Preface

This Guide describes the tools included in the Cisco Active Network Abstraction (Cisco ANA) NetworkVision application that are used in monitoring MPLS networks and MPLS-based VPN services. It also describes logical inventory information specific to VPNs, fault management, service impact analysis, MPLS-TE, and the multipath tracing capability in the Cisco ANA PathTracer tool. Network administrators and others responsible for the assurance, fulfillment, planning, and management of the integrity of network resources should use this Guide.

This Guide includes the following chapters:

- Chapter 1, "Introducing MPLS VPN Maps" provides an introduction to the Cisco ANA NetworkVision Service View, Cisco ANA business elements, and multipath maps.
- Chapter 2, "Creating and Manipulating VPN MPLS Maps" describes how to change Service View maps by adding and removing VPNs, connecting CE devices and creating aggregations.
- Chapter 3, "Creating and Manipulating Cisco ANA Business Configuration" describes how to change the business configuration using the functionality provided in the Service View map.
- Chapter 4, "Viewing VPN Properties In Service View"describes viewing the properties of the various business elements, including overlays and callouts on top of the devices displayed in physical Network maps.
- Chapter 5, "Viewing MPLS Related Inventory Properties" describes how to view general logical inventory information in the Service View, and describes the VPN-specific items that are displayed in the Inventory window, including tunnel information.
- Chapter 6, "Fault Management In MPLS Networks" describes the alarms that Cisco ANA detects and reports for BGP, MPLS TE (using RSVP TE), MPLS Black Holes, as well as alarm reports for Layer 2 and Layer 3 VPNs.
- Chapter 7, "Calculating Impact Analysis" provides an overview of the impact analysis solution and supported scenarios. In addition, it describes calculating and viewing the affected and potentially affected parties in the VPN network.
- Chapter 8, "Working with PathTracer in VPN Service View" describes using Cisco ANA PathTracer for viewing Layer 2 and Layer 3 VPN information, and working with multipath routes.
- Appendix A, "Running a VPN Leak Report Command" describes running a VPN Leak report command.
- Appendix B, "Additional Alarms" briefly describes the additional alarms supported in Cisco ANA.

Note Changes to the registry should be performed only with the support of Cisco. For details, contact your Cisco Project Manager or Cisco Account Team.

Supported Technologies

The following technologies are supported:

- MPLS—Supports MPLS networks.
- BGP—Supports BGP technology, including, route reflector scenarios.
- L3 VPN (2547)—Supports Layer 3 VPN services (based on the BGP/MPLS VPN as defined in RFC2547).
- Label Distribution Protocol (LDP)—Provides label distribution in MPLS environments, performing hop-by-hop or dynamic path setup.
- Pseudo Wire End-to-End Emulation Tunnels (PWE3 and Martini tunnels)—Supports PWE3 as defined in RFC3985, the implementation was done for Cisco AToM (Any Transport over MPLS). PWE3 is based on the Luca Martini drafts (draft-martini-l2circuit-encap-mpls-03.txt and draft-martini-l2circuit-trans-mpls-07.txt).

  Note Currently, Cisco ANA supports the payload types *packet* and *cell* only. For more information, see RFC3985 Section 3.3.

- MPLS Traffic Engineering—Support is based on RFC 2702 with RSVP for signaling as described in RFC 3209.
- Policy-Based Tunnel Selection (PBTS)—Support for Cisco CRS-1 routers running Cisco IOS XR 3.6 software in MPLS or MPLS VPN networks.

Supported Routing Protocols

The following routing protocols are supported:

- BGP
- EIGRP
- Cisco IGRP
- OSPF

Related Documentation

For more detailed information, see the following publications:

- *Cisco Active Network Abstraction 3.6.5 User Guide*
- *Cisco Active Network Abstraction 3.6.5 Administrator User Guide*

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

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