

Module Title : **Course SPNGN2 : Building Cisco Service Provider Next-Generation Networks, Part 2**
Duration : **5 days**

Course Description

The Building Cisco Service Provider Next-Generation Networks, Part 2 course is associated with the CCNA Service Provider certification. The course is a 5-day Instructor Lead Training course that provides network engineers and technicians the knowledge and skills necessary to implement and support a service provider network. The course provides knowledge of the major components of a service provider network construction and the Cisco service provider IP NGN architecture. The course also includes classroom activities with remote labs that are useful to gain practical skills for deploying Cisco IOS / IOS XE and Cisco IOS XR software features to operate and support service provider networks..

Prerequisites

SPNGN1 (suggested - not required)

Who Should Attend

- Channel Partner / Reseller
- Customer
- Employee

Course Objectives

Upon completing the SPNGN2 course, the learner will be able to meet these overall objectives:

- Present a unified view of a service provider network in relation to Cisco IP NGN architecture
- Implement and verify VLANs and trunking. Configure HSRP, VRRP, and GLBP. Configure and verify OSPF and IS-IS, and describe MPLS LDP
- Describe the basics of link state routing protocols. Describe the operation and configuration of single area OSPF (including load balancing and authentication), IS-IS, common issues with IS-IS, and approach for troubleshooting problems
- Configure basic BGP to enable inter-domain routing in a service provider network
- Describe ACL and IP address translation
- Describe the fundamentals of Cisco IOS XR, and IOS XE software technology

Course Outline

Module 1, Service Provider Network Construction, contains 4 lessons:

- Lesson 1: Introducing General Service Provider Network Architecture
- Lesson 2: Placing Cisco Hardware Platforms
- Lesson 3: Interconnecting Service Providers
- Lesson 4: Exploring Cisco IP NGN Architecture, Services, and Component Functions

Module 2, Advanced LAN Switching, contains 4 lessons:

- Lesson 1: Implementing VLANs and Trunks
- Lesson 2: Implementing Spanning Tree
- Lesson 3: Configuring Routing Between VLANs
- Lesson 4: Introducing First Hop Redundancy Protocols

Module 3, Internal Service Provider Traffic Forwarding, contains 5 lessons:

- Lesson 1: Introducing Link State Routing Protocols
- Lesson 2: Implementing OSPF
- Lesson 3: Implementing IS-IS M
- Lesson 4: Introducing Route Redistribution M
- Lesson 5: Introducing MPLS Basics

Module 4, External Service Provider Routing, contains 5 lessons:

- Lesson 1: Introducing BGP
- Lesson 2: Understanding BGP Path Attributes
- Lesson 3: Establishing BGP Sessions
- Lesson 4: Processing BGP Routes
- Lesson 5: Configuring Basic BGP

Module 5, ACL and IP Address Translation, contains 3 lessons and a lab:

- Lesson 1: Applying Access Control Lists
- Lab 5-1: Implement ACLs
- Lesson 2: Implementing Advanced Address Translation
- Lesson 3: Transitioning to IPv6

Module 6, Cisco IOS XE and Cisco IOS XR Software, contains:

- Lesson 1: Describing Cisco IOS XR Software Architecture and Features
- Lesson 2: Explaining Software Maintenance Operations on Cisco IOS XR and Cisco IOS XE software
- Lesson 3: Explaining Configuration Management with Cisco IOS XR software
- Lesson 4: Installing Cisco IOS XR software from Scratch