
Implementing the Cisco NCS540 Series Routers (NCS540HWE)

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HAPPENS EVERYDAY!***

Implementing the Cisco NCS540 Series Routers (NCS540HWE)

Course Duration

5 days

Course Price

\$4,395.00

44 CLCs

Methods of Delivery

In-Person ILT

Virtual ILT

Onsite ILT

About this Class

The Implementing the Cisco NCS 540 Series Routers (NCS540HWE) training teaches you how to deploy Cisco Network Convergence System (NCS) 540 Series routers in a network environment. You will be introduced to the features and functions of the Cisco NCS 540 series platforms, system architecture, services implementation, quality of service (QoS), system security, model-driven telemetry, and programmability. This training also earns you 40 Continuing Education (CE) credits towards recertification.



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How you'll benefit

This class will help you:

- Gain hands-on experience deploying Cisco NCS 540 Series routers in a network environment
- Qualify for professional network job roles
- Earn 40 CE credits towards recertification

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:

- System Engineers
- Network Engineers
- Field Engineers
- Technical Support Personnel
- Channel partners, resellers System Engineers
- Network Engineers
- Field Engineers
- Technical Support Personnel
- Channel Partners
- Channel Resellers

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Objectives

After taking this course, you should be able to:

- Classify the Cisco NCS 540 platform hardware and understand the variations between large, medium, small, and fronthaul form factors, their features, use cases, and positioning
- Describe the hardware architecture of the NCS 540 series and the components necessary for packet queuing and forwarding, understand the life of a packet on ingress and egress traffic
- Explain the system architecture for traffic queuing, scheduling, and forwarding to introduce concepts of Cisco IOS XR modular QoS on the NCS 540 platform
- Describe the methods and protocols for establishing timing and synchronization on Cisco IOS XR router platforms
- Describe the Cisco NCS 540 fronthaul router family and its features and how they can be used to make mobile network architecture simpler
- Describe Cisco IOS XR software architecture, its programmable features, and how to install software packages
- Explain how to install Cisco IOS XR software packages
- Recognize, implement, and manage system security features within Cisco IOS XR software systems, ensuring the protection of network infrastructure and data
- Describe the main factors leading to the development and deployment of segment routing, segment types, segment routing global block (SRGB), and configure and verify intermediate system to intermediate system (IS-IS) and open shortest path first (OSPF) segment routing operation

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Cont. Objectives

After taking this course, you should be able to:

- Discuss how topology independent loop-free alternate (TI-LFA) is implemented in Cisco IOS XR software
- Demonstrate segment routing traffic engineering (SR-TE) and the traffic engineering components used in segment routing
- Implement and configure advanced SR-TE features and SR IPv6
- Describe the components and functionality of Layer 3 multiprotocol label switching (MPLS) virtual private networks (VPNs) implementation in Cisco IOS XR software deployments
- Implement Layer 2 VPN operations in a service provider environment
- Explain how Ethernet VPN (EVPN) gets around the problems that regular Layer 2 VPNs have, what the model for EVPN delivery is, and how to implement and troubleshoot EVPN solutions
- Comprehend and implement model-driven telemetry for enhanced network visibility and management

Prerequisites

Before taking this offering, you should have:

- Knowledge of core Cisco networking technologies
- Understanding of implementing and operating Cisco networking solutions
- Recognition of general networking concepts and protocols
- Basic knowledge of router installation and some experience with installation tools
- Routing protocol configuration experience with border gateway protocol (BGP), IS-IS, and OSPF



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Course Outline

Module 1: Cisco NCS 540 Series Hardware Overview

Module 2: Cisco NCS 540 System Architecture

Module 3: Cisco NCS 540 QoS Architecture

Module 4: Timing and Synchronization

Module 5: Cisco NCS 540 xHaul Design

Module 6: Cisco IOS XR Software Fundamentals

Module 7: Cisco IOS XR Software Installation and Upgrade

Module 8: Cisco IOS XR Software System Security

Module 9: Segment Routing Fundamentals

Module 10: Segment Routing Topology-Independent Loop-Free Alternate

Module 11: Segment Routing Traffic Engineering

Module 12: Advanced Segment Routing Traffic Engineering Features

Module 13: Segment Routing IPv6

Module 14: Layer 3 MPLS VPN Implementation with Cisco IOS XR Software

Module 15: Layer 2 VPNs and Ethernet Services Fundamentals

Module 16: Cisco IOS XR Software EVPN Operation and Implementation

Module 17: Cisco IOS XR Software Programmability

Module 18: Model-Driven Telemetry

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Lab Outline

- Lab 1: Configure and Verify NTP
- Lab 2: Cisco IOS XR Software Installation
- Lab 3: Configure and Verify MPP
- Lab 4: Configure and Verify uRPF
- Lab 5: Configure and Verify Segment Routing
- Lab 6: Configure and Verify SR TI-LFA Using IS-IS
- Lab 7: Configure and Verify SR TI-LFA Using OSPF
- Lab 8: Configure and Verify SR TE Using IS-IS
- Lab 9: Configure and Verify SR TE Using OSPF
- Lab 10: Configure and Verify ODN and Flexible Algorithm
- Lab 11: Configure and Verify SRv6
- Lab 12: Configure and Verify Layer 3 VPN
- Lab 13: Configure and Verify EVPN VPWS
- Lab 14: Configure and Verify Devices by Using Model-Driven Programmability
- Lab 15: Configure and Verify Model-Driven Telemetry