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Spirent AION

Spirent TestCenter MPLS Bundle

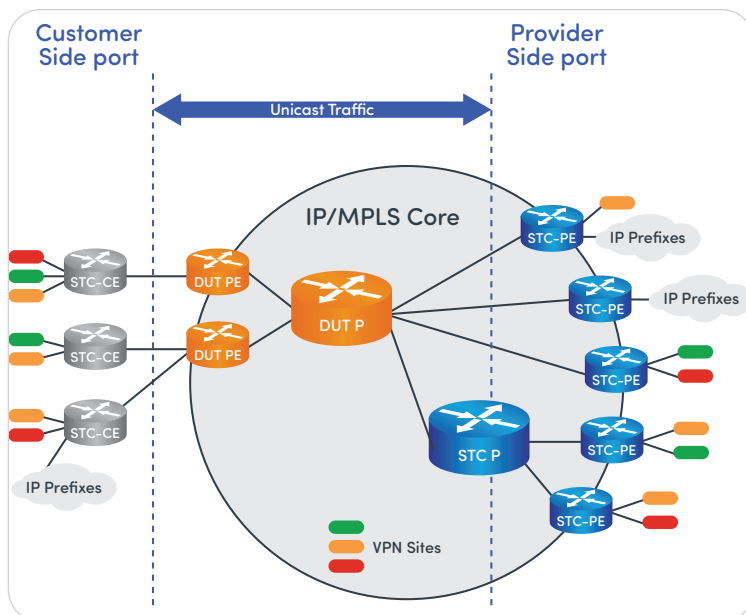
Application Overview

Spirent TestCenter MPLS Bundle supports high performance and realistic topologies for MPLS VPN technologies and enables Network Equipment Manufacturers, Service Providers and Enterprises to quickly evaluate and troubleshoot routing functionality, performance and scalability of any routing device or network. Users can expose the true performance of a router/switch by stress testing the routing software, data forwarding hardware, and the overall system architecture under both static and dynamic routing conditions.

The Multiprotocol Label Switching (MPLS) Bundle features cover complete testing of MPLS transport and Layer 2 and Layer 3 VPN networks. The MPLS protocols work with the Unicast Routing and Multicast Routing protocols, to create complex IP/MPLS transport network.

Users can emulate **LDP** and **RSVP-TE** sessions to test performance and scalability of any MPLS-enabled LSR device or network with traffic engineering or VPN technologies by stress testing the routing, label lookup, binding, and forwarding operations under dynamically changing conditions. Users can choose from more than 25 emulated MPLS/VPN topologies, including: MPLS LDP LSP, Martini or Kompella-style PWE3, LDP or BGP Signaled VPLS, BGP based auto discovered VPLS, RSVP-TE (transit, ingress, or egress) RSVP-TE with FRR (facility or node failure) MPLS IP VPN, GMPLS, 6PE, 6VPE, GRE-based Rosen MVPN, P2MP-TE (Ingress, transit, bud, branch or leaf topologies), InterAS VPN (Options A-C) and Carrier Supporting Carrier with 11 associated test configuration wizards.

This package includes **MPLS-TP** as well to test MPLS-TP protocol functionality, performance, and interoperability with IP/MPLS scenarios.



- **Realistic Network Topologies**—emulate real world networks and evaluate key performance parameters of routers or networks under typical or extreme traffic load conditions for minutes, hours and days
- **Network/Service Reliability**—verify scale, reliability, performance of Layer 2 & 3 services including data, multicast, and video delivered via unicast routing, multicast routing, switching, and MPLS VPN technologies
- **Wide Range of Use cases**—qualify routers during development, quality assurance, and regression testing; requalify routers after software or firmware upgrades and perform comparative analysis of routers during vendor selection
- **Increase Productivity**—test and configuration wizards allow quick setup; capture functionality, protocol events and live status views make troubleshooting easy with TestCenter IQ and help save time
- **Cost-Effective Solution**—complete MPLS protocol emulation suite in simple affordable packages
- **Trusted Partner**—benefit from decades of testing experience with Spirent as your guide through a world of complex testing

Features & Benefits

- Quickly set up any size MPLS, VPLS or GMPLS network emulation with integrated Access, Routing, or Carrier Ethernet protocols and stateful or state-less Unicast or Multicast Layer- 2, IPv4, or IPv6 traffic
- Dynamic MPLS label binding automatically learns millions of label bindings from the device under test (DUT) and binds those labels to stateful or stateless control or data-plane protocols— labels automatically update upon changes in MPLS topology
- BGP Route Import functionality for VPN routes allows users to import millions of IPv4 and IPv6 VPN routes
- Combined with Unicast routing, users can test control plane and data-plane router convergence in a MPLS network and high availability routing features including Graceful Restart and BFD integrated with LSPs
- PWE wizard takes the complexity out of single and multi-segment PWE emulation testing with FEC128/129, PW status signaling, control word and helps tests any mobile backhaul configuration including pseudo-wire redundancy
- Point-to-Multipoint TE (P2MP-TE) wizard quickly builds any of the five most common P2MP-TE topologies (ingress, transit, branch, bud or leaf), complete with Unicast routing, routes, RSVP sessions, LSPs, sub-LSPs and RSVP options, including the new SERO object and support for OSPF and IS-IS-TE
- RSVP-TE FRR wizard and emulation helps to test high availability and topology convergence. Options include P2P and P2MP make-before-break feature to test reroute and ERO route optimization
- Use out of band signaling mechanisms defined by GMPLS to test negotiation of DWDM wavelengths. This is accomplished using 32-bit generalized MPLS Labels
- Integrated data-plane traffic enables users to send, receive, inspect, and accumulate statistics at wire-rate; users can also monitor the real time effects that router configurations have on traffic and QoS classes
- Validate performance, scalability and protocol functionality in the same test by running multiple protocols concurrently on each port
- Using advanced multi-threading architecture, user can scale number of sessions or route scale with multi-dimension
- Use the Command Sequencer with TCL scripts to send SNMP commands, get SNMP data, configure the device under test, run entire test and generate pass/fail results; advanced command sequencer capabilities allow users to extend Spirent TestCenter to meet their test needs

About AION

Spirent AION is a flexible delivery platform that enables users to achieve improved deployment and provisioning for all their cloud and network testing needs. It is designed to deliver ultimate flexibility in how Spirent TestCenter platforms are purchased and utilized.

The extended platform combines a wealth of industry-leading test solutions with a flexible licensing architecture to support a wide range of next-generation solution-based domain applications.

AION offers a centralized management hub to help leverage software and hardware functionalities across all lab users and locations for a simplified management and decision-making process:

- **Flexible purchasing options** available via subscription, consumption-based, and perpetual plans, with the ability to license different bandwidth, scale, and protocol bundles.
- **Flexible deployment options** offered include cloud-delivery, on-prem, and laptop-hosted licensing services.

Enhanced user serviceability delivers always-on platform services from auto-discovery and inventory management to user and workspace administration, notifications, and log aggregation.

Technical Specifications

Parameter	Description
MPLS and VPN	
LDP	• LDPv4/v6 • Pseudowire Emulation Edge-to-Edge (PWE3) • FEC 128, FEC 129 • MLDP P2MP
RSVP-TE	• RSVP-TE integration with OSPF and ISIS • RSVP P2MP Make Before Break • ERO and Fast Reroute • Bidirectional LSP • GMPLS
VPN	• MPLS IP VPN (RFC 2547bis) for IPv4 • 6VPE or 6PE for IPv6 • BGP Route Import for IPv4 and IPv6 VPN Routes • BGP-VPLS • LDP VPLS
MPLS-TP	• MPLS-TP Static • MPLS-TP BFD • MPLS-TP Y.1731 • MPTS-TP Protection Switching • MPTS-TP Performance Monitoring
BFD	• BFD for MPLS LSP

Ordering Information

Product Number	Description
AON-PB-MPLS*	AION Multi Protocol Label Switching (MPLS) Bundle

**Requires AION Routing & Switching (AON-PB-RTSW) license.*

Bundles are available in different number of seats, contact your Spirent Sales Representative to find the right combination for your testing needs.