

Expanding your Network with MPLS-Based Layer 2 VPNs

Amir Khan

*Director of Product Management for MPLS, QoS, and Multicast
IOS® Technologies Division, Cisco Systems, Inc.*

Abstract

Today, many service providers currently offer VPN services to their customers. By using a service provider for VPNs, customers offload the tasks of administering and maintaining their networks to the service provider. Initially, service providers used VPNs based on leased lines. Later, service providers transitioned to Layer 2 VPNs that are based on point-to-point data link layer connectivity, using ATM or Frame Relay virtual circuits. Customers built their own Layer 3 networks to accommodate growing Internet traffic. As a result separate networks exist for Layer 2 and Layer 3 traffic. Maintaining separate networks for Layer 2 VPNs and Internet traffic is difficult and costly. Service providers want a single IP-based network to provide both Layer 2 and Layer 3 services.

The solution for transporting Layer 2 traffic over an IP/MPLS backbone, is Any Transport Over MPLS, or AToM. AToM extends the usability of the IP/MPLS backbone by enabling it to offer both Layer 2 and Layer 3 services. With AToM, service providers can run a single MPLS/IP backbone and provide services such as transport over Ethernet, ATM, Frame Relay, PPP, HDLC; managed VPNs, Internet Access, and voice, video, and data services.

Attendees to this session will learn about the benefits of IP/MPLS networks; the benefits of using AToM as part of the IP/MPLS network, and how MPLS improves scalability. Several proposals exist in the IETF on various methods by which this can be accomplished. This presentation provides a focused view on the subject details various options available for Layer 2 transport over MPLS including IETF draft-martini. It also provides some advantages and disadvantages of various architectures for building layer 2 VPNs in large service provider networks.

Biography of Technology Speaker

Amir Khan joined Cisco in May 2002 as Director of IOS Product Management for MPLS, QoS, and Multicast technologies. Amir came to Cisco from Procket Networks where he served as the Director of Product Management for about three years. At Procket he was instrumental in developing their product & business strategies.

Amir has the unique experience of having previously worked at Cisco as well as for several start-ups, providing him a unique perspective on the company from both outside and inside. His diverse background includes management of software and hardware projects, customer engagements, and extensive marketing disciplines that included corporate and product positioning.

Prior to Procket, Amir was Director of Product management for Nortel Networks Enterprise Products Division (EPD), a team primarily focused on products for scalable Layer 3 switched networks. Amir came to Nortel through the Bay Networks acquisition of Rapid City Communications. Rapid City's market leading Layer 3 switch sold under the name Accelar at Bay/Nortel and ramped to over \$1B in sales. Earlier in his career,

Amir was at Cisco where his responsibilities over the course of six years included IOS Product management, and Consulting Engineering.