Learning Services

Cisco Training on Demand

Implementing and Maintaining Cisco Technologies Using IOS XR (IMTXR)

Overview

Implementing and Maintaining Cisco® Technologies Using Cisco IOS® XR (IMTXR) version 1 Cisco Training on Demand introduces you to the features and functions of the Cisco IOS XR operating system. Through a combination of video lessons and hands-on lab exercises, you gain an understanding of all major aspects of the operating system, including the control, data, and management planes, as well as knowledge of relevant equipment, including the Cisco Carrier Routing System (CRS) family, ASR 9000 Series Routers, and XR12000 Series Aggregation Services Routers product lines.

You also gain information on the implementation of several different types of technologies using Cisco XR, routing protocols, Multiprotocol Label Switching (MPLS), IP multicast, IPv6 and IPv4 implementation, and quality of services (QoS).

Interested in purchasing this course in volume at discounts for your company? Contact ctod-sales@cisco.com.

Duration

5 Days

Target Audience

This course is designed for systems engineers, technical support specialist, and technical professionals who need to know how to deploy Cisco CRS, ASR 9000, or XR12000 Series in their network environments. The course also prepares you for the Cisco IOS XR Specialist 644-906 exam.

Objectives

After completing this course, you should be able to:

- List and describe the major features and benefits of Cisco CRS, ASR 9000, XR12000 routers, and Cisco IOS XR Software operating system
- Describe basic QoS implementation
- Understand data flow through the Cisco IOS XR Software operating system–related routers
- Recognize the benefits of using Cisco IOS XR versus regular Cisco IOS implementations
- Install the Cisco IOS XR Software operating system, package information envelopes (PIEs), and software maintenance updates (SMUs)
- Configure routing protocols and Route Policy Language (RPL) in a complex multi-AS environment
- Enable multicast routing
- Configure MPLS–Traffic Engineering (MPLS TE) and Layer 3 VPN services
- Configure Virtual Private LAN Service (VPLS) with Border Gateway Protocol (BGP) and Layer 2 multicast features

Course Prerequisites

The knowledge and skills necessary before attending this course are the understanding and ability to implement the following:

- Open Shortest Path First (OSPF) Protocol
- BGP, including Multiprotocol BGP (MP-BGP)
- Basic MPLS and Layer 2 and Layer 3 MPLS VPNs
- Cisco MPLS TE
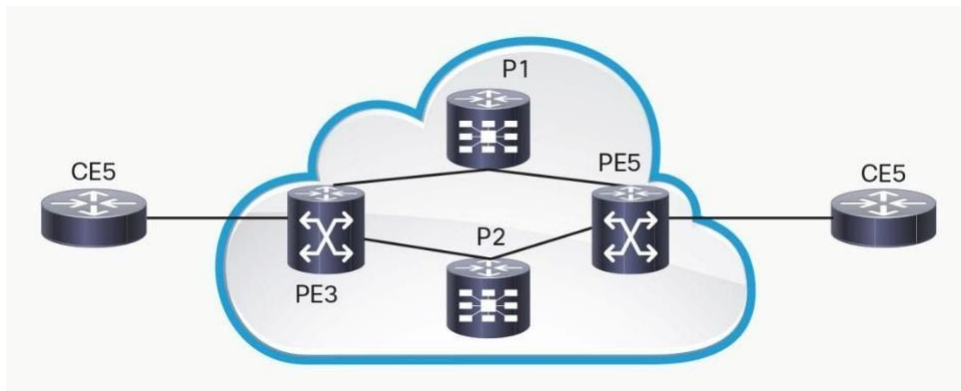- IP multicast
- IPv6
- QoS

Course Outline

- Module 1: Course Introduction
- Module 2: Cisco IOS XR Software Introduction
- Module 3: Cisco IOS XR Operating System
- Module 4: Cisco IOS XR Control Plane
- Module 5: Cisco IOS XR Data Plane
- Module 6: Cisco IOS XR Management Plane

Labs Outline

This course contains 12 hands-on virtual lab exercises powered by Cisco Learning Labs and Cisco IOL (Cisco IOS Software on Linux).

Figure 1.   Topology for All Labs in Implementing and Maintaining Cisco Technologies Using Cisco IOS XR

The labs included in this course are:

- Lab 1-1 - Inspecting a Router with IOS XR Software
- Lab 2-1 - Maintaining a Router with IOS XR Software
- Lab 2-2 - Configuring Basic Router Tasks with IOS XR Software
- Lab 3-1 - Configuring OSPF Routing with IOS XR Software
- Lab 3-2 - Configuring IS-IS Routing with IOS XR Software
- Lab 3-3 - Configuring BGP Routing with IOS XR Software
- Lab 3-4 - Configuring Routing Policy with BGP Using IOS XR Software
- Lab 3-5 - Configuring MPLS and MPLS VPNs Using IOS XR Software
- Lab 3-6 - Configuring MPLS TE Using IOS XR Software
- Lab 4-1 - Configuring Filtering Using IOS XR Software
- Lab 5-1 - Configuring Remote Administration Access Using IOS XR Software
- Lab 5-2 - Configuring SNMP and Logging Using IOS XR Software