

CS-SDWAN



CCNP ENTERPRISE ENSDWI 300-415: DESIGNING, DEPLOYING AND SECURING YOUR NEXT GENERATION WAN WITH CISCO SD-WAN

DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
5 Days	Professional	Cisco SDWAN	ILT / VILT	No

INTRODUCTION

This five day CCNP Enterprise ENSDWI 300-415: Designing, Deploying and Securing with Cisco SD-WAN course will provide delegates with the knowledge on core SD-WAN technologies, including SD-WAN architecture, controller deployment, Edge router deployment, policies, security, quality of service, multicast, and management and operations.

AUDIENCE PROFILE

This course is primarily intended for:

- System Administrators , Network Administrators, Enterprise network engineers, System engineers
- Individuals preparing for the Implementing Cisco SD-WAN Solutions (ENSDWI 300-415) exam

PREREQUISITES

The recommended knowledge and skills that a learner must have before attending this course are as follows:

- CCNA
- ENCOR

COURSE OBJECTIVES

On completion of this course, participants should be familiar with:

- **Cisco Software-Defined Wide Area Networking:** controllers and automation. Also, the benefits and value of automating management and operations.
- **SD-WAN components,** including the various controllers and the various types of deployment models. Also, the control plane, data plane, and cloud integration
- **The Control Plane and Data Plane Operations:** the Overlay Management Protocol (OMP) and how it works to facilitate the orchestration of the control plane and ultimately influences the data plane
- **Onboarding and Provisioning:** how to provision the data plane devices, either manually or via Plug and Play/Zero Touch Provisioning. Also, templates as a means to gain some flexibility and scale with configuration management.
- **SD-WAN Policies:** the different types of policies, how policies are constructed, and how they are applied to the Cisco SD-WAN fabric.
- **Centralized Control Policies:** how policies are used to manipulate or filter the OMP updates in order to manipulate the structure and forwarding patterns in the Cisco SD-WAN fabric. Also, packet loss recovery techniques, including Forward Error Correction and packet duplication.
- **Centralized Data Policies:** how policies that are used to manipulate or filter flows in the data plane and override the natural forwarding behavior that is propagated through the OMP.
- **Application-Aware Routing Policies:** how these policies can be used to ensure that traffic is forwarded across the SD-WAN fabric using links that meet a required service level agreement (SLA).
- **Localized Policies:** including local route policies, access control lists (ACLs), and quality of service (QoS).
- **Cisco SD-WAN Security:** what SD-WAN security is and why it is relevant to your organization. Also, how to deploy Application-Aware Enterprise Firewall, intrusion detection and prevention, URL filtering, Advanced Malware Protection (AMP) and Threat Grid, DNS web layer security, cloud security, and vManage authentication and authorization.
- **Cisco SD-WAN Cloud onRamp:** what Cisco SD-WAN Cloud onRamp is and how it can optimize your organization's application experience. Also, how to deploy onRamp for SaaS, onRamp for IaaS, and onRamp for Colocation.
- **Cisco SD-WAN Design and Migration:** the methodology behind SD-WAN design across the enterprise. Also, preparation for SD-WAN migration, data center design, and branch design, as well as overlay and underlay routing integration.
- **The Provisioning of Cisco SD-WAN Controllers in a Private Cloud:** How to deploy the controllers in a private cloud on premises, or in a lab environment. Also, the various methods to handle certificates, as certificates play a critical piece in encrypting and authenticating the control plane.
- Tips and strategies for studying for the ENSDWI 300-415 exam.

COURSE CONTENT

Lesson 1: Introduction to Cisco Software-Defined Wide Area Networking (SD-WAN)

- Networks of Today
- Common Business and IT Trends
- Common Desired Benefits
- High-Level Design Considerations
- Introduction to Cisco Software-Defined WAN (SD-WAN)
- Use Cases Demanding Changes in the WAN
- Building an ROI to Identify Cost Savings
- Introduction to Multidomain

Lesson 2: Cisco SD-WAN

Components

- Data Plane
- Management Plane
- Control Plane
- Orchestration Plane
- Multi-Tenancy Options
- Deployment Options

Lesson 3: Control Plane and Data Plane Operations

- Control Plane Operations
- Data Plane Operations

Lesson 4: Onboarding and Provisioning

- Configuration Templates
- Developing and Deploying Templates
- Onboarding Devices

Lesson 5: Introduction to Cisco SD-WAN Policies

- Purpose of Cisco SD-WAN Policies
- Types of Cisco SD-WAN Policies

- Cisco SD-WAN Policy Construction
- Cisco SD-WAN Policy Administration, Activation, and Enforcement
- Packet Forwarding Order of Operations 1

Lesson 6: Centralized Control Policies

- Centralized Control Policy Overview
- Centralized Control Policy Use Cases

Lesson 7: Centralized Data Policies

- Centralized Data Policy Overview
- Centralized Data Policy Use Cases

Lesson 8: Application-Aware Routing Policies

- The Business Imperative for Application-Aware Routing
- The Mechanics of an App-Route Policy
- Constructing an App-Route Policy
- Monitoring Tunnel Performance
- Mapping Traffic Flows to a Transport Tunnel

Lesson 9: Localized Policies

- Introduction to Localized Policies
- Localized Control Policies
- Localized Data Policies
- Quality of Service Policies

Lesson 10: Cisco SD-WAN Security

- Cisco SD-WAN Security: Why and What

- Application-Aware Enterprise Firewall
- Intrusion Detection and Prevention
- URL Filtering
- Advanced Malware Protection and Threat Grid
- DNS Web Layer Security
- Cloud Security
- vManage Authentication and Authorization

Lesson 11: Cisco SD-WAN Cloud onRamp

- Cisco SD-WAN Cloud onRamp
- Cloud onRamp for SaaS
- Cloud onRamp for IaaS
- Cloud onRamp for Colocation

Lesson 12: Cisco SD-WAN Design and Migration

- Cisco SD-WAN Design Methodology
- Cisco SD-WAN Migration Preparation
- Cisco SD-WAN Data Center Design
- Cisco SD-WAN Branch Design
- Cisco SD-WAN Overlay and Underlay Integration

Lesson 13: Provisioning Cisco SD-WAN Controllers in a Private Cloud

- SD-WAN Controller Functionality Recap
- Certificates
- vManage Controller Deployment
- vBond Controller Deployment
- vSmart Controller Deployment
- Hand-On Labs

ASSOCIATED CERTIFICATIONS & EXAM

Exam # 300-415 ENSDWI is associated with the new CCNP Enterprise certification and with the Cisco Certified Specialist - Enterprise SD-WAN Implementation certification.

This exam tests a candidate's knowledge of Cisco's SD-WAN solution including SD-WAN architecture, controller deployment, WAN Edge router deployment, policies, security, quality of service, multicast, and management and operations.