Cisco Service Provider 5G Technologies Foundations

Duration: 4 Days **Course Code: SPMBL100** **Version: 1.0** **Delivery Method: Virtual Learning**

Overview:

The Cisco Service Provider 5G Technologies Foundations course introduces mobile network components, basic 5G concepts, and features of 5G technology including faster data speeds, higher device capacity, and improved user experience. You will examine the mobile packet core solutions, 5G transport architecture, and Cisco® automation and orchestration tools used in 5G networks. You will also learn about the Cisco 5G Non-standalone (NSA) and the Cisco Ultra Cloud Core 5G standalone (SA) platform solutions, the Cisco 5G converged Software-Defined Networking (SDN) transport architecture, and Cisco edge computing solutions. You will study the Cisco Network Function Virtualization (NFVI) architecture, Cisco Network Services Orchestrator (NSO), and Cisco Elastic Services Controller (ESC). You will learn how 5G is distributed with Telco Data Center (DC) with Cisco Application Centric Infrastructure (Cisco ACI®). And finally, Zero-Touch Provisioning (ZTP), Cisco Crosswork™, and the Cisco 5G security architecture will also be presented.

Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

Target Audience:

Individuals wishing to learn how 5 G technology delivers lower latency, higher device capacity, and a more uniform user experience.

Objectives:

- **After completing this course you should be able to:**
- Describe mobile network architecture basics
- List enabling technologies for 5G and describe 5G key use cases
- Perform basic operations on a Cisco 5G NSA mobile packet core
- Describe the Cisco 5G Converged SDN Transport Architecture
- Describe Cisco NFVI and perform basic operations using Cisco ESC and Cisco Virtualized Infrastructure Manager (VIM)
- Describe Cisco service provider automation and orchestration solutions to deploy and manage 5G network functions
- Describe the Cisco Ultra Cloud Core architecture and deploy the Cisco SMI
- Explain the 5G ready distributed Telco DC with Cisco ACI solution
- Describe the Cisco 5G security architecture

Prerequisites:

Attendees should meet the following prerequisites:

- Knowledge of general networking concepts
- Experience working with command-line interface (CLI)-based network devices
- Basic understanding of Multiprotocol Label Switching (MPLS)
- Familiarity with service provider architectures
- CCNA - Implementing and Administering Cisco Solutions
- SPFNDU - Understanding Cisco Service Provider Network Foundations

Testing and Certification

Recommended as preparation for the following exam:

- There are no exams currently aligned to this course

Content:

Mobile Network Fundamentals

- 5G Key Use Cases
- Examining Mobile Network Components

Enabling Technologies for 5G

- Introduction to 5G NR Characteristics
- Cloud Radio Access network (RAN)

Cisco 5G NSA Solution

- 5G NSA Basics
- 5G NSA StarOS Configurations

Cisco 5G Converged SDN Transport Architecture

- Cisco 5G Transport Ready Devices
- Application Awareness and Network Slicing with Segment Routing

Cisco NFV Infrastructure, Cisco Virtualized Network Functions (VNFs), Cisco VIM, and Cisco ESC

- NFVI and SDN Architecture Overview
- Cisco VIM Pod Configurations

Cisco Service Provider Automation and Orchestration

- Telemetry Basics
- ZTP Fundamentals

Cisco Ultra Cloud Core

- Cisco Ultra Cloud Core Basics
- Kubernetes and Docker Fundamentals

5G Ready Distributed DC with Cisco ACI

- Cisco ACI in Telco Data Centers
- 5GC Deployment

Mitigating Threats in 5G

- Introduction to 5G Cybersecurity Risks
- Mitigating 5G Cybersecurity Risks

Lab Outline

- Investigating the EPC and xHaul Device Operations
- Deploying Cisco Ultra Gateway Platform with CUPS
- Configuring the EPC for 5G NSA
- Network Slicing with Segment Routing
- Deploying a VNF using Cisco ESC
- Using ZTP and Telemetry
- Using Cisco Crosswork Optimization with NSO
- Deploying the Cisco SMI and Cisco Ultra Cloud Core

Further Information:

For More information, or to book your course, please call us on 00 971 4 446 4987

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