SPVI (IMPLEMENTING CISCO SERVICE PROVIDER VPN SERVICES) 1.0

Objetivo

After taking this course, you should be able to: â□¢ Describe VPN concepts and operation in a Service Provider environment; â□¢ Implement Layer 3 MPLS VPN operations in a Service Provider environment; â□¢ Implement Layer 3 Inter-domain MPLS VPN services traversing multiple Service Providers; â□¢ Implement Layer 3 Multicast MPLS VPN operations in a Service Provider environment; â□¢ Troubleshoot typical issues in Layer 3 MPLS VPN environments; â□¢ Implement Layer 2 VPN operations in a Service Provider environment; â□¢ Troubleshoot Layer 2 VPN issues in a Service Provider network; â□¢ Implement MPLS VPN solutions for IPv6 environments; â□¢ Troubleshoot MPLS VPN solutions for IPv6 environments.

PÃºblico Alvo

This course is for network professionals who need to learn the techniques to implement, configure, monitor, and support Service Provider VPN solutions based on MPLS backbones. â□¢ Network administrators â□¢ Network engineers â□¢ Network supervisors â□¢ Network managers â□¢ Network Operations Center (NOC) personnel â□¢ Network designers â□¢ Network architects â□¢ Channel partners

PrÃ©-Requisitos

Before taking this course, you should have Service Provider knowledge at the professional level, equivalent to the material in the following Cisco courses: â□¢ Building Cisco Service Provider Next-Generation Networks Part 1 (SPNGN1) v1.2; â□¢ Building Cisco Service Provider Next-Generation Networks Part 2 (SPNGN2) v1.2; â□¢ Deploying Cisco Service Provider Network Routing (SPROUTE). In the new certification program, foundational material is covered in these courses: â□¢ Implementing and Administering Cisco Solutions (CCNAÂ®) Understanding Cisco Service Provider Network Foundations (SPFNDU); â□¢ Implementing and Operating Cisco Service Provider Network Core Technologies (SPCOR).

Carga HorÃ¡ria

40 horas (5 dias).

ConteÃºdo ProgramÃ¡tico

Introducing VPN Services
VPN Fundamentals
MPLS VPN Control Plane Operation

Troubleshooting MPLS VPN Underlay
Troubleshoot Core Interior Gateway Protocol (IGP)

Troubleshoot Border Gateway Protocol (BGP)

Implementing Layer 3 MPLS VPNs
Multiprotocol BGP (MP-BGP) Routing Requirements in MPLS VPNs
Provider Edge to Customer Edge (PE-to-CE) Routing Requirements in Layer 3 MPLS VPNs

Implementing Layer 3 Interdomain MPLS VPNs
Inter-Autonomous System (AS) for Layer 3 MPLS VPNs
Content Security and Control (CSC) for Layer 3 MPLS VPNs

Implementing Layer 3 Multicast MPLS VPNs
Multicast VPN (MVPN) Fundamentals
Implement Intranet MVPN

Troubleshooting Intra-AS Layer 3 VPNs
Troubleshoot PE-CE Connectivity
Troubleshoot PE-to-Route Reflector

Implementing Layer 2 VPNs
Layer 2 Service Architecture and Carrier Ethernet Services
Refresh on Traditional Ethernet LAN (E-LAN), E-Line, and E-Tree Solutions

Troubleshooting Layer 2 VPNs
Troubleshoot Common Issues for Traditional E-Line, E-LAN, and E-Tree Ethernet Solutions
Troubleshoot Common Issues for Ethernet VPN (EVPN) Native, EVPN Virtual Private Wire Service (VPWS), and EVPN Integrated Routing and Bridging (IRB) Solutions

Implementing Layer 3 IPv6 MPLS VPNs
Classical Solutions for Deploying IPv6 over IPv4 Environments
Using 6VPE to Deploy IPv6 Connectivity over MPLS Environment

Troubleshooting Layer 3 IPv6 MPLS VPNs
Troubleshooting PE-to-PE Connectivity

Lab outline

Verify the Service Provider Backbone Operation for MPLS VPN
Work with VRF Instances
Troubleshoot the MPLS VPN Backbone
Configure MP-BGP as the PE-CE Routing Protocol
Configure and Verify PE-to-CE Routing Requirements
Enable Shared Services VPN
Deploy Internet Access as a VPN Service
Troubleshoot Layer 3 MPLS VPN End-Customer Connectivity
Implement Different EVPN Solutions
Troubleshoot EVPN VPWS
Implement IPv6 VPN Provider Edge Router (6VPE)