

642-889 SPEDGE - Implementing Cisco Service Provider Next-Generation Edge Network Services

Topic Number	Topic Description	Source	Page/Location
<b>1.0 VPN in Service Provider IP NGN Environments</b>			
1.1	Describe VPN implementation models (overlay, peer-to-peer)	<a href="http://tutorials.org/networking/MPLS+VPN+Architectures/Part+2+MPLS-based+Virtual+Private+Networks/Chapter+2+Virt">http://tutorials.org/networking/MPLS+VPN+Architectures/Part+2+MPLS-based+Virtual+Private+Networks/Chapter+2+Virt</a>	All
1.2	Describe VPN technologies (L2TPv3, GRE, IPsec VPN, SSLVPN, DMVPN, GETVPN)	<a href="http://en.wikipedia.org/wiki/Layer_2_Tunneling_Protocol">http://en.wikipedia.org/wiki/Layer_2_Tunneling_Protocol</a> Cisco Site-to-Site VPN Technologies Comparison Official Cert Guide CCNA Security 640-554	All All Pages 532 to 535
1.3	Describe L2 vs L3 VPNs	Implementing Cisco MPLS v2.0 <a href="https://learningnetwork.cisco.com/thread/30592">https://learningnetwork.cisco.com/thread/30592</a>	4-33 to 4-49 All
<b>2.0 MPLS Layer 3 VPNs in Service Provider IP NGN Environments</b>			
2.1	Describe MPLS L3 VPN architecture and operations (RDs, RTs, VRFs, MP-BGP, PE-CE routing)	MPLS Fundamentals (2007)	Chapter 7 – all
2.2	Describe the design models for combining Internet access with MPLS L3 VPN services	MPLS Fundamentals (2007)	Chapter 7 – pages 237 to 240
2.3	Describe the various methods used to deploy IPv6 over MPLS (6PE and 6VPE)	MPLS Fundamentals (2007)	Chapter 9 – all
2.4	Implement MP-BGP between PE routers on IOS-XR and IOS-XE	BGP Design and Implementations Cisco IOS XR Fundamentals	Chapter 10 – all Chapter 9 – pages 338 to 360
2.5	Implement PE-CE routings (static, EIGRP, OSPF, BGP) on IOS-XR and IOS-XE	MPLS Fundamentals (2007) Cisco IOS XR Fundamentals MPLS and VPN Architectures Volume 2	Chapter 7 – pages 188 to 233 Chapter 9 – pages 338 to 360 Chapter 5 – all
2.6	Implement complex MPLS layer 3 VPNs on IOS-XR and IOS-XE	Cisco IOS XR Fundamentals MPLS and VPN Architectures Volume 2	Chapter 9 – all Chapter 6 - all
2.7	Implement carrier supporting carrier (CSC) on IOS-XR and IOS-XE	Cisco IOS XR Fundamentals MPLS Fundamentals (2007)	Chapter 9 – all Chapter 7 - all
2.8	Troubleshoot MPLS L3 VPNs IOS-XR and IOS-XE configuration errors in service provider environments	MPLS and VPN Architectures Volume 2 Cisco IOS XR Fundamentals MPLS Fundamentals (2007)	Chapter 5 - pages 280 to 288 Chapter 9 – all Chapter 9 – all
<b>3.0 Layer 2 VPNs in Service Provider IP NGN Environments</b>			
3.1	Describe L2TPv3 VPNs over an IP core network	MPLS and VPN Architectures Volume 2	Chapter 2 - pages 39 to 57
3.2	Describe L2 VPNs (AToM and VPLS) over an IP/MPLS core network	MPLS Fundamentals (2007)	Chapters 10 and 11 - all
3.3	Describe AToM Interworking	Configuring L2VPN Interworking	All
3.4	Implement AToM on IOS-XR and IOS-XE	MPLS Fundamentals (2007)	Chapter 10 – pages 398 to 430
<b>4.0 Carrier Ethernet in Service Provider IP NGN Environments</b>			
4.1	Describe Carrier Ethernet forums and standards (MEF, IEEE, IETF)	The Cisco ASR 9000 Series Routers Carrier Ethernet Model MPLS Layer 2 VPN Architectures	Pages 1 - 10 Part 2 - Chapter 4
4.2	Describe the concepts of User PE (U-PE) and Network PE (N-PE)	Metro Ethernet Network Architecture Framework-Part 1: Generic Framework	All
4.3	Describe E-Line versus E-LAN versus E-Tree	Ethernet Services Definition - Phase 2	Pages 12 to 21
4.4	Describe QinQ tunneling	Configuring IEEE 802.1Q Tunneling and Layer 2 Protocol Tunneling The Cisco ASR 9000 Series Routers Carrier Ethernet Model	All Ethernet Relay Service Section
4.5	Describe Provider Backbone Bridge (PBB - aka MAC-in-MAC)	<a href="https://en.wikipedia.org/wiki/IEEE_802.1ah-2008">https://en.wikipedia.org/wiki/IEEE_802.1ah-2008</a>	All
4.6	Describe VPLS versus VPLS	Layer 2 VPN Architectures	Part 1 Chapter 2
4.7	Describe VPLS versus H-VPLS	<a href="http://spedge.co.uk/Describe_the_concepts_of_User_PE_%2BU-PE%29_and_Network_PE_%2BN-N-PE%29">http://spedge.co.uk/Describe_the_concepts_of_User_PE_%2BU-PE%29_and_Network_PE_%2BN-N-PE%29</a> <a href="http://en.wikipedia.org/wiki/Virtual_Private_LAN_Service#Hierarchical_VPLS">http://en.wikipedia.org/wiki/Virtual_Private_LAN_Service#Hierarchical_VPLS</a>	All (image only) Hierarchical VPLS Section
4.8	Describe VPLS signaling using LDP or BGP	MPLS Fundamentals (2007)	Chapter 11 - all
4.9	Implement QinQ on Cisco ME 3400 Series Switches	Configuring IEEE 802.1Q Tunneling and Layer 2 Protocol Tunneling The Cisco ASR 9000 Series Routers Carrier Ethernet Model	All Ethernet Relay Service Section
4.1	Implement VPLS on IOS-XR and IOS-XE	Layer 2 VPN Architectures Cisco IOS XR Fundamentals	Part 5 - Chapter 15 Chapter 9 – Pages 340 to 347

NB. Red text indicates that this section of text is already covered in another topic