Network Simulation Datasheet

Datasheet

The Network Simulator provides an integrated, versatile, easy-to-use GUI-based network designer tool to design and simulate a network with SNMP, TL1, TFTP, FTP, Telnet and Cisco IOS devices. IPv4 or IPv6 Address can be assigned to the devices.

Overview

WebNMS Simulation Toolkit presents the Network Simulator to test and demonstrate SNMP, TL1, TFTP, FTP, Telnet and IOS management applications in a virtual, scalable network environment. Ability to simulate 100000 devices simultaneously for scalability testing, trap simulation for fault management testing, configuration of device values and simulation types for performance testing, behavior simulation for testing realistic/negative test scenarios across network devices, start/stop of network at runtime, automated network simulation, visualization of network topology and easy-to-use GUI enables full-fledged simulation of large networks.

Network Simulator Features and Benefits

Features	Benefits
Multi-Protocol Support	• Complete simulation of SNMPv1, SNMPv2, and SNMPv3 devices. The SNMPv3 agent can respond to v3 requests in addition to SNMP v1/v2c requests. • Complete simulation of TL1 devices with multiple AID and MPB values, Acknowledgment messages, Output • Response Messages, Autonomous Messages, and Jython scripts to simulate behavior. • Complete support for TFTP server and client and FTP client for individual devices. • Support for executing Telnet commands in SNMP devices. • Supports simulation of Cisco IOS Software to simulate Cisco routers and switches, that can be accessed using CLI.
Multiple Agents in one PC	• Integrated Network Designer wizard designs and creates a network simulation with multiple SNMP/TL1/CLI/ TFTP/FTP devices at one shot. • Each device in the network, supports its own MIB/TCS file, read/write community, unique IP address, port number combination and unique values. • The number of agents that can be run simultaneously on a single PC is 10000 in Windows, 100000 in Linux and 8192 per NIC (Network Interface Card) in Solaris. This enables simulation of large enterprise networks.
Simulation of Cisco IOS Software	• Device Library with pre-configured Cisco series Routers and Switches. The devices fully supports SNMPv1, v2, v3; TFTP and Cisco IOS software. • IOS commands implemented in User, Privileged, Configuration, Interface configuration, Router and Vlan modes. • Extensive script APIs for customization of IOS commands. • Script Editor to view and edit IOS command behavior scripts. • Command Configurator to define new IOS commands.
Automated Network Simulation	• Network Automation Wizard to automate the most common tasks performed by the network devices. • Configure tasks to be performed on any device and set hourly/daily triggers to instigate each task. • Automatic script generation that schedule and trigger the task
Network Topology	• Topology Editor to establish inter-connections across routers, switches and other devices in the network, through drag and drop. • Visualize the network topology. • Disconnect existing connections in the topology.
Recod and Replay of Real Networks	• The Network Recorder records any number of target devices simultaneously by providing the starting and ending IP address. • The recorded network can be replayed instantly in the Network Designer. • The recorded configuration can also be suitably modified to re-create problems or test configuration variations.
Record and Replay of Traps	• The Trap recorder records SNMP v1 and SNMPv2c traps by listening for traps at the specified port. • The recorded traps can be stored in XML files and replayed in the simulator as request-based, threshold- based or time-based traps.

Network Simulation Datasheet

Features	Benefits
Customization of Agent Values	• The user can customize and control all SNMP and TL1 command responses from the UI or using jython scripts. • The Behavior simulation wizard help you to model agent behavior and define inter-relationships among • MIB variables, among TL1 commands, and across devices in the network using jython scripts. • Auto-generation of scripts for selected methods and bulk addition of scripts across network devices makes the behavior simulation wizard more user-friendly and easy-to-use. • Powerful built-in script APIs enable you to automate a complete network environment.
SNMP PDU Customization	• Supports customizing the request and response SNMP PDU to send garbled/invalid responses to test the SNMP managers' robustness in the event of receiving bad packets. • The PDU scrambler also provides access to the SNMP script API methods.
Management of Networks through RMI	• The SNMP and TL1 agents in the simulated network can be managed via RMI (Remote Method Invocation) by executing user-defined tasks at runtime. This helps in test case automation of manager applications. • The RMI client API defines the methods in the simulator, which can be accessed via RMI to programatically update values for specific devices, add/delete SNMP agents in the network, start and stop • individual devices, send SNMP v1/v2/v3 traps and TL1 autonomous messages etc., within the simulated network.
TFTP, FTP and Telnet Support	• TFTP client and server and FTP client is implemented to enable transfer of files between the manager and agents using TFTP and FTP. The file transfer can be done from the Network designer UI. Runtime configurations can be made through scripts and RMI. • Telnet support for SNMP devices to enable execution of telnet commands on the simulated devices. • Extensive script APIs for customization of Telnet commands. • Script Editor to view and edit Telnet command behavior scripts. • Command Configurator to define new Telnet commands
Trap/Inform/Autonomous Message Generation	• Support for SNMPv1,v2,v3 Traps and SNMP v2, v3 Informs. • Supports configuration of SNMP Traps and Informs with varbinds which can be customized to be sent at different scenarios. • Supports configuration of TL1 Alarm messages with varied combinations of textblocks and severity for a single autonomous code which can be customized to be sent at different scenarios.
Error Simulation	• Simulates SNMPv1, SNMPv2 and SNMPv3 error conditions. Jython scripts can be used to configure error conditions and scenarios. • Simulates TL1 error responses.
Dynamic Configuration of IP Address	• The Network Simulator provides the facility to dynamically configure IP addresses when starting each agent instance in the network. • This facility is supported in Windows NT, 2000, XP and Linux / Solaris OS.
Runtime Operations	• Individual agents in the network can be started or stopped. • Devices can be added individually or in bulk • A device can be copied and pasted in the network • SNMP and TL1 agent values can be configured individually for each device. • New MIBs and TCS files can be added to the existing device simulations. • Real SNMP agents can be recorded for individual SNMP devices in the network. • Traps/Autonomous Messages can be configured for individual SNMP and TL1 devices in the network. • Scripts can be configured individually or in bulk.
Bulk Modification and Bulk Script Addition	• The IP address and Port numer of all the devices in the network can be modified in bulk, at one shot. • Interested OID values can be modified across all or selected agents present in the network. • SNMP, TFTP, CLI properties can be modified across all or selected agents present in the network. • Same script file can be configured in bulk, to the specified range of IP address in the network.

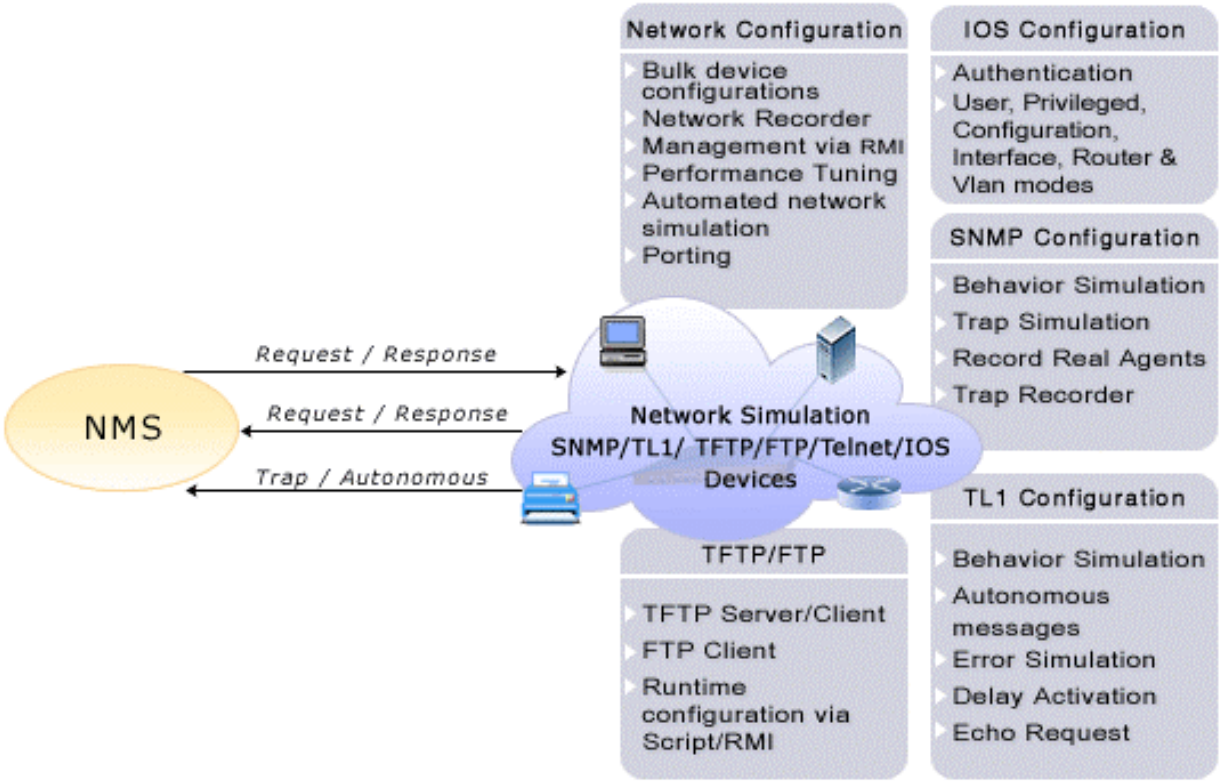
Network Simulation Datasheet

WebNMS Excellence Matters
Datasheet

Extensible Environment	• New SNMP and TL1 devices can be added to the network individually or in bulk • New MIBs/ TCS files can be added to individual SNMP and TL1 devices in the network.
Packaging and Installing the Network	• The created network can be packaged with the desired configurations and stored in a specified location. • The packaged network can be installed at customer premises to give demonstrations of management applications or during trade shows without having to configure and carry the devices
Performance Enhancements	• Performance tuning option allows buffering of specified OIDs, at network startup. • Registration of selected OIDs allows to register only those OIDs in the agent that will be queried by th manager.
User-Friendly GUI Tools	• An extremely user-friendly graphical interface makes the Network Designer very easy to work on. • Intuitive tools and wizards offer you the complete Network Simulation experience and shorten the time-to-market. • The SNMP Mib Browser and TL1 Craft Interface tool (TL1 Browser) facilitate complete testing of the simulated devices in the network. • SNMPv3 configuration tool to configure SNMPv3 users in USM and VACM tables. • The TL1 Message Builder facilitate creating and modifying XML-based TL1 message definitions..
Command Line Utilities	• Utilities to create, package, install and start multiple networks from command line for automation.
Value Added Features	• Logging error messages • Persistence in Database. • Enhanced Network Performance.

Network Simulation Experience

The Network Simulator offers a simplified and complete network simulation experience. The following diagram depicts this functionality offered by the Network Simulator.



Network Simulation Datasheet

WebNMS Excellence Matters
Datasheet

The Network Simulator can design and simulate a network with SNMP, TL1, TFTF, FTP, Telnet and Cisco IOS devices, in four simple steps:

1. Add devices to the Device tree : Add devices with the required configuration to the device tree in the Network Designer. Pre-configured devices are also bundled with the toolkit.
2. Create the Network: Create and add bulk devices to the network, at one shot.
3. Configure the Network devices: Configure the devices in the network, if required.
4. Start the Network : Start the network or start individual agents in the network. The MIB Browser and TL1 Craft Interface test tools, can be used as the manager tools for testing.

System Requirements

Hardware Requirements	
Windows	CPU: 2.0 GHz Pentium Processor Memory: 2 GB RAM Disk Space: Minimum 40 GB
Linux	CPU: 2.0 GHz Pentium Processor Memory: 2 GB RAM Disk Space: Minimum 40 GB
Solaris	CPU: 2.0 GHz Processor Memory: 2 GB RAM Disk Space: Minimum 40 GB
Software Requirements	
Supported Platforms	Windows XP+SP2 / Vista Windows XP with Hyper Threading enabled Linux RH 9.0 and above Linux RH AS, ES, WS and Debian Solaris 5.9 & above Fedora - 3 core
Java Version	JRE 1.6.0_11 is bundled with the product for all operating systems.
Database	MySQL Database is bundled with the product for all operating systems.

ZOHO Corp.
4900 Hopyard Rd., Suite 310, Pleasanton, CA 94588. USA
Phone: 1-925-924-9500
Fax: 1-925-924-9600

Web Site: http://www.zohocorp.com
For queries on products : sales@webnms.com
For 24/7 support : simulator-support@webnms.com

About ZOHO Corp.

ZOHO Corporation provides affordable software for database migration, management and provisioning of complex networks, systems, and IT applications. With a broad product portfolio and an active customer base ranging from enterprises, equipment vendors, and service providers, ZOHO Corporation has emerged as a very affordable and high-quality alternative to expensive software that is common in this industry.

ZOHO Corporation is headquartered in Pleasanton, CA with offices in NJ, NH, India, UK, China and Japan. It has a well-trained partner base around the globe and thousands of customers world-wide. For more information, call 925-924-9500 or visit our Web site at: www.webnms.com