Publication date : 04/30/2024

Course : Cisco, implementing MPLS solutions

Practical course - 4d - 28h00 - Ref. CMP
Price : 2790 € E.T.

Learn to master MPLS technology in Datagram networks, simple and complex IP VPNs, Traffic Engineering, and their operation in carrier and campus networks with this hands-on course.

Teaching objectives

At the end of the training, the participant will be able to:

- Master the basic concepts and operation of MPLS
- Configuring a management VPN
- Design simple and complex MPLS/VPN solutions
- Maintain and troubleshoot solutions based on MPLS technology

Intended audience

Network engineers and administrators in Cisco environments.

Prerequisites

Good knowledge of IGP routing protocols or knowledge equivalent to that acquired in the course "Cisco routers, advanced" (ref. ROP). Practice of IOS recommended.

Course schedule

1 MPLS overview

- Basic MPLS concepts.
- MPLS labels and label stacks.
- MPLS services.

2 Label allocation and distribution

- LDP's discovery of neighbors.
- Label distribution.
- Convergence after a breakdown.

PARTICIPANTS

Network engineers and administrators in Cisco environments.

PREREQUISITES

Good knowledge of IGP routing protocols or knowledge equivalent to that acquired in the course "Cisco routers, advanced" (ref. ROP). Practice of IOS recommended.

TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS

The trainer evaluates each participant’s academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they’ve developed.

3 Configuring MPLS in packet mode

- MPLS IP configuration.
- Perform configuration check.
- MPLS IP troubleshooting techniques.

Hands-on work

On an operator network, IGP configuration and routing to customers. Activate LDP, check labels in MPLS IP mode. Suppress TTL propagation.

4 IP VPN technology

- Introducing IP VPN.
- Routing in MPLS networks.
- Package dispatch.

5 IP VPN configuration

- VRF configuration.
- Learn how to configure MP-BGP sessions between PEs.
- Configuration of routing in VRF between PE and CE.
- Check configuration.
- The OSPF protocol for routing between PE and CE.
- Routing between PE and CE using the BGP protocol.

Hands-on work

Examples of basic VPN configuration with RIP. EIGRP between PE and CE.OSPF between PE and CE. BGP between PE and CE. Configuration of backup links.

6 Complex VPNs

- Introduction to overlapping VPNs.
- VPN central services.
- VRF imports and exports.
- The operator's CE management service.

Hands-on work

Overlapping VPN configuration. Management VPN configuration.

7 VPN architecture for ISPs

- How to separate Internet access from VPN access.
- Internet access and IP VPN.
- Internet access via a dedicated VPN.

Hands-on work

Set up a VPN for a shared service. Dedicated internal connection. VPN connectivity to central site.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.

8 Introducing Traffic Engineering

- Introduction to Traffic Engineering.
- Understanding TE mechanisms.
- How to configure the TE.
- Supervision and troubleshooting.

Hands-on work

Preparing the configuration environment. Examples of tunnel configuration.

Times

Courses take place from 09:00 to 12:30 and from 14:00 to 17:30.
Participants may arrive beginning at 08:45. Breaks and lunches are complimentary.
For four- and five-day hands-on courses, sessions end at 16:00 on the last day of the course, regardless of the teaching mode..

Dates and locations

REMOTE CLASS
2026 : 2 June, 17 Nov.

PARIS LA DÉFENSE
2026 : 2 June, 17 Nov.