

ZebOS®
Network Platform

MPLS Forwarder Module

Overview

IP Infusion's ZebOS® Network Platform Multi-Protocol Label Switching (MPLS) Forwarder Module provides an MPLS forwarding capability. The ZebOS MPLS Forwarder processes incoming packets from Ethernet network interfaces, and makes forwarding decisions based on the policies provided by MPLS signaling protocols such as RSVP-TE. The ZebOS library includes a static library that can link to a user-space process to populate the Forwarding Equivalency Class Next - Hop Label Forwarding Entry (FEC-to-NHLFE) and incoming label map (ILM) tables in the MPLS Forwarder.

The MPLS Forwarder acts as a netlink server to listen for netlink messages. The ZebOS Network Platform Label Distribution Protocol (LDP), Resource Reservation Protocol - Traffic Engineering (RSVP-TE), and Border Gateway Protocol (BGP-4/BGP-4+) Modules, act as netlink clients to add, delete, or modify ILM entries to carry out label switching.

Features

- Receives Packets from Ethernet Layer 2 Interfaces
- Forwards Labeled and Unlabeled Packets
- Layer 3 Header-Based Unicast Forwarding uses the forwarding functionality available in the 2.6 kernel
- Packet Fragmentation Based on MTU Size of Outgoing Layer 2 Interface
- Places Outgoing Packets into Interface Specific Transmit Queues
- Static Library for Linking with User-Space Processes to Populate MPLS Forwarder Tables
- FEC-to-NHLFE Management Information Base (MIB)

Benefits

- Stable, robust implementation of the MPLS Forwarding feature
- Integrated with ZebOS LDP, RSVP-TE and BGP-4 modules for Layer 3 MPLS-VPN support
- Integrated with ZebOS LDP and RSVP-TE for MPLS Layer 2 Virtual Circuit support
- Secure, scalable MPLS-VPN support
- Delivers significant time-to-market advantage for customer by providing a working example of a slow-path MPLS Forwarder

Requirements

- ZebOS Network Services Module

Standards Support

- RFC 3031 — Multiprotocol Label Switching Architecture
- RFC 3032 — MPLS Label Stack Encoding
- RFC 3814 — Multiprotocol Label Switching (MPLS) Forwarding Equivalence Class to Next Hop Label Forwarding Entry (FEC-to-NHLFE) Management Information Base (MIB)

Standard Deliverables

- Source Code (written in ANSI-compliant C)
- Installation Guide
- Configuration Guide
- Command Reference Guide
- Developer Guide