FSPF Fabric Simulation and E-port Testing Application

SAN Routing Tester

Product Overview

Spirent's SAN Routing Tester (SRT) application allows users to simulate an entire fabric of fibre channel switches and end-nodes with a single test tool.

SRT provides the first integrated control and data plane storage routing (FSPF) tester that includes system-level configuration and analysis of fibre channel networks. SRT is an easy-to-use application that allows network equipment manufacturers, service providers, and enterprises to precisely characterize the behavior of a switch under a variety of realistic and worst-case test scenarios. SRT exposes the true capabilities of a switch by stress testing the routing software, the name server functionality, the data forwarding hardware, and the overall system architecture under both static and dynamic routing conditions. The SRT application gives the user complete control over all FSPF routes and data traffic from a single interface.

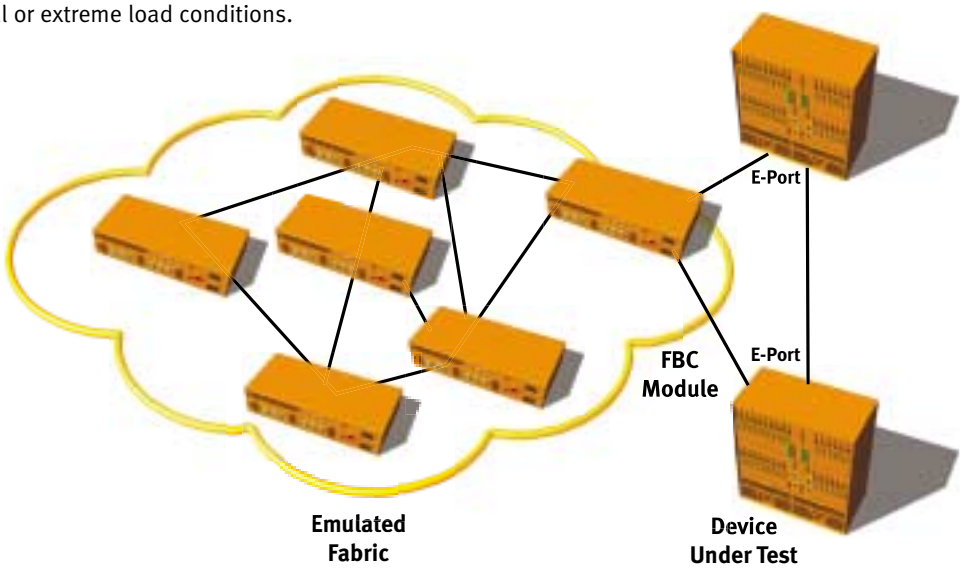
SRT is the industry's first application that allows a user to move beyond Layer 2 and Name Server N-port testing and into Fabric-level E-port testing.

The SRT application is designed to:

- Simulate an entire network of fibre channel switches and end-nodes with a single test tool.
- Quickly and easily set up large FSPF fabrics on all ports with data plane traffic going to each simulated switch.
- Evaluate switch scalability, route stability, name server functionality, network convergence, route recovery, route failover, and FSPF parameters of switches under typical or extreme load conditions.
- Use the Event Scheduler to pre-configure a sequence of events to run in a single test or use the Interactive Mode to view real-time results while executing single events.
- Simulate custom fabrics to ensure operability, scalability, and performance before actual network deployment.
- Create various fabric topologies and control all simulated switches and ISLs from a single GUI.
- Evaluate key performance parameters of switches in response to common, yet undesirable network events on the control plane.
- Qualify fibre channel switches during product development cycle and field upgrades.
- Perform comparative analysis between various switches.

With SRT a user can easily test:

- **Switch Scalability.** Determine the maximum number of switches that a device can support in a single fabric when acting as a principle switch.
- **Name Server Scalability.** Determine the maximum number of end-nodes that a switch can support in a single fabric.
- **Route Stability.** Exercise routing table entries, routing table lookups, and frame forwarding functions of the switch. This can be used to detect memory leaks in the switch database.
- **Convergence Time.** Determine a device's ability to recover from changes in a fabric by causing a predetermined event (for example ISL Down), plus monitor dropped frames and measure convergence time.



Sample network simulated by SAN Routing Tester

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SPIRENT Communications

Analyze | Assure | Accelerate™

- **Route Recovery.** Determine a device's ability to handle and recover from different route flapping scenarios, while continuing to handle legitimate route advertisements and forward traffic.
- **Route Failover.** Measure the ability of a device to properly switch traffic to the lowest cost secondary route when the primary route becomes unavailable.
- **FSPF Conformance.** Perform basic conformance by validating domain ID range, CoS service support, the effects of ESC, and the ability to go to Full State.

Key Features

- Complies with FSPF specification FC-SW-2 and FC-2 specification FC-FS-1.7.
- Simulates up to 238 switches per SmartBits module (protocol maximum).
- Simulates thousands of end-nodes in a single fabric.
- Easily controls link failures, fabric topologies, and data traffic across the entire fabric.
- Tracks the number of Hellos, LSAs, LSUs, and RCFs sent for each port.
- Tracks name server statistics for thousands of end-nodes.
- Generates full-line rate data plane traffic.
- Tracks the number of dropped data frames and the min/max latency of received frames.
- Full API Available: Supports Tcl on Window, Unix, and Linux.
- Displays Interactive Results using real-time charts.
- Interactive event recorder allows users to capture the exact sequence of events from the Interactive Mode and then replay during future test sessions.
- Topology viewer allows users to easily review the simulated fabric on a per module basis and make needed modifications.
- GUI-to-script capability allows for easy test automation and customization.
- Built-in Ethereal protocol decoder allows easy inspection of FSPF exchanges.

Supported Modules

FBC-3601A

1Gbps Fibre Channel, 2-port, SmartMetrics module

FBC-3602A

1 and 2 Gbps Fibre Channel, 2-port, SmartMetrics module

Requirements

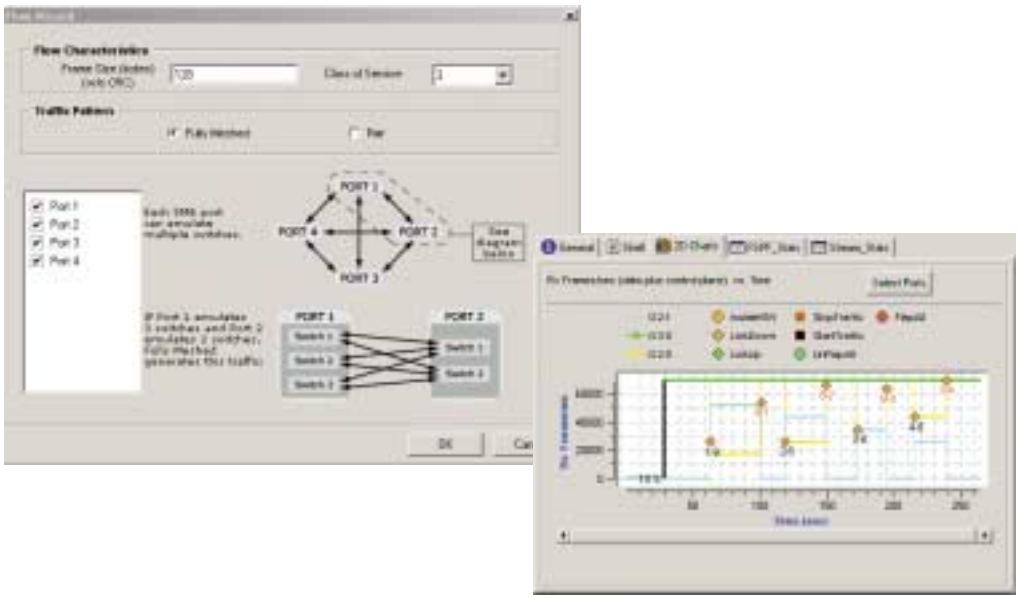
- A SmartBits 600, 6000B, or 6000C chassis equipped with the appropriate modules.
- An IBM or compatible Pentium™ III PC running Windows® 2000 Professional Edition, Windows NT 4.0, Windows XP, or Linux 7.0 with mouse and color monitor.
- A PC with 256 MB of RAM and 500 MB of free disk space.

Ordering Information

SPC-1410A

SAN Routing Tester

Spirent Communications offers a variety of ServiceEdge™ maintenance and support packages. For more information, visit the Spirent website at www.spirentcom.com or contact your Spirent sales representative.



SAN Routing Tester Setup and Results windows

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