Implementing Converged SDN Transport Solutions (SPSDNTXP)

Description

The **Implementing Converged SDN Transport Solutions (SPSDNTXP)** training introduces you to Software-Defined Networking (SDN)-ready architecture. This architecture evolves traditional Metro network design into an SDN-enabled programmable network capable of delivering all services (residential, business, 5G mobile backhauling, video, and IoT) on the premise of simplicity, full programmability, and cloud integration with guaranteed service level agreements (SLAs). You will examine the evolution of service provider design principles such as Unified Multiprotocol Label Switching, Evolved Programmable Networks, and the Cisco® Compass Metro Fabric. Additionally, you'll explore and configure individual components of the design including segment routing and its supporting features.

This training also earns you 32 Continuing Education (CE) credits toward recertification.

How you'll benefit

This training will help you:

- Describe the Converged SDN Transport solution
- Describe the basic implementation of SDN component features
- Establish a foundation to take a deeper dive into SDN solutions
- Earn 32 CE credits toward recertification

Who should enroll

- Network Architects
- Network Engineers
- Network Consulting Engineers
- Customer Support Engineers

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Technology areas

- Software-Defined Networking

Objectives

- Introduce and examine the evolution of service provider design principles
- Introduce and review the basic building blocks of segment routing and its place within the service provider infrastructure
- Implement various technologies within segment routing to provide additional availability or to meet the Service Level Agreements (SLAs)
- Identify and deploy an SDN controller to support a multidomain segment routing for traffic engineering
- (SR-TE) network
- Describe different VPNs and services
- Explain how to configure and verify Ethernet VPN (EVPN) Native and EVPN Virtual Private Wire Service (VPWS)
- Describe how to configure and verify the Layer 3 VPN
- Explain network operation simplification and automation foundation
- Describe how to automate service provider network configurations with Cisco Network Services Orchestrator (NSO)
- Describe how to automate the service provider WAN with Cisco WAN Automation Engine (WAE)
- Explore different converged SDN transport use cases

Prerequisites

There are no prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are:

- Knowledge of general networking concepts
- Experience working with CLI-based network devices

Outline

- Converged SDN Transport Fundamentals
- Introducing Segment Routing
- Segment Routing Topology-Independent Loop-Free Alternative (TI-LFA) and Traffic Engineering (TE)
- Multidomain SR-TE
- VPN and Services Overview
- EVPN Layer 2 Basics
- Layer 3 VPNs
- Operation Simplification and Automation Foundation
- Network Orchestration Using NSO
- Network Automation Using Cisco WAE

Lab Outline

- Configure and Verify Segment Routing
- Configure and Verify SR TI-LFA
- Configure and Verify SR-TE
- Configure and Verify Multidomain SR-TE

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- Configure and Verify Basic EVPN
- Configure and Verify Layer 3 VPN
- Cisco NSO Overview
- Cisco WAE Overview

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Links

- Cisco U. Learning Path
- Cisco Learning Network Store
- Cisco Learning Locator

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