

SPSDNTXP (IMPLEMENTING CONVERGED SDN TRANSPORT SOLUTIONS) 1.0

Objetivo

After taking this course, you should be able to:

- 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

Público Alvo

Network architects
Network engineers
Network consulting engineers
Customer support engineers

Pré-Requisitos

To fully benefit from this course, you should have:

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

Carga Horária

32 horas (4 dias).

Conteúdo Programático

Course Introduction

Objectives

Converged SDN Transport Fundamentals

- 1.1 Introduction
- 1.2 History of Metro Designs
- 1.3 Converged SDN Transport
- 1.4 Cisco IOS XR Features
- 1.5 Cisco Crosswork Network Controller Overview

Introducing Segment Routing

- 2.1 Introduction
- 2.2 Segment Routing Overview
- 2.3 SIDs
- 2.4 Segment Routing Configuration and Verification Basics
- 2.5 Lab: Configure and Verify Segment Routing

Segment Routing TI-LFA and Traffic Engineering

- 3.1 Introduction
- 3.2 Topology-Independent Loop-Free Alternate
- 3.3 Lab: Configure and Verify SR TI-LFA
- 3.4 Local SR-TE
- 3.5 Lab: Configure and Verify SR-TE
- 3.6 Advanced SR-TE Features

Multidomain SR-TE

- 4.1 Introduction
- 4.2 PCE Overview
- 4.3 PCE and PCC Configuration
- 4.4 Multidomain SR-TE Policy Configuration
- 4.5 Lab: Configure and Verify Multidomain SR-TE

VPN and Services Overview

- 5.1 Introduction
- 5.2 Types of VPNs
- 5.3 MPLS VPN Control Plane

EVPN Layer 2 Basics

- 6.1 Introduction
- 6.2 EVPN Foundation
- 6.3 Configuring and Verifying EVPN Native
- 6.4 Configuring and Verifying EVPN VPWS
- 6.5 Lab: Configure and Verify Basic EVPN

Layer 3 VPNs

- 7.1 Introduction
- 7.2 Layer 3 VPN Overview
- 7.3 Layer 3 VPN Models
- 7.4 Layer 3 VPN Configuration and Verification
- 7.5 Lab: Configure and Verify Layer 3 VPN

Quality of Service

- 8.1 Introduction
- 8.2 QoS

Operation Simplification and Automation Foundation

- 9.1 Introduction
- 9.2 Cisco IOS XR NETCONF and YANG
- 9.3 Model-Driven Telemetry

9.4 ZTP

Network Orchestration Using NSO

- 10.1 Introduction
- 10.2 NSO Functionality Overview
- 10.3 Cisco NSO Components
- 10.4 Cisco NSO Services
- 10.5 Lab: Cisco NSO Overview

Network Automation Using Cisco WAE

- 11.1 Introduction
- 11.2 Cisco WAE Functionality Overview
- 11.3 Cisco WAE Network Modeling
- 11.4 Cisco WAE Design Traffic Engineering
- 11.5 Lab: Cisco WAE Overview

Converged SDN Transport Use Cases

- 12.1 Introduction
- 12.2 Migration to Converged SDN Transport
- 12.3 Cisco 5G Converged SDN Transport Solution
- 12.4 Distributed Cloud Resources