

ZebOS®
Network Platform

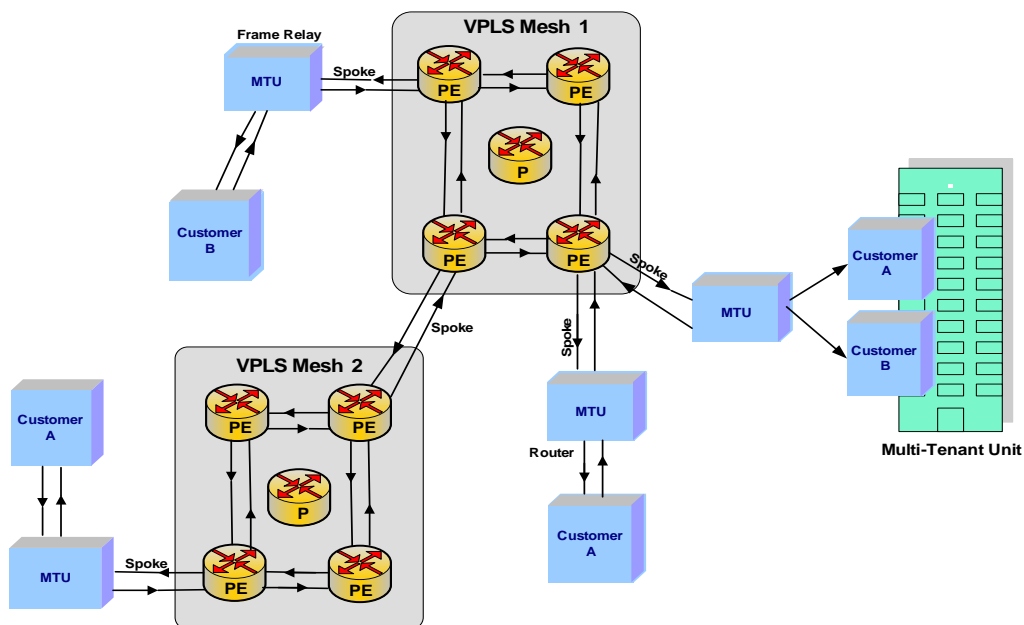
VPLS Module

Overview

IP Infusion's ZebOS® Network Platform VPLS (Virtual Private LAN Service) Module uses the MPLS Layer 2 Virtual Circuit (VC) as an underlying technology to provide a flexible and scalable multipoint-to-multipoint Layer 2 VPN solution. MPLS Layer 2 VC provides transparent network access between a pair of remote sites connected across an MPLS core. VPLS enhances MPLS Layer 2 VC by adding support for mesh and hub-and-spoke VPN topologies. Using VPLS, service providers can quickly connect two or more client sites together.

ZebOS VPLS, in conjunction with an MPLS Layer 2 VC, allows multiple customer sites connected across an MPLS network to share a single bridged domain. Therefore, all customer sites appear to be on the same Local Area Network (LAN), regardless of their geographical location. ZebOS VPLS encapsulates Ethernet frames from a customer site with a VPLS label and forwards the frames over an MPLS tunnel to the intended destination. An egress Provider Edge (PE) router removes the VPLS label and sends the frame to the remote VPN site.

ZebOS VPLS enables support for hierarchical VPLS (H-VPLS) with a "hub and spoke" topology. H-VPLS increases scalability by establishing a tier model with a full mesh between core routers and spoke connections to access routers. Hub and spoke topology reduces signaling and packet replication between VPLS devices.



VPLS Mesh Topology Across an MPLS Core

ZebOS VPLS is a modular source code solution that allows OEM customers to add quickly VPLS control plane functionality to their communications equipment. The ZebOS VPLS Module provides extensions to the ZebOS Network Services Module (NSM) and the ZebOS Label Distribution Protocol.

Features

- IETF-compliant implementation
- Support for Ethernet encapsulation
- Mesh, and Hub and Spoke VPN support
- Signaling for MAC Address TLV/TLV Withdrawal
- Supports multiple OS and hardware devices
- Stable and robust implementation of VPLS and Ethernet over MPLS/Martini drafts

Benefits

- Fully integrated with ZebOS NSM and ZebOS LDP modules
- Scalable MPLS Layer 2 VC support for transparent LAN services
- Multipoint-to-Multipoint VPN topology supports flexible VPN provisioning
- Interoperability with leading MPLS vendors
- API to customer-supplied MPLS forwarder
- Accelerated time-to-market for communications equipment vendors
- Platform-independent implementation

Requirements

- ZebOS Network Services Module
- ZebOS Label Distribution Protocol Module

Standards Support

- draft-ietf-l2vpn-vpls-ldp-09 — Virtual Private LAN Services Using LDP
- RFC 4448 — Encapsulation Methods for Transport of Ethernet over MPLS Networks

Standard Deliverables

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