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Training overview

Implementing Cisco SD-WAN Solutions (ENSDWI)

Description

The **Implementing Cisco SD-WAN Solutions (ENSDWI)** training helps you design, deploy, configure, and manage the Cisco software-defined wide area network (SD-WAN) solution in a large-scale network, including how to migrate from legacy WAN to Cisco SD-WAN. You will learn best practices for configuring routing protocols in the data center and the branch, and how to implement advanced control, data, and application-aware policies. This training also covers placement of controllers, how to deploy WAN Edge devices, multicast and quality of service (QoS), how to configure direct internet access (DIA) breakout, and various Application Quality of Experience (AppQoE) traffic optimization capabilities.

This training prepares you for the 300-415 ENSDWI v1.2 exam. If passed, you earn the Cisco Certified Specialist – Enterprise SD-WAN Implementation certification and satisfy the concentration exam requirement for the Cisco Certified Network Professional (CCNP) Enterprise certification. This training also earns you 32 Continuing Education (CE) credits toward recertification.

How you'll benefit

This training will help you:

- Establish a transport-independent WAN for lower cost and higher flexibility
- Meet service level agreements (SLAs) for business-critical and real-time applications
- Provide secure end-to-end segmentation for protecting critical enterprise compute resources
- Extend seamlessly into the public cloud
- Optimize the user experience for software-as-a-service (SaaS) applications
- Prepare for the 300-415 ENSDWI 1.2 exam
- Earn 32 CE credits toward recertification

Who should enroll

- Individuals seeking the Cisco CCNP Enterprise certification or the Cisco Certified Specialist—Enterprise SD-WAN Implementation

- Pre- and post-sales Network Engineers involved in the installation, support, and troubleshooting of a Cisco SD-WAN overlay network

Technology areas

- Networking
- Software-Defined Networking

Objectives

- Describe the Cisco SD-WAN solution and how modes of operation differ in traditional WAN versus Cisco SD-WAN
- Describe options for Cisco SD-WAN cloud and on-premises deployment
- Explain how to deploy WAN Edge devices
- Compare the zero-touch provisioning (ZTP) and traditional Plug and Play (PnP) processes and examine technical specifics for on-premises deployment
- Describe configuration groups and feature profiles for configuration management
- Describe device and feature configuration templates
- Describe options for providing scalability, high availability, and redundancy
- Explain how dynamic routing protocols are deployed in Cisco SD-WAN environment, on the service side and transport side
- Describe Cisco SD-WAN policy concepts, which includes how policies are defined, attached, distributed, and applied
- Define and implement advanced control policies, such as policies for custom topologies and service insertion
- Describe the multi-region Cisco SD-WAN fabric feature
- Define and implement advanced data policies, such as policies for traffic engineering and QoS
- Describe the AppQoE capabilities available in Cisco SD-WAN
- Define and implement an application-aware routing (AAR) policy
- Implement DIA and Cisco SD-WAN Cloud OnRamp options
- Describe Cisco SD-WAN security components and integration
- Describe how to design pure and hybrid Cisco SD-WAN solutions, as well as how to perform a migration to Cisco SD-WAN
- Describe the different tools and options available for managing a Cisco SD-WAN fabric
- Describe the different options available for monitoring the Cisco SD-WAN fabric
- Describe Cisco SD-WAN support for multicast

Prerequisites

There are no prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are:

- Knowledge of software-defined networking (SDN) concepts as applied to large scale live network deployments
- Strong understanding of enterprise WAN design
- Strong understanding of routing protocol operation, including both interior and exterior routing protocol operation
- Familiarity with transport layer security (TLS) and IP security (IPsec)

These skills can be found in the following Cisco Learning Offerings:

- Implementing and Administering Cisco Solutions (CCNA)
- Implementing and Operating Cisco Enterprise Network Core Technologies (ENCOR)

Outline

- Examining the Cisco SD-WAN Architecture
- Examining Cisco SD-WAN Deployment Options
- Deploying WAN Edge Devices
- Managing Device Configuration
- Exploring Redundancy, High Availability, and Scalability
- Enabling Service-Side and Transport-Side Routing
- Understanding Cisco SD-WAN Policy Configuration Basics
- Defining Advanced Control Policies
- Defining Advanced Data Policies
- Implementing Application Quality of Experience
- Implementing AAR
- Examining DIA and Cisco Cloud OnRamp
- Exploring Cisco SD-WAN Security
- Designing and Migrating to Cisco SD-WAN
- Performing Cisco SD-WAN Network Management and Troubleshooting
- Examining Cisco SD-WAN Multicast Support

Lab Outline

- Deploy Cisco SD-WAN Controllers
- Deploy Cisco SD-WAN Devices Using Configuration Groups
- Configure Cisco SD-WAN Controller Affinity
- Implement Service-Side Routing Protocols
- Implement TLOC Extensions
- Implement Control Policies
- Implement Data Policies
- Implement Application-Aware Routing
- Implement Branch and Regional Internet Breakouts
- Configure Application Firewall
- Migrate Branch Sites
- Perform Cisco SD-WAN Software Upgrade

What to expect on the exam

ImplementingCisco SD-WANSolutions(300–415 ENSDWI) v1.2 is a 90-minute exam associated with the Cisco Certified Specialist – Enterprise SD-WAN Implementation certification. The multiple-choice format tests knowledge of Cisco's SD-WAN solution, including:

- SD-WAN architecture
- Controller deployment
- Edge router deployment
- Policies
- Security
- Quality of service
- Multicast
- Management and operations