

## Implementing and Operating Cisco Service Provider Network Core Technologies

**Duración: 5 Días**    **Código del Curso: SPCOR**    **Version: 1.0**

### Temario:

This 5-day course is focused on the concepts and capabilities of Multiprotocol Label Switching (MPLS) and on the best practices for implementing QoS in a new or existing Service Provider environment. MPLS Traffic Engineering (MPLS TE) services are also explored in more detail.

Hands-on labs provide the practice delegates need to ensure a thorough understanding of MPLS and MPLSTE in a Service Provider environment as well as exposure to IOS/IOS XE and IOS XR deployments.

**This course is worth 40 Credits in the Continuing Learning Program**

### Dirigido a:

This course is intended primarily for network administrators, network engineers, network managers, and systems engineers who would like to implement MPLS and MPLS TE in the core portion of service provider environments, and assure QoS in the service provider backbone.

### Objetivos:

- **After you complete this course you will be able to:**
- Describe the features of MPLS, and how MPLS labels are assigned and distributed
- Discuss the requirement for traffic engineering in modern networks that must attain optimal resource utilization
- Introduce the concept of QoS and explain the need to implement QoS
- Classify and mark network traffic to implement an administrative policy requiring QoS
- Compare the different Cisco QoS queuing mechanisms used to manage network congestion
- Explain the concept of traffic policing and shaping, including token bucket, dual token bucket, and dual-rate policing

### Prerequisites:

**Attendees should meet the following prerequisites:**

- Intermediate to advanced knowledge of Cisco IOS, IOS XE, and Cisco IOS XR Software configuration.
- Attendance of **SPROUTE** and **ADVSPROUTE** recommended.
- CCNABC - Cisco CCNA Routing and Switching Boot Camp (CCNAX - Accelerated)

### Exámenes y certificación

**Recommended preparation for exam(s):**

- **642-887SPCORE** - Implementing Cisco Service Provider Next Generation Core Network Services  
This is one of four exams required for the Cisco Certified Network Professional for Service Providers Certification.

### Siguientes cursos recomendados:

**The following courses are recommended for further study :**

- **SPEDGE** - Implementing Cisco Service Provider Next Generation Edge Network Services
- **SPAUI** - Implementing Automation for Cisco Service Provider Solutions
- **SPRI** - Implementing Cisco Service Provider Advanced Routing Solutions
- **SPVI** - Implementing Cisco Service Provider VPN Services

## Contenido:

### Multiprotocol Label Switch

- Introducing Cisco IP NGN Architecture
- Introducing MPLS
- Introducing MPLS Applications
- Label Distribution Protocol
- Introducing MPLS Forwarding
- Operating MPLS Forwarding
- Implementing MPLS in the Service Provider Core

### MPLS Traffic Engineering

- Introducing MPLS Traffic Engineering Components
- MPLS TE Operations
- Implementing MPLS TE
- Protecting MPLS TE Traffic

### QoS in the Service Provider Network,

- Understanding QoS
- Implementing QoS in the SP Network
- Implementing MPLS Support for QoS

### QoS Classification and Marking

- Understanding Classification and Marking
- Using the Modular QoS CLI
- Implementing Advanced QoS Techniques

### QoS Congestion Management and Avoidance

- Managing Congestion
- Implementing Congestion Avoidance

### QoS Traffic Policing and Shaping

- Understanding Traffic Policing and Shaping
- Implementing Traffic Policing
- Implementing Traffic Shaping

### Labs:

- Hardware Lab 1: Implement MPLS in the Service Provider Core
- Hardware Lab 2: Implement MPLS TE
- Hardware Lab 3: The Need for QoS
- Hardware Lab 4: Implement MPLS Support for QoS
- Hardware Lab 5: Implement Classification and Marking
- Hardware Lab 6: Implement Queuing
- Hardware Lab 7: Implement Congestion Avoidance
- Hardware Lab 8: Implement Traffic Policing
- Hardware Lab 9: Implement Traffic Shaping

---

## Más información:

Para más información o para reservar tu plaza llámanos al (34) 91 425 06 60

[info.cursos@globalknowledge.es](mailto:info.cursos@globalknowledge.es)

[www.globalknowledge.com/es-es/](http://www.globalknowledge.com/es-es/)

Global Knowledge Network Spain, C/ Retama 7, 6ª planta, 28045 Madrid