

# SPMBL100 (CISCO SERVICE PROVIDER 5G TECHNOLOGIES FOUNDATIONS) 1.0

## Objetivo

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.

## Público Alvo

Customer support engineers  
Field engineers  
Network engineers  
Network consulting engineers

## Pré-Requisitos

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.

The following Cisco course may help you meet these prerequisites:

- Implementing and Administering Cisco Solutions (CCNA®);
- Understanding Cisco Service Provider Foundations (SPFNDU).

## Carga Horária

32 horas (4 dias).

## Conteúdo Programático

### 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