



---

---

# Implementing Cisco Service Provider Advanced Routing Solutions (SPRI) V1.1

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



## Implementing Cisco Service Provider Advanced Routing Solutions (SPRI) V1.1

### Course Duration

5 Days

### Course Price

\$4,295.00

43 CLCs

### Methods of Delivery

In-Person ILT

Virtual ILT

Onsite ILT

### About this Class

The Implementing Cisco Service Provider Advanced Routing Solutions (SPRI) course teaches you theories and practices to integrate advanced routing technologies including routing protocols, multicast routing, policy language, Multiprotocol Label Switching (MPLS), and segment routing, expanding your knowledge and skills in service provider core networks.

This course prepares you for the 300-510 Implementing Cisco® Service Provider Advanced Routing Solutions (SPRI) exam. This course also earns you 40 Continuing Education (CE) credits towards recertification

## Implementing Cisco Service Provider Advanced Routing Solutions (SPRI) V1.1

### How you will benefit

This class will help you:

- Gain the high-demand skills to maintain and operate advanced technologies related to Service Provider core networks
- Increase your knowledge and skills for implementing Service Provider core advanced technologies through hands-on application and practical instruction
- Earn 40 CE credits toward recertification
- Prepare to take the 300-510 SPRI exam

### 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 Administrators
- Project Managers
- Network Designers

## Implementing Cisco Service Provider Advanced Routing Solutions (SPRI) V1.1

### Objectives

After taking this course, you should be able to:

- Describe the main characteristics of routing protocols that are used in Service provider environments
- Implement advanced features of multiarea Open Shortest Path First (OSPFv2) running in Service Provider networks
- Implement advanced features of multilevel Intermediate System to Intermediate System (ISIS) running in Service Provider networks
- Configure route redistribution
- Configure Border Gateway Protocol (BGP) in order to successfully connect the Service Provider network to the customer or upstream Service Provider
- Configure BGP scalability in Service Provider networks
- Implement BGP security options
- Implement advanced features in order to improve convergence in BGP networks
- Troubleshoot OSPF, ISIS, and BGP
- Implement and verify MPLS
- Implement and troubleshoot MPLS traffic engineering
- Implement and verify segment routing technology within an interior gateway protocol
- Describe how traffic engineering is used in segment routing networks
- Implement IPv6 tunneling mechanisms
- Describe and compare core multicast concepts
- Implement and verifying the PIM-SM protocol
- Implement enhanced Protocol-Independent Multicast – Sparse Mode (PIM-SM) features
- Implement Multicast Source Discovery Protocol (MSDP) in the interdomain environment
- Implement mechanisms for dynamic Rendezvous Point (RP) distribution

## Implementing Cisco Service Provider Advanced Routing Solutions (SPRI) V1.1

### Course Outline

- Module 1:** Implementing and Verifying Open Shortest Path First Multiarea Networks
- Module 2:** Implementing and Verifying Intermediate System to Intermediate System Multilevel Networks
- Module 3:** Introducing Routing Protocol Tools, Route Maps, and Routing Policy Language
- Module 4:** Implementing Route Redistribution
- Module 5:** Influencing Border Gateway Protocol Route Selection
- Module 6:** Scaling BGP in Service Provider Networks
- Module 7:** Securing BGP in Service Provider Networks
- Module 8:** Improving BGP Convergence and Implementing Advanced Operations
- Module 9:** Troubleshooting Routing Protocols
- Module 10:** Implementing and Verifying MPLS
- Module 11:** Implementing Cisco MPLS Traffic Engineering
- Module 12:** Implementing Segment Routing
- Module 13:** Describing Segment Routing Traffic Engineering (SR TE)
- Module 14:** Deploying IPv6 Tunneling Mechanisms
- Module 15:** Implementing IP Multicast Concepts and Technologies
- Module 16:** Implementing PIM-SM Protocol
- Module 17:** Implementing PIM-SM Enhancements
- Module 18:** Implementing Interdomain IP Multicast
- Module 19:** Implementing Distributed Rendezvous Point Solution in Multicast Network

## Implementing Cisco Service Provider Advanced Routing Solutions (SPRI) V1.1

### Lab Outline

- **Lab 1: Implement OSPF Special Area Types (IPv4 and IPv6)**
- **Lab 2: Implement Multiarea IS-IS**
- **Lab 3: Implement Route Redistribution**
- **Lab 4: Influence BGP Route Selection**
- **Lab 5: Implement BGP Route Reflectors**
- **Lab 6: Implement BGP Security Options**
- **Lab 7: Troubleshoot Routing Protocols**
- **Lab 8: Implement MPLS in the Service Provider Core**
- **Lab 9: Implement Cisco MPLS TE**
- **Lab 10: Configure and Verify Interior Gateway Protocol (IGP) Segment Routing**
- **Lab 11: Implement Tunnels for IPv6**
- **Lab 12: Enable and Optimize PIM-SM**
- **Lab 13: Implement PIM-SM Enhancements**
- **Lab 14: Implement Rendezvous Point Distribution**