
Cisco Service Provider 5G Technologies Foundations (SPMBL100)

***WHERE GREAT TRAINING
HAPPENS EVERYDAY!***

Cisco Service Provider 5G Technologies Foundations (SPMBL100)

Course Duration

4 Days

Course Price

\$3,795.00

38 CLCs

Methods of Delivery

In-Person ILT

Virtual ILT

Onsite ILT

About this Class

In this Cisco Service Provider 5G Technologies Foundations course provides a comprehensive introduction to 5G architecture and Cisco's end-to-end 5G solutions, focusing on how service providers design, deploy, and operate modern mobile networks. It is designed for network engineers and architects who need to understand the technologies enabling 5G, from radio access and transport to core, cloud, and security domains. The curriculum blends architectural theory with practical deployment and operational workflows. Students begin by exploring mobile network fundamentals and key 5G use cases, followed by enabling technologies such as 5G New Radio and cloud-based radio access networks. The course then examines Cisco's 5G Non-Standalone solution, including EPC evolution and StarOS configurations. Transport architecture is emphasized through Cisco's converged SDN approach, highlighting segment routing, application awareness, and network slicing across the 5G transport network.

The course expands into cloud-native infrastructure and automation, covering Cisco NFV infrastructure, virtual network functions, VIM, ESC, telemetry, and zero-touch provisioning. Cisco Ultra Cloud Core, Kubernetes, Docker, and Cisco ACI are introduced to demonstrate cloud-native 5G core deployment in distributed data centers. Security considerations specific to 5G are addressed, and hands-on labs reinforce real-world scenarios such as deploying VNFs, configuring network slicing, automating operations, and deploying Cisco Ultra Cloud Core, preparing learners to operate and secure modern 5G networks.

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How you will benefit

This class will help you:

- Use the higher data speeds of 5G to access data more quickly and accommodate every device with increased capacity
- Learn how 5G technology delivers lower latency, higher device capacity, and a more uniform user experience
- Earn 24 CE credits toward recertification

Why Attend with Current Technologies CLC

- Our Instructors are the top 10% rated by Cisco
- Our Lab has a dedicated 1 Gig Fiber Connection for our Labs
- Our Labs run up to Date Code for all our courses

Who Should Attend

The job roles best suited to the material in this course are:

- Network Engineers
- Network Consulting Engineers
- Customer Support Engineers
- Field Engineers

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Objectives

After taking 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

Before enrolling in this course, you should have knowledge in the following areas:

- 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

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Course Outline

Module 1: Mobile Network Fundamentals

- 5G Key Use Cases
- Examining Mobile Network Components

Module 2: Enabling Technologies for 5G

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

Module 3: Cisco 5G NSA Solution

- 5G NSA Basics
- 5G NSA StarOS Configurations

Module 4: Cisco 5G Converged SDN Transport Architecture

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

Module 5: Cisco NFV Infrastructure, Cisco Virtualized Network Functions (VNFs), Cisco VIM, and Cisco ESC

- NFVI and SDN Architecture Overview
- Cisco VIM Pod Configurations

Module 6: Cisco Service Provider Automation and Orchestration Solutions

- Telemetry Basics
- ZTP Fundamentals

Module 7: Cisco Ultra Cloud Core

- Cisco Ultra Cloud Core Basics
- Kubernetes and Docker Fundamentals

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Course Outline

Module 8: 5G Ready Distributed DC with Cisco ACI

- Cisco ACI in Telco Data Centers
- 5GC Deployment

Module 9: Mitigating Threats in 5G

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

Lab Outline

- Lab 1: Investigating the EPC and xHaul Device Operations
- Lab 2: Deploying Cisco Ultra Gateway Platform with CUPS
- Lab 3: Configuring the EPC for 5G NSA
- Lab 4: Network Slicing with Segment Routing
- Lab 5: Deploying a VNF using Cisco ESC
- Lab 6: Using ZTP and Telemetry
- Lab 7: Deploying the Cisco SMI and Cisco Ultra Cloud Core