CISC-24 - ENSDWI - IMPLEMENTING CISCO SD-WAN SOLUTIONS V3.0

Categoria: **Cisco**

INFORMAZIONI SUL CORSO

Durata:	Categoria:	Qualifica Istruttore:	Dedicato a:	Produttore:
5 Giorni	Cisco	Cisco Certified Instructor	Professionista IT	Cisco

OBIETTIVI

After completing this course you should be able to:

- Describe the Cisco SD-WAN solution and how modes of operation differ in traditional WAN versus 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-n-Play 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 an 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 SD-WAN fabric feature.
- Define and implement advanced data policies, such as policies for traffic engineering and QoS.
- Describe the Application Quality of Experience (AppQoE) capabilities available in Cisco SD-WAN.
- Define and implement an Application-Aware Routing (AAR) policy.
- Implement Direct Internet Access (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 tools and options available for monitoring the Cisco SD-WAN fabric.
- Describe Cisco SD-WAN support for multicast.

PREREQUISITI

Attendees should meet the following prerequisites:

- 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)

Recommended prerequisites:

-CCNA - Implementing and Administering Cisco Solutions

-ENCOR - Implementing and Operating Cisco Enterprise Network Core Technologies

CONTENUTI

Examine the Cisco SD WAN Architecture

-Software-Defined Networking for the WAN

-SD-WAN Components and Functions

-Underlay and Overlay Network

-SD-WAN Terminology

-Secure Control Plane

-Secure Data Plane

-SD-WAN Platforms

-IOS XE and IOS XE SD-WAN Software

Examine Cisco SD-WAN Deployment Options

-Flexible Controller Deployment Options

-SD-WAN Cloud Deployment

-SD-WAN Managed Service Provider Deployment

-SD-WAN On-Premises Deployment

-Using an Enterprise CA

-Controller Placement and Challenges

Deploying WAN Edge Devices

-Onboard WAN Edge Devices

-Deploy Cisco Catalyst 8000v IOS XE Devices

-ZTP Process Overview - Pure Play Viptela operating system

-Cisco Plug-and-Play Process Overview

-Working with NAT

Manage Device Configuration

-Configuration Groups Overview

-Configuraion Group Feature Profile Overview

-Device Configuration Template Overview

-Device Configuration Template Features

Explore Redundancy, High Availability, and Scalability

-Horizontal Solution Scale

-Cisco vManage, vSmart and vBond Redundancy

-Routed and Bridged Site Design

Enabling Service-Side and Transport-Side Routing

-Implement OSPF

-Implement BGP

-Impement EIGRP

-Implement TLOC Extensions

- -Loop Prevention Mechanism

Explore SD-WAN Policy Configuration Basics

- -Policy Configuraton Overview
- -Policy Attachment, Distribution and Operation

Define Advanced Control Policies

- -Control Policy Overview
- -Control Policy Application
- -Using Arbitrary VPN Topology
- -Using Hierarchical Topology
- -VPN Membership Policies
- -Multi-Region Fabric
- -Implementing Traffic Engineering
- -Implementing Service Insertion and Chaining
- -Implementing Shared Services
- -Dynamic On-Demand Tunnels

Define Advanced Data Policies

- -Data Policy Overview
- -Implementing Traffic Engineering
- -Data Forwarding and Qos
- -Implementing Qos in Cisco SD-WAN

Implement Application Quality of Experience

- -Application Quality of Experience Overview
- -TCP Optimization
- -Data Redundancy Elimination
- -Packet Duplication
- -Forward Error Correction
- -AppNav-XE

Implement Application-Aware Routing

- -AAR Overview
- -Implement AAR Policy

Examine Direct Internet Access and Cloud Deployment Options

- -Implement Direct Internet Access
- -Cisco SD-WAN Cloud OnRamp for SaaS
- -Cisco SD-WAN Cloud onRamp for IaaS
- -Cisco SD-WAN Cloud onRamp for Multicloud
- -Cisco SD-WAN Cloud OnRamp for Colocation
- -Cisco Enterprise NFV Infrastructure Software (NFVIS) SD-Branch

Explore Cisco SD-WAN Security

- -Cisco SD-WAN Intent Based Security Use Cases
- -Cisco SD-WAN Security Components
- -Cisco Umbrella DNS Security and SIG Integration
- -Cisco Legacy and Unified Policy

-Describe Cisco SD-WAN TrustSec

Design and Migrate to Cisco SD-WAN

-Design Considerations for Hybrid Scenarios
-Enabling Cisco SD-WAN in the Data Center
-Migrating the Branch to Pure SD-WAN
-Migrating a Branch to a Hybrid Model

Perform Cisco SD-WAN Network Management and Troubleshooting

-Managing Cisco SD-WAN
-Monitoring Cisco SD-WAN
-Troubleshooting Cisco SD-WAN
-Upgrading Cisco SD-WAN Components

Examine Cisco SD-WAN Multicast Support

-Multicast Overlay Routing
-Multicast Protocol Support
-Traffic Flow in Multicast Overlay Routing

Lab outline

-Lab 1: Deploy Cisco SD-WAN Controllers
-Lab 2: Manage Cisco SD-WAN Device Configuration
-Lab 3: Configure Cisco SD-WAN Controller Affinity
-Lab 4: Implement Service Side Routing Protocols
-Lab 5: Implement Transport Location (TLOC) Extensions
-Lab 6: Implement Control Policies
-Lab 7: Implement Data Policies
-Lab 8: Implement Application-Aware Routing
-Lab 9: Implement Branch and Regional Internet Breakouts
-Lab 10: Configure Application Firewall
-Lab 11: Migrate Branch Sites
-Lab 12: Perform Cisco SD-WAN Software Upgrade

INFO

Esame: 300-415 - Implementing Cisco SD-WAN Solutions
Materiale didattico: Materiale didattico ufficiale Cisco in formato digitale
Costo materiale didattico: incluso nel prezzo del corso a Calendario
Natura del corso: Operativo (previsti lab su PC)