Implementing Cisco SD-WAN Solutions Training

Duration: **5 Day**

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Overview

The **Implementing Cisco SD-WAN Solutions (ENSDWI) v2.0** course provides comprehensive training in designing, deploying, configuring, and managing Cisco Software-Defined WAN (SD-WAN) solutions across large-scale production networks. The course also examines the process of migrating from traditional WAN environments to Cisco SD-WAN.

Participants learn best practices for configuring routing protocols across data centre and branch environments while developing an understanding of advanced control, data, and application-aware policies.

The programme covers Cisco SD-WAN deployment and migration approaches, controller placement, WAN Edge device deployment, and the configuration of Direct Internet Access (DIA) breakout.

Cisco SD-WAN security capabilities are also explored, including application-aware enterprise firewall, Intrusion Prevention System (IPS), URL filtering, Cisco Advanced Malware Protection (AMP), Secure Sockets Layer/Transport Layer Security (SSL/TLS) proxy, and Cisco Umbrella Secure Internet Gateway (SIG).

The course supports preparation for the **Implementing Cisco SD-WAN Solutions (300-415 ENSDWI)** exam, which forms part of the **CCNP Enterprise** certification path. Participants can also earn **32 Continuing Education (CE) credits** toward recertification.

How You Will Benefit

This training helps participants use Cisco SD-WAN to:

- Build a transport-independent WAN architecture that can provide greater flexibility while reducing costs
- Support Service Level Agreement (SLA) requirements for business-critical and real-time applications
- Provide secure end-to-end segmentation to help protect critical enterprise computing resources
- Extend WAN connectivity into public cloud environments
- Improve the user experience of Software-as-a-Service (SaaS) applications
- Earn 32 CE credits toward recertification

Prerequisites

Before attending the course, participants should have:

- Knowledge of Software-Defined Networking (SDN) concepts within large-scale production network deployments
- A strong understanding of enterprise WAN design
- A solid understanding of routing protocol operation, including interior and exterior routing protocols
- Familiarity with Transport Layer Security (TLS) and IP Security (IPSec)

Knowledge at the level covered by Cisco CCNA and Cisco Enterprise Network Core Technologies (ENCOR) training can be useful in meeting these recommended prerequisites.

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Who Should Attend

This course is suitable for:

- System Installers
- System Integrators
- System Administrators
- Network Administrators
- Solutions Designers

What You Will Learn

By the end of the course, participants will be able to:

- Describe the Cisco SD-WAN solution and explain how operating models differ between traditional WAN and SD-WAN
- Describe cloud and on-premises deployment options for Cisco SD-WAN
- Explain the deployment process for WAN Edge devices
- Review the Zero-Touch Provisioning (ZTP) process and understand technical considerations for on-premises deployment
- Review Device Configuration Templates and describe their key capabilities and newer features
- Explain approaches to scalability, high availability, and redundancy
- Describe how dynamic routing protocols are deployed on the service side and transport side of an SD-WAN environment
- Explain Cisco SD-WAN policy concepts, including how policies are defined, attached, distributed, and applied
- Define and implement advanced control policies for scenarios such as custom topologies and service insertion
- Identify and implement advanced data policies for traffic engineering and QoS
- Define and implement Application-Aware Routing (AAR) policies
- Implement Direct Internet Access (DIA) and Cisco SD-WAN Cloud OnRamp options
- Describe Cisco SD-WAN security components and their integration
- Explain the design of pure and hybrid Cisco SD-WAN solutions and approaches for migrating to Cisco SD-WAN
- Describe Cisco SD-WAN Day-2 operations, including monitoring, reporting, logging, troubleshooting, and upgrading
- Describe multicast support within Cisco SD-WAN

Outline

1. Examining the Cisco SD-WAN Architecture

- Cisco SD-WAN architecture
- Traditional WAN and SD-WAN operating models
- Core components of the Cisco SD-WAN solution

2. Examining Cisco SD-WAN Deployment Options

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- Cloud deployment options
- On-premises deployment approaches
- Controller placement and deployment considerations

3. Deploying WAN Edge Devices

- WAN Edge device deployment
- Deployment options and fundamental configuration considerations

4. Onboarding WAN Edge Devices with ZTP and PnP

- Zero-Touch Provisioning (ZTP)
- Plug and Play (PnP)
- WAN Edge onboarding processes
- Technical considerations for on-premises deployment

5. Using Device Configuration Templates

- Working with Device Configuration Templates
- Template-based configuration
- Device Configuration Template capabilities

6. Exploring Redundancy, High Availability, and Scalability

- Redundancy options
- High-availability approaches
- Scalability within large Cisco SD-WAN environments

7. Enabling Service-Side and Transport-Side Routing

- Deploying dynamic routing protocols in SD-WAN
- Service-side routing
- Transport-side routing

8. Understanding Cisco SD-WAN Policy Configuration

- Cisco SD-WAN policy concepts
- Defining policies
- Attaching policies
- Policy distribution
- Applying policies

9. Defining Advanced Control Policies

- Advanced control policy implementation
- Custom topologies
- Service insertion

10. Implementing Application-Aware Routing

- Application-Aware Routing concepts
- Defining and implementing AAR policies
- Routing traffic according to application requirements

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11. Direct Internet Access and Cloud Deployment Options

- Direct Internet Access (DIA)
- Configuring DIA breakout
- Cisco SD-WAN Cloud OnRamp options
- Cloud deployment approaches

12. Exploring Cisco SD-WAN Security

- Cisco SD-WAN security components
- Application-aware enterprise firewall
- Intrusion Prevention System (IPS)
- URL filtering
- Cisco Advanced Malware Protection (AMP)
- SSL/TLS proxy
- Cisco Umbrella Secure Internet Gateway (SIG)

13. Designing and Migrating to Cisco SD-WAN

- Designing pure Cisco SD-WAN solutions
- Hybrid SD-WAN designs
- Migrating from legacy WAN environments to Cisco SD-WAN

14. Cisco SD-WAN Network Management and Troubleshooting

- Monitoring
- Reporting
- Logging
- Troubleshooting
- Upgrading
- Cisco SD-WAN Day-2 operations

15. Examining Cisco SD-WAN Multicast Support

- Understanding multicast support in Cisco SD-WAN
- Fundamental multicast considerations

Exam and Continuing Education

This course supports preparation for the **Implementing Cisco SD-WAN Solutions (300-415 ENSDWI)** examination, which is part of the CCNP Enterprise certification path.

Participants can also earn **32 Continuing Education (CE) credits** toward recertification.