Building Cisco Service Provider Next-Generation Networks, Part 1 (SPNGN1)

ID CI-SPNGN1  Price US$ 3,895  Duration 5 days

Who should attend
- Cisco Build-Operate-Transfer partners who are focused on service provider NGN networks, specific to entry-level network operations personnel.
- Service provider network operations organizations, specific to entry-level network operations personnel.
- Cisco engineers who are motivated to pursue Cisco certifications focused on service provider NGN operations.
- All service provider operations customers, partners who support service provider NGN environments, and internal Cisco engineers who wish to pursue Cisco professional or expert-level SP operations certifications.

Upon completing this course, you will be able to meet these objectives:
- Describe IP fundamentals that are important to build IP networks, host-to-host communication, and network components and functions
- Describe basic LAN switching and configure and verify basic LAN switch functions
- Describe routing concepts and discuss considerations when implementing routing on a network
- Describe the characteristics, functions, and components of a service provider WAN network
- Describe network management concepts and discuss considerations when implementing network management tools and features on the network

Prerequisites
This is an introductory course for networking. Any exposure or experience to Networking or with Service Providers will be useful.

The knowledge and skills that a learner must have before attending this course are as follows:
- Basic computer literacy
- Basic Microsoft Windows navigation skills
- Basic Internet usage skills

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Course Content
The Building Cisco Service Provider Next-Generation Networks, Part 1 (SPNGN1) v1.2 is a course that provides network engineers and technicians with the basic knowledge and skills necessary to support a service provider network.

The course provides knowledge of the major components of a network and helps learners to understand how service provider networks function. The course introduces IP Next-Generation Network
(IP NGN) architecture that helps service providers to build modern, scalable and reliable networks.

The course also includes classroom activities with remote labs that are useful to gain practical skills on deploying Cisco IOS, IOS XE and IOS XR features to operate and support a service provider network.

Certifications:
- Cisco Certified Network Associate Service Provider (CCNA SP)

Detailed Course Outline

Module 1: IP Fundamentals
- Defining Functions of Networking
- Introducing TCP/IP Layers and the OSI Reference Model
- IP Addressing Overview
- Explaining IP Addressing and Subnets
- Describing the TCP/IP Transport Layer

Module 2: Basic LAN Switching
- Understanding Ethernet
- Connecting to an Ethernet LAN
- Using Switched LAN Technology
- Operating a Cisco Switch
- Performing Switched Network Optimizations
- Troubleshooting Switch Issues

Module 3: Basic IP Routing
- Exploring the Functions of Routing
- Introducing Cisco IOS XR Software
- Implementing Basic Routing
- Implementing EIGRP

Module 4: Connectivity Technologies
- Describing Access Technologies
- Introducing Service Provider Access, Edge, and Transport Technologies
- Enabling the WAN Internet Connection
- WAN Encapsulation
- Introducing VPN

Module 5: Network Management and Security
- Collecting Network Device Data
- Configuring Network Management Tools
- Explaining Network Security
- Understanding Switch Security
- Understanding Cisco Router Security
- Implementing AAA

Labs
- Verify Host IP Configuration
- Define IP Subnets
- Configure Cisco Switches
- Configure Basic Router Configuration
- Implement Internet Connectivity
- Configure Data Link Layer Encapsulation
- Configure Network Management Tools
- Secure Network Devices
- Configure AAA