



TeraRouting Tester Software Module

MPLS

Product Overview

The MPLS routing protocol software module works together with all of the basic SmartBits® TeraRouting Tester™ features, including the flap scheduler, traffic generator, and integrated results. Both MPLS signaling protocols—RSVP-TE and LDP—are supported. MPLS VPNs are also fully supported. A configuration wizard is provided to simplify complex network topologies.

Key Features

- Supports RSVP-TE and LDP
- Supports 2547bis, 6PE, and Martini VPNs
- Generates up to 64,000 LSPs
- All common attributes and TLVs are configurable

LDP Features

- 250 LDP sessions per port
- Up to 64,000 LSPs per module (preliminary estimate)
- VLAN and VCC IDs per session
- Direct and targeted hellos
- Downstream unsolicited and downstream on demand LSPs
- Configurable hello and keep alive timers
- Implicit and explicit null labels
- VC encapsulation for Martini and VPLS
- Incoming and outgoing LSPs

RSVP-TE Features

- 100 RSVP-TE sessions per module (preliminary estimate)
- Ingress and egress tunnels
- Implicit and explicit null labels
- Explicit routing support
- Traffic engineering parameters

- Configurable hello interval
- Configurable setup and hold priorities
- RSVP option flag support
- Optional include or exclude affinities

MPLS VPN Features

- Martini-draft Layer-2 VPNs
- Virtual Private LAN Service (VPLS)
- RFC 2547bis Layer-3 VPNs
- Layer-3 IPv6 VPNs
- Thousands of emulated VRFs and VCs
- Emulates 600 Layer-3 PE routers
- Emulates 255 Layer-2 PE routers
- Easy-to-use configuration wizards

MPLS Real-time and Final Results

- LSP labels
- LSP setup latency and rate
- LSP setup mode
- VPN setup and throughput
- Control traffic (hellos, keep alives, etc.)
- Data traffic throughput and latency
- Comprehensive event log
- Tabular and graphical results

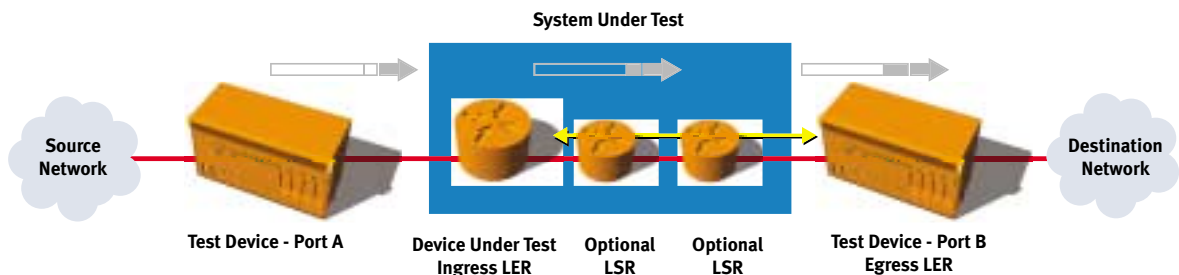
RELATED RFCs and Drafts

- RFC 2547bis – MPLS BGP VPNs
- RFC 2858 – MultiProtocol BGP
- RFC 3031 – MPLS Architecture
- RFC 3036 – LDP
- RFC 3209 – RSVP for MPLS
- draft-martini-l2circuit-encap-mpls-04
- draft-martini-l2circuit-trans-mpls-09
- draft-lasserre-vkompella-ppvnp-vpls-04

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TeraRouting Tester MPLS applications



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Supported Modules

Module	Description
LAN-3301A	10/100/1000Base-T Ethernet, Copper, 2-port, TeraMetrics
LAN-3302A	10/100Base-T Ethernet, Copper, 2-port, TeraMetrics
LAN-3311A	1000Base-X Ethernet, GBIC, 2-port, TeraMetrics
POS-3505As	POS OC-48c (STM-16c), 1-port, single mode, 1310nm, TeraMetrics
POS-3505AR	POS OC-48c (STM-16c), 1-port, single mode, 1550nm, TeraMetrics
POS-3511A	POS OC-3c/OC-12c (STM-1c/STM-4c), 2-port, multi-mode, 1300nm, TeraMetrics
POS-3511As	POS OC-3c/OC-12c (STM-1c/STM-4c), 2-port, single mode, 1310nm, TeraMetrics
POS-3519As	POS OC-192c (STM-64c), 1-port, 2-slot, single mode, 1310nm, TeraMetrics
POS-3519AR	POS OC-192c (STM-64c), 1-port, 2-slot, single mode, 1550nm, TeraMetrics
LAN-3306A	10/100Base-T Ethernet, Copper, 4-port, TeraMetrics XD
LAN-3321A	10/100/1000 Mbps and Gigabit Ethernet Fiber, 2-port, TeraMetrics XD
LAN-3325A	10/100/1000 Mbps and Gigabit Ethernet Fiber, 4-port, TeraMetrics XD
LAN-3327A	10/100/1000 Mbps and Gigabit Ethernet Fiber, 1-port, TeraMetrics XD
XLW-3721A	10GBase Ethernet, Optical, XENPAK, 1-port, 2-slot, TeraMetrics

Requirements

- TeraRouting Tester software.
- A SmartBits 600, 6000B, or 6000C chassis.
- An IBM or compatible Pentium™ PC running Windows® 98/2000/NT/XP, with mouse and color monitor.

Ordering Information

SWF-1230A

TeraRouting Tester (TRT) with RIP software module

SWF-1231A

OSPF software module for TRT

SWF-1232A

IS-IS software module for TRT

SWF-1233A

MPLS software module for TRT

SWF-1234A

BGP software module for TRT

SWF-1235A

IPv6 software module for TRT

SWF-1239A

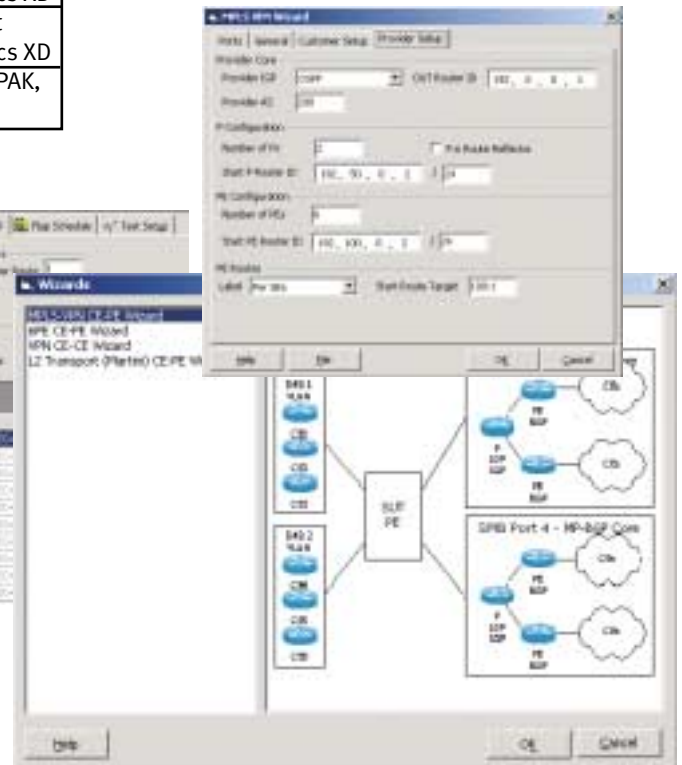
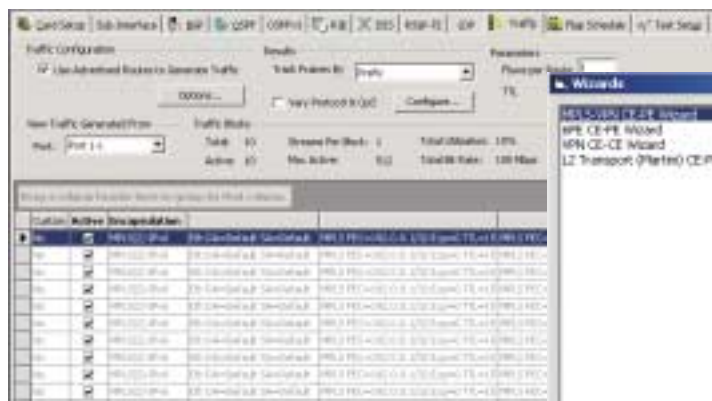
All available software modules for TRT

SWF-1255A

SmartBits Automation and Scripting Interface

SUS-SMB

12-month Software Update Support Service



TeraRouting Tester MPLS setup and test results screens

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