SimpleTester™

SimpleSoft

Simplifying Testing & Simulation

Automated SNMP Agent Tester

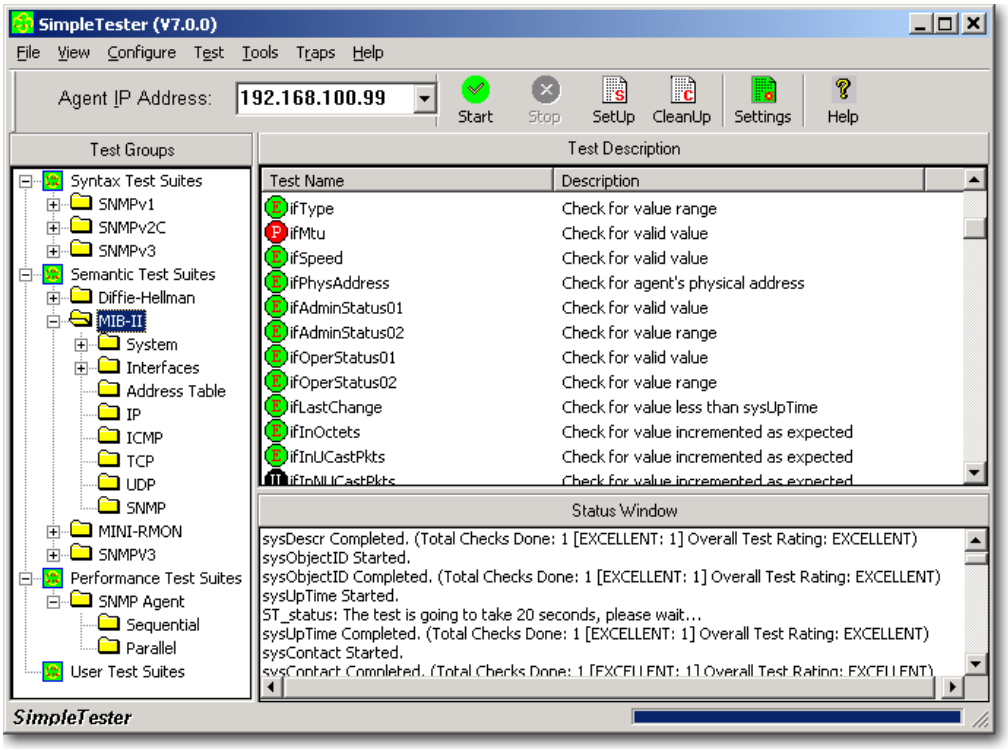

Fig1: Screen shot of the SimpleTester running semantic tests.

Overview:

SNMP managers and agents can communicate with one another because they share a common understanding of the data being exchanged (MIBs) and use the same mechanism to exchange that data (SNMP protocol). Hence to ensure interoperability, **an agent must be tested to check if its data matches the MIB definition, and if it adheres to the data exchange mechanisms (Get/GetNext/Set/GetBulk operations) specified in the SNMP protocol**.

SimpleTester is an easy to use test tool that **automatically** exercises SNMP agents. All types of SNMP agents implementing one or more standard, experimental or private MIBs can be exhaustively tested, within minutes.

As the number of MIBs, MIB variables and instances supported by an SNMP agent grows, it can take weeks or even months, to manually test each variable using tools like a typical MIB Browser. This is where the **SimpleTester** is most useful. The **SimpleTester** is an "**SNMP Expert**" program that will intelligently interpret MIB files, SNMP protocol specifications, and all the MIB objects supported by the agent. Using this knowledge, it automates the testing process to **complete weeks worth of manual testing - in just minutes**.

The SimpleTester contains syntax tests, semantic tests and other utilities. The predefined syntax tests check for MIB and SNMP protocol compliance **for any MIB** by sending hundreds of different Get/GetNext/Set/GetBulk requests and analyzing the agent's responses. The semantic tests contain 800+ tests (with source code) to validate the implementation of objects in popular MIBs like MIB-II, miniRMON and SNMPv3. The framework for running these tests is expandable to include user defined test suites. The other test utilities include MIB Browser, Trap Checker, Script Generator, Script Runner, and RowStatus tester.

The SimpleTester includes a Tcl Interpreter with support for SNMP, Telnet and Serial I/O to allow users to test other aspects of their devices. In addition to the user interface, the SimpleTester can also be run in an unattended mode by specifying the tests to be run in a command file.

Features:

- Checks agent responses (and traps) for conformance with MIBs as well as SNMP protocols (v1, v2c and v3).
- Checks MIBs for Syntax Errors.
- Automatically tests each MIB variable for get, getnext, getbulk and set operations.
- Includes 1100+ semantic tests for popular MIBs like MIB-II, miniRMON, SNMPv3. Add-on suites for other MIBs available.
- Creates script files to be used for regression, load and "RowStatus" related testing.
- Provides detailed reports that pinpoint problems.

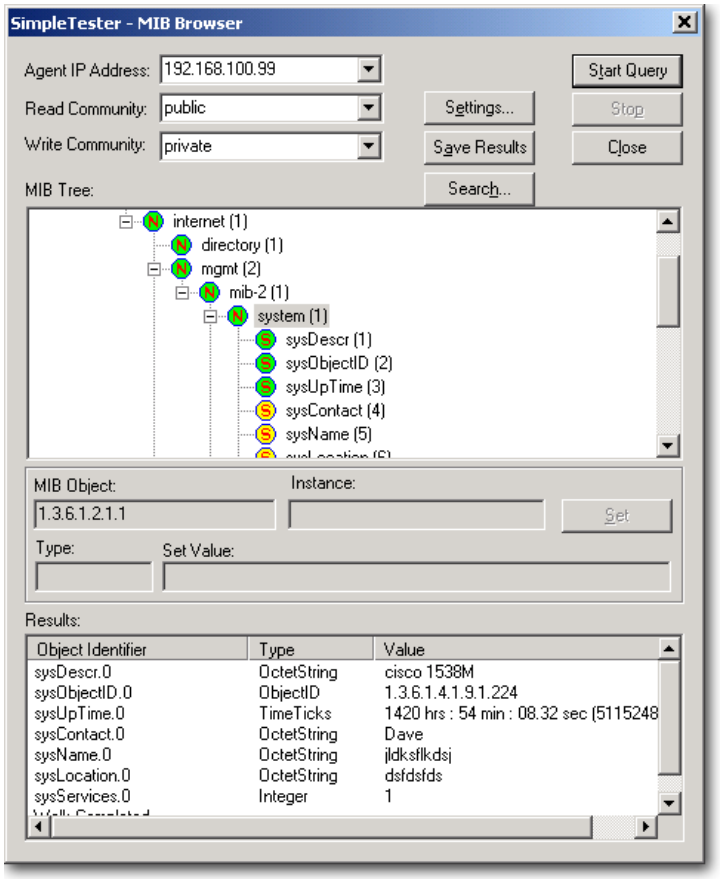

Fig2:
A screen shot of the MIB Browser appliction retrieving the systems group.

- Includes MIB Browser and Tcl interpreter with SNMP, Telnet and Serial I/O extensions.
- Supports Diffie-Hellman, MD5, SHA and DES.
- Supports functionality to include user defined test suites.
- Includes a test suite builder to ease the burden of creating and organizing user defined test suites.
- Simple, intuitive, easy to use interface that runs on a PC.
- Support for workgroup licensing.

Benefits

- Reduced development, testing, support costs.
- Shortened "Time to Market".
- Increased customer satisfaction.
- Improved quality and interoperability.
- Implementation errors detected before deployment.

Operation:

Only a few simple steps are required to test an agent. They are as follows :

1. Load the MIBs supported by the agent by using the built-in MIB compiler.
2. Specify the variables to be tested by using the built-in MIB walker.
3. Run any or all of the predefined syntax tests to check for conformance with the MIB definitions and SNMP specifications. The detailed reports pinpoint problem areas.
4. Create test scripts automatically using the built-in Script Generator and RowStatus Tester. Run these scripts in the built-in Script Runner for regression and load testing.
5. Check the implementation of popular MIBs by using the built-in Semantic Checker or use the samples provided to write and run your own semantic scripts.

System Requirements:

SimpleTester requires:

- Microsoft Windows NT/2000/XP.

Current Users Include:

More than 250 networking comapnies including:

ADC	Juniper
Adtran	Lucent
Alcatel	Motorola
Broadcom	NCR
Brocade	Nokia
CableLabs	Nortel
Cisco	NTT
Deutche Telecom	Qualcom
Ericsson	Scientific Atlanta
Fujitsu	Siemens
HP	Tellabs
Intel	TI

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