length * IPV6 next header * IPV6 hop limit * IPV6 source address * IPV6 destination address * IPV6 fragment ID * Custom filters 	<ul style="list-style-type: none"> * Ethernet source address * Ethernet destination addr. * Ethernet payload type * VLAN priority * VLAN IDs * IP source address * IP destination address * IP payload type * DiffServ * TCP source port * TCP destination port * TCP flags * UDP source port * UDP destination port * Payload modifications * Custom modifications * Optional CRC computation

Key Benefits

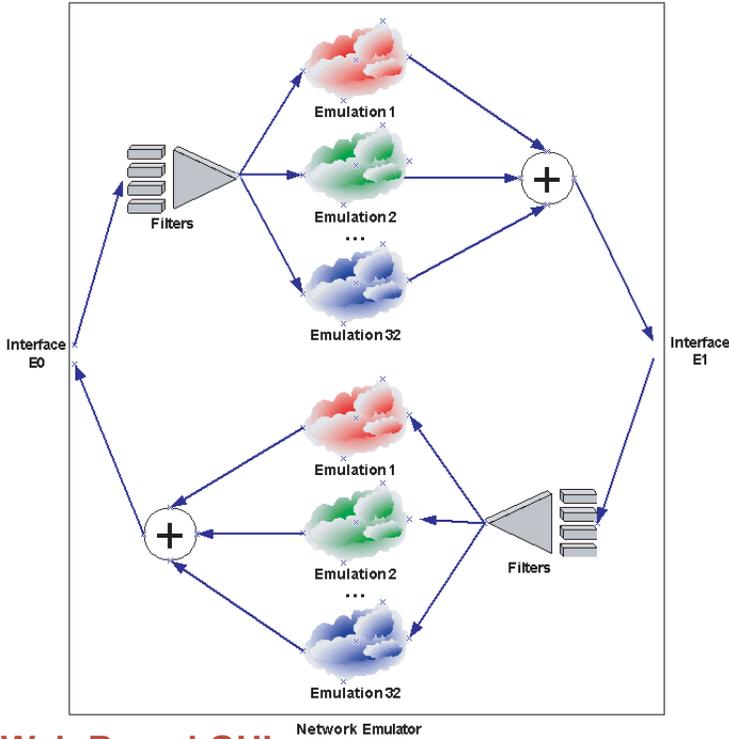
- Quickens network testing of the applications, network equipment or services.
- Increases the success by delivering fully tested products and services.
- Minimizes costs and time associated with traditional testing processes, by finding and eliminating bugs faster.
- Provides detailed quality assurance (QA) of network applications and equipment.
- Minimizes bandwidth costs by accurately determining bandwidth requirements for deployment of new applications.
- Analyses realistic VoIP or video conferencing performance characteristics in a laboratory environment.

SIMENA... FOR INTELLIGENT NETWORKS

For more information call: 571.323.1500 e-mail: info@simena.net visit website: www.simena.net

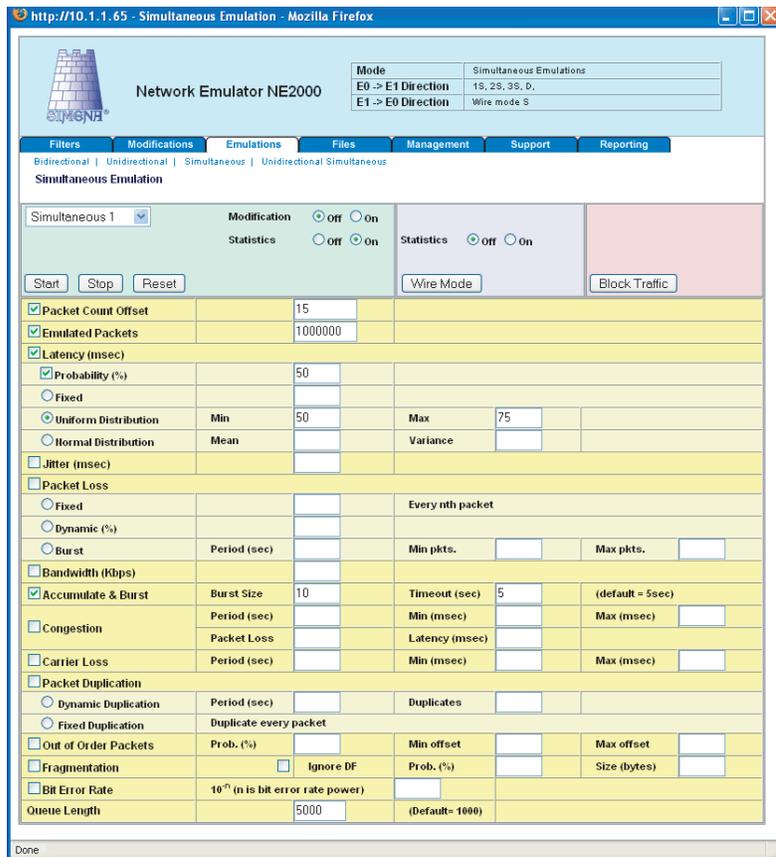
Simultaneous Emulations

By means of Simena's patent-pending technologies, NE2000 allows its users to emulate up to 32 different networks simultaneously. Filter rules are used to divide incoming traffic into flows. Each flow is fed into an emulation instance which can have any combination of network impairments. As the simultaneous emulations utilize only two interfaces, setting up and running emulations are very easy.



Web Based GUI

NE2000 provides easy to use Web based Graphical User Interface (GUI) which lets the users access it from anywhere in the network. Clear and easy navigation menu enables them to start using the unit within minutes. The GUI also provides complete management functions. Initial setup of the Network Emulator can also be accomplished by the GUI by accessing the unit's factory default IP address.



Filters

NE2000 has extensive packet filtering capabilities. Filters allow users to pick specific packets to expose to network impairments. Packets matching filter rules are subject to network conditions, while not matching ones will be forwarded in wire-mode. Special kind of filters called "custom filters" provides pattern matching anywhere inside the packet. This feature allows users to define filters for custom applications or new protocols.

Packet Modification

Network Emulator also allows users to modify data packets in real-time. Any protocol field can be modified with user selectable data. With custom packet modifications feature it is also possible to modify the application payloads. Checksums can be optionally updated. Packet modifications can be utilized with filtering and emulations at the same time.

Command Line Interface (CLI)

NE2000 provides Command Line Interface (CLI) for automated or scripted tests. Every emulation or management function can be performed via the CLI.

Online User Guide

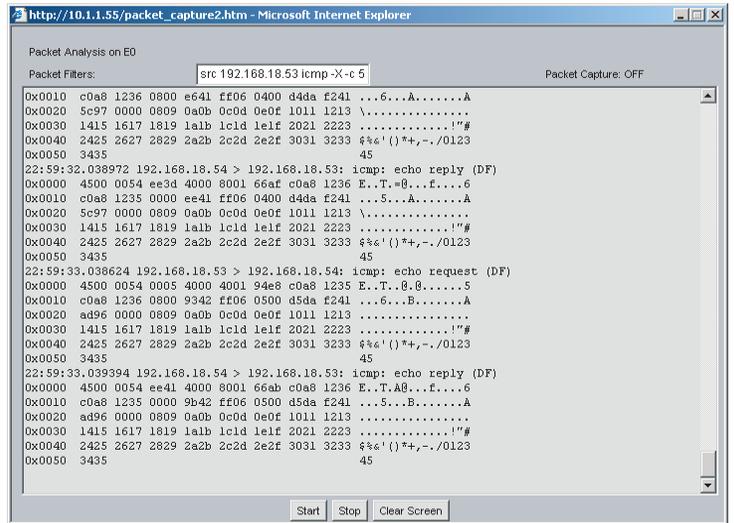
Although the Network Emulator is very easy to learn and use, it also provides an online user guide for complex emulations and administration tasks. The hypertext index lets the user navigate the guide easily. In addition, convenient pop-up window can be used as a desktop reference.

Plug & Play Setup

Since the Network Emulator works at the Ethernet level, it does not require any change on the application servers or on the network configurations. The Network Emulator starts forwarding the traffic between its two ports within seconds after powered on. The user only needs to setup the management interface's IP address. This can be accomplished via the Web interface by accessing the system's factory shipped IP address.

Real-Time Statistics

NE2000 provides packet decoding capabilities with packet filtering in real-time on both network interfaces. Users can pick and choose which packets need to be decoded on which network interface via simple user interface.



Users can also easily display real-time throughput in bits/sec. and packets/sec. on each port in both tabular or graphical formats. Throughput numbers are very accurate as they are collected from the Network Emulator's kernel application. In other words, while the emulation is heavily taking place the throughput numbers would still be very reliable.

