Implementing Cisco SD-WAN Solutions Training

Duration: **5 Day**

BILGINÇ IT Academy
info@bilginc.com
bilginc.com

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

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(ENCOR) training can be useful in meeting these recommended prerequisites.

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

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

2. Examining Cisco SD-WAN Deployment Options

- 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

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10. Implementing Application-Aware Routing

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

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

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