

orhanergun.net	EoMPLS
Scalability for the Customer	Not scalable compare to VPLS and MPLS L3 VPN
Scalability for the Service Provider	Not good
Service Type	Carries Layer 2 frames
Working on Full Mesh	Scalability is very bad for full mesh topology
Working on Hub and Spoke	Works quite well but if the number of sites too much, scalability for both customer and service provider becomes an issue
Suitable as WAN technology	Yes but not scalable
Suitable as DCI technology	It is suitable but if there are so many sites to interconnect, its scalability is not good
Who controls the Backbone Routing	Customer
Standard Protocol	Yes IETF Standard
Service Provider Staff Experience	Not well known
Routing Protocol Support	All routing protocols can be enabled over Ethernet over MPLS Service
MPLS Traffic Engineering Support	Yes
Multicast Support	Yes
Security	Same as Frame Relay, doesn't provide IPSEC by default
Best technology for IPSEC	GETVPN, it provides excellent scalability
Resource Requirement for the Service Provider	Best since the PE devices don't have to keep the customer MAC addresses
Resource Requirement for the Customer	Basic, it requires only layer 2 switch
IPv6 Support	Yes, Service Provider is transparent for the IPv4 and IPv6 packets
Hierarchy	None
Loop Prevention	It is only point to point, there is no chance to loop

VPLS

Very Scalable architecture for the layer 2 service

Same as EoMPLS if BGP Auto Discovery is not used, if BGP AD is used, better than EoMPLS

Carries Layer 2 Frames

It works very well for the full mesh topology

Better than EoMPLS for both the Service Provider and Customer from the scalability point of view

Yes it is very scalable

It is originally designed as Datacenter Interconnect Technology, it is most suitable one among all these three options

Customer

Yes IETF Standard

Limited knowledge

VPLS provides LAN emulation so allows layer 2 to be stretched over the customer locations. Any routing protocol can run over VPLS service

Yes

Yes

Same as Frame Relay, doesn't provide IPSEC by default

GETVPN, it provides excellent scalability

Worst since the PE devices have to keep all the MAC addresses of the customer and MAC addresses are not aggregatable

Basic, it requires only layer 2 switch

Yes, Service Provider is transparent for the IPv4 and IPv6 packets

With H-VPLS full mesh PW requirement is avoided

In the core split horizon prevents loop. If traffic comes from PW it is not sent back to another PW

MPLS L3 VPN

Very scalable architecture for the layer 3 service

Carries Layer 3 IP packets

Very good with the MPBGP VPN Route Reflectors but RT Constraints should be used to hide unnecessary information from the unintended PE devices

Requires extra configuration on the Service Provider side but it is doable and commonly used

Yes it is very scalable

It can be used as Layer 3 datacenter interconnect technology but cannot provide layer 2 extension thus not good as DCI

Service Provider

Yes IETF Standard

Well known

In theory any routing protocol can run as PE-CE but most Service Provider only provides BGP and Static Routing

Yes

Service Provider should offer, otherwise Customer has to create overlays to carry Multicast traffic, that's why Multicast support may not be good

Same as Frame Relay, doesn't provide IPSEC by default

GETVPN, it provides excellent scalability

Bad since the PE devices have to keep the routing tables of the customer but since the IP addresses can be aggregated, some sites may not need entire routing table of the customer

More, it requires either Layer 3 switch or Router at the customer site

Yes with 6vPE technology it provides IPv6 supports for the VPN customers

Route Reflector for the MPBGP sessions between PE devices

OSPF Down Bit, IS-IS Up/Down Bit, EIGRP Site of Origin prevents loop when CE is multihomed to the MPLS L3 VPN PE