Product Overview

Storage Area Network (SAN) fabrics are becoming increasingly larger in regards to the number of attached end-node devices that they are required to support. Large enterprises have requirements for their SANs to scale to several thousands of end-nodes (servers/storage). Equipment vendors who are trying to quantify the scalability of their SAN infrastructure are finding that nearly every SAN scalability problem is directly related to *Fabric Services*.

Fabric Services refers to the intelligent management plane software that runs on every SAN switch. Fabric Services are made up of a number of components, including a Fabric Login Server, State Change Notification Server, Name/Directory Server, and routing information. The intelligent services offered by Storage fabrics make SANs very powerful, but the strain on these services to support thousands of attached devices, demands that vendors optimize their designs for performance. This is particularly true in device failure situations, where there can be competition for scarce processor and database resources in a switch fabric, leading to unpredictable behavior.

Spirent Communications' Fabric Services Tester™ application (FaST) is the Storage industry's most comprehensive functional and performance analysis tool designed to measure the scalability limits of fibre channel Fabric Services. FaST can easily simulate thousands of storage end-devices to validate the functionality of Fabric Services software in fibre channel switches, and can verify the performance and scalability limits of fibre channel switch fabrics. FaST provides the user with the ability to emulate the management plane functions and data plane functions of end-nodes. By using FaST's easy test setup features, this emulation can be easily scaled across thousands of devices and hundreds of physical ports.

Fast Capabilities

FaST was designed to accurately simulate large numbers of end-devices using a switch's Fabric Services. FaST determines how well a single switch or an entire fabric performs under real-world load conditions in response to various name server and state change notification commands, and full-line rate data traffic.

By using the FaST application, a user can easily send an unlimited variety of name server and state change notification commands to the devices under test. Using a SmartBits® configuration file, a user can set up various port configurations and various command types. A user can either select a command as-is from a list of preconfigured FaST commands, modify a command in the preconfigured list, or create custom commands from scratch. Users can even import trace files to simulate large numbers of command type from any real-world device or network.

The user can then check the response time of the device, verify the device's response, and track accept/reject behavior for the sent commands. By using a combination of the name server and state change commands, a user can obtain a very accurate picture of the capability of the device's Fabric Services.
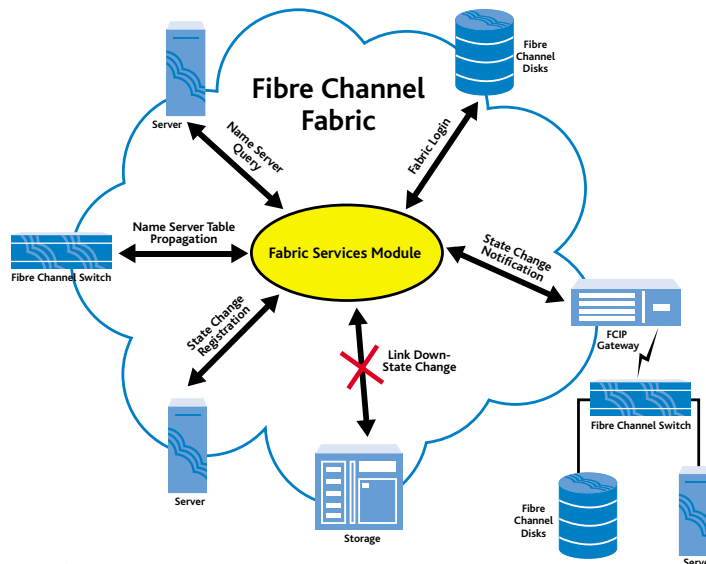
Test environment using Fabric Services Tester (FaST)

Analyze | *Assure* | *Accelerate*™

Key Features

- Scaleable to hundreds of ports
- Easy-to-use graphical user interface
- Saveable test configurations that ensure test repeatability and ease test setup
- Tk wizards that support Tcl code generation for complete automation
- Ability to mix full-line rate traffic and Fabric Services
- Ability to import analyzer trace files to simulate any type of device or network

Name Server Testing

- Builds and sends any type of Name Server Query, including custom messages or improperly formatted messages
- Tests a switch's ability to handle hundreds of name server queries at one time
- Checks a switch's response time to name server queries
- Verifies that the switch under test properly processes name server commands
- Measures results across multiple switches and Inter-switch Links (ISLs)

State Change Notification Testing

- Tests a switch's ability to handle hundreds of State Change Notification registrations
- Checks that a device responds properly to network changes (e.g., end-node, switch, or Inter-switch Link failures)
- Simulates end-node failures to prompt a fabric reaction
- Verifies that State Change Notifications are sent to the proper end-node
- Verifies that State Change Notifications are not sent to unregistered end-nodes
- Checks the name server to verify that changes are recorded properly
- Measures the latency of response time after a change occurs

Supported SmartBits Modules

Module	Description
FBC-3601A	1 Gbps 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.
- Spirent Connect 1.00 or later or SmartBits SmartLibrary™ 3.12 or later.
- An IBM or compatible Pentium™ PC running Windows® 98/2000/NT/XP, or a workstation running Solaris or Linux, plus a mouse and color monitor.

Ordering Information

SPC-1409A

Fabric Services Tester (FaST)

SPC-1400A

Spirent Connect – Tcl/Tk Script Automation Tool

SMB-SUS

12-month Software Update Support Service

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Fabric Services Tester (FaST) test configuration window

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