A guide to designing and implementing VPLS services over an IP/MPLS switched service provider backbone

Today's communication providers are looking for convenience, simplicity, and flexible bandwidth across wide area networks-but with the quality of service and control that is critical for business networking applications like video, voice and data. Carrier Ethernet VPN services based on VPLS makes this a reality. Virtual Private LAN Service (VPLS) is a pseudowire (PW) based, multipoint-to-multipoint layer 2 Ethernet VPN service provided by services providers. By deploying a VPLS service to customers, the operator can focus on providing high throughput, highly available Ethernet bridging services and leave the layer 3 routing decision up to the customer.

Virtual Private LAN Services (VPLS) is quickly becoming the number one choice for many enterprises and service providers to deploy data communication networks. Alcatel-Lucent VPLS solution enables service providers to offer enterprise customers the operational cost benefits of Ethernet with the predictable QoS characteristics of MPLS.

**Items Covered:**

- Building Converged Service Networks with IP/MPLS VPN Technology
- IP/MPLS VPN Multi-Service Network Overview
- Using MPLS Label Switched Paths as Service Transport Tunnels
- Routing Protocol Traffic Engineering and CSPF
RSVP-TE Protocol

MPLS Resiliency — Secondary LSP

MPLS Resiliency — RSVP-TE LSP Fast Reroute

Label Distribution Protocol

IP/MPLS VPN Service Routing Architecture

Virtual Leased Line Services

Virtual Private LAN Service

Hierarchical VPLS

High Availability in an IP/MPLS VPN Network

VLL Service Resiliency

VPLS Service Resiliency

VPLS BGP Auto-Discovery

PBB-VPLS

OAM in a VPLS Service Network

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▲ ABOUT THE AUTHOR

Zhuo (Frank) Xu is a recognized MPLS/VPLS service routing expert. A seasoned telecom professional, he holds several industry IP certifications including the distinction of being the world's first Alcatel-Lucent Service Routing Architect.

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