

orhanergun.net	EoMPLS	VPLS	MPLS L3 VPN
Scalability for the Customer	Not scalable compare to VPLS and MPLS L3 VPN	Very Scalable architecture for the layer 2 service	Very scalable architecture for the layer 3 service
Scalability for the Service Provider	Not good	Same as EoMPLS if BGP Auto Discovery is not used, if BGP AD is used,better than EoMPLS	
Service Type	Carries Layer 2 frames	Carries Layer 2 Frames	Carries Layer 3 IP packets
Working on Full Mesh	Scalability is very bad for full mesh topology	It works very well for the full mesh topology	Vey good with the MPBGP VPN Route Reflectors but RT Constraints should be used to hide unnecessary information from the unintended PE devices
Working on Hub and Spoke	Works quite well but if the number os sites too much, scalability for both customer and service provider becomes an issue	Better than EoMPLS for both the Service Provider and Customer from the scalability point of view	Requires extra configuration on the Service Provider side but it is doable and commonly used
Suitable as WAN technology	Yes but not scalable	Yes it is very scalable	Yes it is very scalable
Suitable as DCI technology	It is suitable but if there are so many sites to interconnect, it's scalability is not good	It is originally designed as Datacenter Interconnect Technology,it is most suitable one among all these three options	It can be used as Layer 3 datacenter interconnect technology but cannot provide layer 2 extension thus not good as DCI
Who controls the Backbone Routing	Customer	Customer	Service Provider
Standard Protocol	Yes IETF Standard	Yes IETF Standard	Yes IETF Standard
Service Provider Stuff Experince	Not well known	Limited knowledge	Well known
Routing Protocol Support	All routing protocols can be enabled over Ethernet over MPLS Service	VPLS provides LAN emulation so allows layer 2 to be streched over the customer locations.Any routing protocol can run over VPLS service	In theory any routing protocol can run as PE-CE but most Service Provider only provides BGP and Static Routing
MPLS Traffic Engineering Support	Yes	Yes	Yes
Multicast Support	Yes	Yes	Service Provider should offer, otherwise Customer has to create overlays to carry Multicast traffic, that's why Multicast support may nor be good
Security	Same as Frame Relay, doesn't provide IPSEC by default	Same as Frame Relay,doesn't provide IPSEC by default	Same as Frame Relay,doesn't provide IPSEC by default
Best technology for IPSEC	GETVPN,it provides excellent scalability	GETVPN,it provides excellent scalability	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	Worst since the PE devices have to keep all the MAC addresses of the customer and MAC addresses are not aggregatable	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
Resource Requirement for the Customer	Basic,it requires only layer 2 switch	Basic,It requires only layer 2 switch	More, it requires either Layer 3 switch or Router at the customer site
IPv6 Support	Yes, Service Provider is transparent for the IPv4 and IPv6 packets	Yes,Service Provider is transparent for the IPv4 and IPv6 packets	Yes with 6vPE technology it provides IPv6 supports for the VPN customers
Hierarchy	None	With H-VPLS full mesh PW requirement is avoided	Route Reflector for the MPBGP sessions between PE devices
Loop Prevention	It is only point to point, there is no chance to loop	in the core split horizon prevents loop. If traffic comes from PW it is not sent back to another PW	OSPF Down Bit,IS-IS Up/Down Bit, EIGRP Site of Origin prevents loop when CE is multihomed to the MPLS L3 VPN PE