



Multiprotocol Label Switching Performance Analysis

MPLS Performance Suite

Product Overview

Multiprotocol Label Switching (MPLS) is poised for wide-spread deployment by service providers and network administrators who must derive optimal performance from large network backbones. MPLS enables IP packet forwarding that supports sophisticated packet classification and high-rate data forwarding. If effectively leveraged, MPLS technology is an efficient, scalable means to speed your network traffic flow while ensuring high quality of service (QoS).

Spirent Communications' MPLS Performance Suite offers you the industry's first analysis tools for assessing the viability, performance impacts, and scalability of MPLS solutions. You can use the MPLS Performance Suite to accurately recreate the complexity and dynamic nature of MPLS traffic and traffic management prior to deployment on live networks – greatly minimizing the risk of introducing MPLS systems, and accelerating the time-to-market for MPLS-based products.

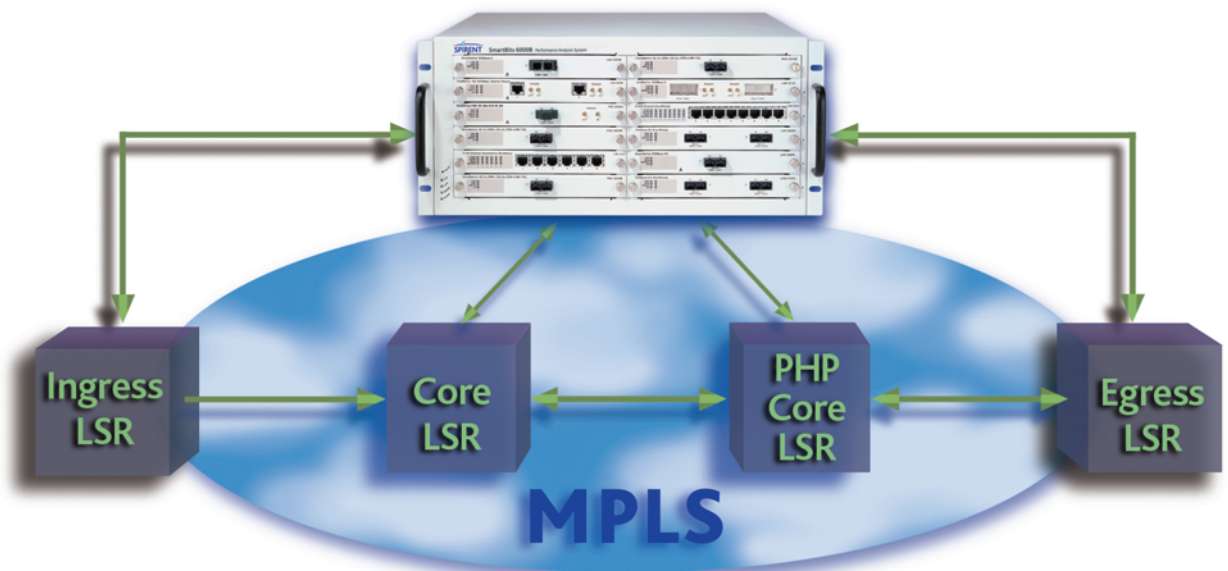
The MPLS Performance Suite runs on the award-winning SmartBits® TeraMetrics™ modules, offering you complete MPLS performance analysis:

- Forwarding and signaling performance analysis – both system-wide and for individual core and edge network elements.
- Analysis of how new MPLS traffic and traditionally-routed traffic are handled within the same system.
- Setup rate for establishing label switched paths (LSPs).

- Failover time from primary LSPs to secondary LSPs.
- Calculation of the total number of LSPs that a system can handle.
- The effect of dynamic network reconfiguration (fast failover) on QoS of jitter and time-critical services, such as voice over IP and video applications.

Test results provided by the MPLS Performance Suite enable you to answer the following critical questions about your MPLS network:

- What network topology is best suited for MPLS?
- How should traffic engineering be incorporated for best performance?
- What mix of MPLS and IP traffic is best to optimize performance?
- Should on-line or off-line path calculation be used?
- Which LSP policy works best and how many LSPs can be supported?



SmartBits Division
26750 Agoura Road
Calabasas, CA
91302 USA
Tel: 818-676-2300
Fax: 818-676-2700
Toll Free: 800-927-2660
www.spirentcom.com

MPLS network configuration using SmartBits 6000B

Test Descriptions

Performance

Compares the routing performance of raw IP forwarding versus MPLS label switching; analyzes the ability of ingress edge routers to classify IP packets and forward them into the MPLS network; and tests the ability of egress edge routers to convert MPLS packets into IP packets.

Load Balancing

Evaluates the ability of MPLS to perform load balancing throughout the network.

QoS

Determines whether MPLS effectively improves the overall network's QoS for such sensitive services as voice and video.

Fast Failover

Measures the time it takes a failed primary LSP to failover to the secondary LSP.

Key Features

- Generation and termination of up to 5,000 LSPs per port.
- Ability to test the scalability of hundreds of thousands of active LSPs per system.
- Support of the RSVP-TE signaling protocol.
- Support of best-effort and explicit routes.
- Measurement of traditional data plane forwarding metrics, including loss, latency, jitter, mis-insertion, and throughput.
- Control plane performance testing to measure the maximum number of LSPs and LSP setup rates.
- Use of the award-winning SmartBits TeraMetrics analysis technology.

Deliverables

The MPLS Performance Suite consists of the following:

- An MPLS executable for use with TeraMetrics modules.
- Documentation.

Requirements

- An SMB-6000B with appropriate firmware.
- Two or more TeraMetrics modules.
- SmartWindow application software, Version 7.10 or later.
- IBM or compatible Pentium™ PC running Windows® 98/NT/2000, with mouse and color monitor.
- One RJ-45 straight-through cable with network connectivity to the chassis.

Ordering Information

SWF-1216A

MPLS Performance Suite

SUS-SMB

12-month Software Update Support Service

SmartBits Division

26750 Agoura Road
Calabasas, CA
91302 USA

Tel: 818-676-2300

Fax: 818-676-2700

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