

EMC MPLS MANAGER

Providing service assurance on next-generation networks through business-focused management of MPLS VPNs and Metro Ethernet Environments

ESSENTIALS

- Provides the critical foundation for an EMC Metro Ethernet management framework
- Discovers, monitors, and analyzes Ethernet virtual connections (EVCs) in Metro Ethernet networks
- Discovers, monitors, and analyzes Layer 2 and Layer 3 VPNs automatically—including multi-VRF CEs
- Delivers root-cause and impact analysis of service-affecting problems
- Correlates failures in the MPLS infrastructure to services and business processes
- Enhances SLA visibility by leveraging MPLS traffic-engineering attributes to analyze MPLS redundancy across a core network
- Manages VPLS topologies and services
- Supports networks with equipment from multiple vendors—such as Cisco Systems, Huawei, and Juniper Networks—including complex router configurations
- Integrates easily with provisioning systems through open interfaces
- Provides the ability to reconcile the topology with Cisco ISC (using the optional Cisco ISC Adapter)
- Improves scalability, performance, and flexibility by leveraging EMC Ionix™ IP Availability Manager to decrease the number of data requests sent through the network
- Offers LSP management capabilities—including enabling or disabling end-to-end path discovery, and discovering LSPs not associated with a specific VPN
- Scales to manage the largest, most complex network environments
- Protects investments with an extensible design and architecture

As service providers and enterprises continue to combine next-generation, packet-based services on a converged network, Multi-Protocol Label Switching (MPLS) has become an integral part of the core network infrastructure. Business VPNs, IPTV, internal services for financial institutions and government entities, and media content are examples of services offered over MPLS infrastructures.

However, managing this kind of advanced networking environment does not come without challenges, which may include:

- The need to see and relate the MPLS infrastructure to the rest of the physical network environment
- Problems (in such a dynamic control plane) that could be due to protocol errors, issues in the transport network, traffic engineering, or a combination thereof can be difficult to diagnose

Managing the availability of critical MPLS-services requires a detailed end-to-end understanding of the infrastructure and its relationship to the services being delivered. Without it, service assurance can't be provided, and customer satisfaction and service-level agreements are at risk.

EMC® MPLS Manager provides the industry's leading MPLS management solution, offering mission-critical fault management of virtual private networks (VPNs) and the underlying Label Switched Paths (LSPs). MPLS Manager also is a critical foundation component for EMC's Metro Ethernet management framework.

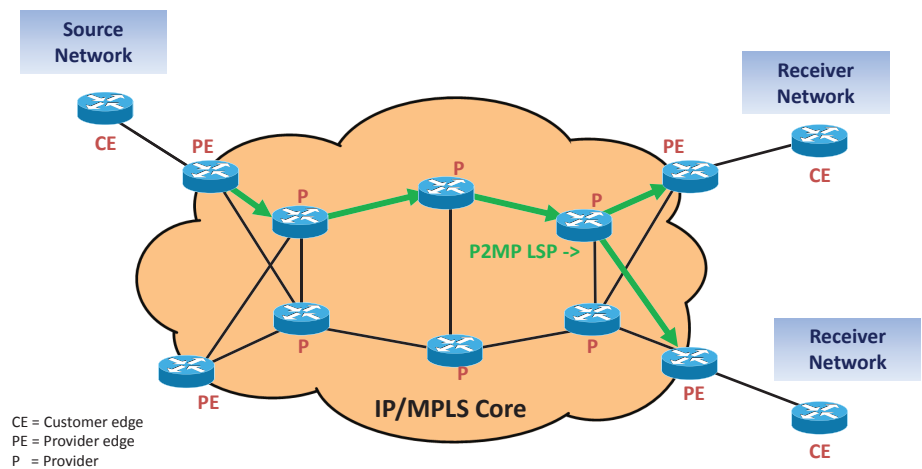
MPLS Manager maximizes the availability of IP VPNs based on MPLS and VPLS technology. Leveraging EMC patented Codebook Correlation Technology™ and Common Information Model™, MPLS Manager provides automated discovery and monitoring, root-cause and impact analysis, and network visualization. MPLS Manager also supports MPLS traffic engineering discovery and analysis, and can operate in networks using equipment from multiple vendors.

AUTO-DISCOVERY

Auto-discovery leverages topology information from SNMP management information bases (MIBs) and other sources to automatically discover logical and physical objects and relationships in MPLS, VPLS, and related domains. This includes LSPs, Layer 2 and Layer 3 VPNs, VPN routing/forwarding elements, LSP segments (hops), and traffic-engineering relationships. Discovery results also can be used to verify and reconcile VPN provisioning.

ROOT-CAUSE AND IMPACT ANALYSIS

Root-cause and impact analysis automatically pinpoints the Authentic Problems™ that can affect services delivered by MPLS VPNs and calculates how underlying network problems impact MPLS VPNs and the customers using these services. MPLS Manager can also determine root causes in the MPLS domain that are not caused by physical failures (such as an LSP signaling failure).



MPLS Manager provides automated root-cause and impact analysis across the entire network, including support for next-generation multicast VPNs and Metro Ethernet environments

MPLS TRAFFIC ENGINEERING

MPLS traffic engineering functionality analyzes MPLS network contingency paths (which are used to re-route traffic in the event of a failure or problem in the primary path). By supporting and enabling MPLS traffic engineering, MPLS Manager helps providers ensure SLAs are met by analyzing protection mechanisms, as well as indicating single points of failure and true outages.

NETWORK VISUALIZATION

This solution presents MPLS network topology in a variety of dynamically updated views that show the status of MPLS elements and their relationships within and across technology and service layers. A specialized portal capability enables managed service providers to share defined portions of the network with individual customers.

MULTIVENDOR SUPPORT

Support is available for Cisco, Huawei, and Juniper equipment, including complex router configurations. An optional Cisco ISC adapter automatically associates VPNs with customers and reconciles discovered and provisioned databases.

MPLS Manager also supports:

- MPLS L3VPN (including Multi-VRF CE)
- MPLS Point-to-Point L2VPN (VPWS)
- MPLS Multipoint L2VPN (VPLS)
- Load-balanced LSP
- NG-MVPN (Next-Gen Multicast VPN)
- Hub-and-Spoke VPLS
- Multi-tunnel MPLS
- Overlapping IP addresses
- Inter-AS LSP
- LSP ping and VRF ping tools

MPLS Manager provides:

- LDP and RSVP Signaling Protocol Diagnostics
- Traffic Engineering (TE) Discovery
- Remote Ping/LSP Ping Functionality
- Root-Cause and Impact Analysis
- Cross-Domain Correlation of Layer 3 VPNs with BGP
- Discovery and monitoring of targeted LDP sessions
- Discovery of Layer 2 and Layer 3 VPN misconfigurations

MPLS MANAGER BENEFITS

MPLS benefits include:

- Easy understanding of network configuration using advanced visualization features
- Automated root-cause and impact analysis reduces time and cost to repair and identifies service impacts for repair prioritization
- Improves customer satisfaction and SLA compliance by mapping infrastructure events to business impacts
- Low cost of ownership due to automatic repository updating following the network reconfiguration
- Supports ongoing growth by scaling to the most complex environments

CONTACT US

To learn more about how EMC Ionix MPLS Manager and other EMC Ionix management solutions can positively impact your business and network operations, contact your local EMC sales representative, or visit our website at www.EMC.com/ionix.

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