

642-889 SPEDGE Exam Topics Registered

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Exam Description

The 642-889 SPEDGE Implementing Cisco Service Provider Next-Generation Edge Network Services exam is associated with the CCNP Service Provider certification. This exam tests a candidate's knowledge of the use of service provider VPN solutions through enabling service provider point of presence to provide Layer 2 and Layer 3 VPNs. It also tests knowledge of deploying Cisco IOS/IOS XE and Cisco IOS XR software features required to operate and support a service provider network. Candidates can prepare for this exam by taking the Implementing Cisco Service Provider Next-Generation Edge Network Services (SPEDGE) course.

Exam Topics

The following topics are general guidelines for the content likely to be included on the exam. However, other related topics may also appear on any specific delivery of the exam. In order to better reflect the contents of the exam and for clarity purposes, the guidelines below may change at any time without notice.

SPEDGE Exam Topics

VPN in Service Provider IP NGN Environments

- Describe VPN implementation models (overlay, peer-to-peer)
- Describe VPN technologies (L2TPv3, GRE, IPsec VPN, SSLVPN, DMVPN, GETVPN)
- Describe layer 2 versus layer 3 VPNs

MPLS layer 3 VPNs in Service Provider IP NGN Environments

- Describe MPLS layer 3 VPN architecture and operations (RDs, RTs, VRFs, MP-BGP, PE-CE routing)
- Describe the design models for combining Internet access with MPLS Layer 3 VPN services
- Describe the various methods used to deploy IPv6 over MPLS (6PE and 6VPE)
- Implement MP-BGP between PE routers on Cisco IOS-XR and IOS-XE
- Implement PE-CE routings (static, EIGRP, OSPF, BGP) on Cisco IOS-XR and IOS-XE
- Implement complex MPLS layer 3 VPNs on Cisco IOS-XR and IOS-XE
- Implement carrier supporting carrier (CSC) on Cisco IOS-XR and IOS-XE
- Troubleshoot MPLS layer 3 VPNs IOS-XR and IOS-XE configuration errors in service provider environments

Layer 2 VPNs in Service Provider IP NGN Environments

- Describe L2TPv3 VPNs over an IP core network
- Describe layer 2 VPNs (AToM and VPLS) over an IP/MPLS core network
- Describe AToM Interworking
- Implement AToM on Cisco IOS-XR and IOS-XE

Carrier Ethernet in Service Provider IP NGN Environments

- Describe Carrier Ethernet forums and standards (MEF, IEEE, IETF)
- Describe the concepts of User PE (U-PE) and Network PE (N-PE)
- Describe E-Line versus E-LAN vs E-Tree
- Describe QinQ tunneling
- Describe Provider Backbone Bridge (PBB - aka MAC-in-MAC)
- Describe VPWS versus VPLS
- Describe VPLS versus H-VPLS
- Describe VPLS signaling using LDP or BGP
- Implement QinQ on Cisco ME 3400 Ethernet Access Switches
- Implement VPLS on Cisco IOS-XR and IOS-XE