

## Software Suite for RFC-2285 / RFC-2889 Compliance Test

### FEATURES SUMMARY

- Supporting up to 1024 ports and 256 addresses per port
- Generating graphical results that can be exported to HTML
- Including profile and search mode for frame rates
- Supporting multi-user operation
- Supporting multiple 10/100/1000 Mbps Ethernet card modules (within the same test)
- Containing an email option upon test completion
- Supporting port mirroring and flooding detection
- Supporting Ethernet II and IEEE 802.3 Ethernet frame types
- Supporting autonegotiation and flow control
- Containing user-configurable test duration, frame size, and frame rate
- Supporting VLANs
- Containing a built-in interframe gap calculator

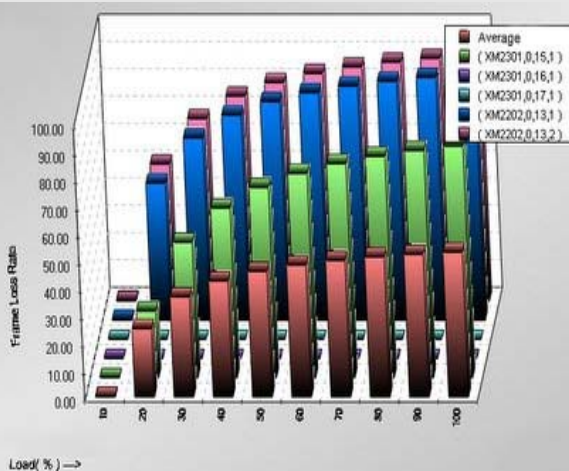
### MAJOR BENEFITS

- Generation of full and sustainable load for accurate evaluation of the performance limits of a DUT (Device Under Test) and/or a SUT (System Under Test)
- Comprehensive testing in multi-topology environments for Ethernet (10/100/1000Mbps)
- Real time display of test results
- Various types of report formats, including MS-Excel and HTML
- Generation of error log for debug
- User selectable tabular or non-tabular report format for on-screen display of test results
- Providing 3D chart reports

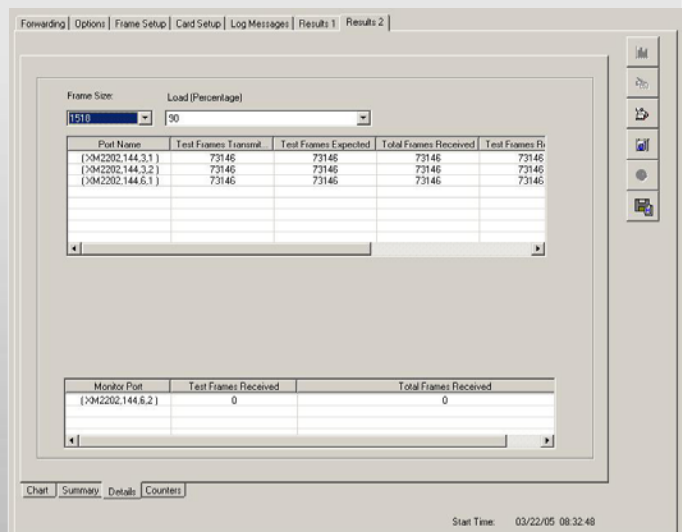
### KEY APPLICATIONS

- Analysis of the Layer-2 performances of Error Filtering, Forwarding, Address Learning, Address Caching, Broadcast Forwarding, Broadcast Latency, Congestion Control, and Forward Pressure of a switch

## Sample Screen Shots



**Test Result Chart**



The screenshot shows the software interface with a menu bar (Forwarding | Options | Frame Setup | Card Setup | Log Messages | Results 1 | Results 2) and a toolbar. The main window displays a table with the following data:

Port Name	Test Frames Transm.	Test Frames Expected	Total Frames Received	Test Frames Rn
[XM2202,144,3,1]	73146	73146	73146	73146
[XM2202,144,3,2]	73146	73146	73146	73146
[XM2202,144,5,1]	73146	73146	73146	73146

Below this table is another table with the following data:

Monitor Port	Test Frames Received	Total Frames Received
[XM2202,144,6,2]	0	0

The interface also includes a 'Start Time' field showing '03/22/05 08:32:48' and a bottom navigation bar with 'Chart', 'Summary', 'Details', and 'Counters' options.

**Detailed Result Table**

## OVERVIEW

### REQUIREMENTS

<b>Testing Platform</b>	NuStreams-2000/600 chassis with the appropriate NuStreams test modules
<b>Operating System</b>	Microsoft Window 2000 or Windows XP
<b>PC and Peripherals</b>	An IBM or compatible Pentium III or above PC with at least 256MB of RAM, 10GB of available hard disk space, keyboard, mouse, color monitor, and a 10/100Mbps Ethernet controller card (in the PC)
<b>Cabling</b>	Use appropriate cables (for example, category 5e, straight-through or crossover, depending on the DUT) to connect the NuStreams test modules with the DUT and the NuStreams chassis with the PC.

Switch Genius is designed to determine the performance of L2 DUT. It is fully automated and scalable, contains an enhanced GUI with real-time graphing, and supports NuStreams-600/2000 chassis. Switch Genius is based on RFC 2285, Benchmarking Terminology for LAN Switching Devices, and RFC 2889, Benchmarking Methodology for LAN Switching Devices. It is considered the TRUE first-level benchmark for all switches.

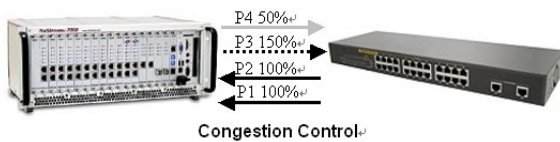
#### Forwarding

Determines the forwarding performance of the DUT, as well as the device's frame loss, frame rate, and throughput, and supports full-mesh, partial mesh, and non-mesh traffic patterns.



#### Congestion Control

Determines the effect of a congested port on a non-congested port, otherwise known as Head of Line Blocking, and measures and graphs the frame loss and frame rate of non-congested and congested ports.



#### Address Learning

Determines the rate at which a DUT can learn addresses without flooding, and measures the percentage of learned frames and the rate at which all addresses are learned.

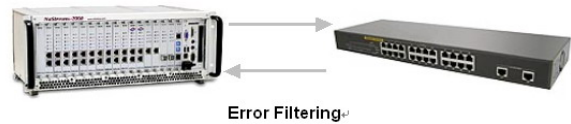
#### Address Caching

Determines the address caching capacity and measures the percentage of addresses learned at a given rate.



#### Error Filtering

Determines the DUT's ability to handle errors, including CRC, oversized, undersized, VLAN oversized, alignment, and dribble bit errors.

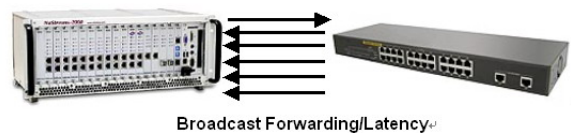


#### Broadcast Forwarding

Determines the DUT's ability to forward broadcast traffic by measuring frame loss and throughput. Users can set up multiple source ports, receiver ports, and monitor ports.

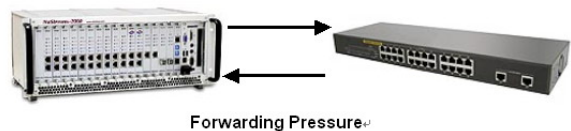
#### Broadcast Latency

Determines the latency of the broadcast traffic. Users can set up only one source port but can assign multiple receiver ports.



#### Forward Pressure

Determines the device's ability to handle forward pressure, and measures the number of frames received versus the number of frames expected.



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