HCIP-Datacom-SD-WAN Planning and Deployment

Course Duration: 40 Hours (5 Days)

Overview

The HCIP-Datacom-SD-WAN Planning and Deployment course is designed for professionals seeking expertise in the planning, deployment, and management of SD-WAN solutions, particularly Huawei's SD-WAN technology. This comprehensive training covers WAN interconnection basics, key technologies, and advanced SD-WAN solution deployment strategies. Learners will delve into various components such as GRE and IPsec VPN technology, BGP EVPN, QoS principles, and High Availability (HA) technology. Additionally, the course emphasizes the importance of Multi-Service Gateways, management, and Operations & Maintenance (O&M) practices. In Module 3, participants will get an in-depth understanding of the Huawei SD-WAN technical overview, deployment tactics, networking principles, application experience, security features, and intelligent O&M mechanisms. The final module guides learners through an SD-WAN design practice tailored to financial scenarios, reinforcing the application of knowledge in real-world contexts. This course will significantly enhance the learners' capabilities in SD-WAN deployment and design, ensuring they are well-equipped to handle the complexities of modern WAN interconnection.

Audience Profile

The HCIP-Datacom-SD-WAN Planning and Deployment course is designed for IT professionals specializing in advanced WAN technologies and SD-WAN solutions.

- Network Engineers
- Systems Engineers
- Network Solutions Architects
- Network Administrators
- Technical Support Personnel
- IT Professionals managing WAN infrastructures
- Network Designers specializing in SD-WAN
- IT Project Managers overseeing network upgrades and deployments
- Telecommunications Specialists focusing on WAN technologies
- IT Consultants specializing in network architecture
- Network Analysts interested in SD-WAN strategies
- Professionals preparing for the HCIP-Datacom certification
- Network Operations Center (NOC) Staff
- IT Infrastructure Managers responsible for WAN operations
- Security Engineers focusing on network security
- Technical Sales Personnel specializing in network equipment and solutions

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Course Syllabus

1. WAN Interconnection Overview

- Enterprise WAN Interconnection Status
- Challenges in Enterprise WAN Interconnection
- Emergence of SD-WAN
- Introduction to Huawei SD-WAN Solution

2. WAN Interconnection Technologies and Typical Scenarios

- Traditional Enterprise WAN Interconnection Solutions
- Application of Enterprise WAN Interconnection Technologies
- SD-WAN Application Scenarios

3. Key Technologies for WAN Interconnection

(1) GRE Technology

- Basic Principles of GRE
- GRE Security Mechanism
- GRE Application Scenarios
- GRE Configuration

(2) IPsec VPN Technology

- Basic Concepts of IPsec
- Fundamental Principles of IPsec
- IPsec Application Scenarios
- IPsec Configuration

(3) BGP EVPN Basics

- MP-BGP (Multiprotocol BGP)
- EVPN (Ethernet VPN)

(4) Basic Principles of QoS

- Overview of QoS Technology
- Traffic Classification and Marking
- Traffic Rate Limiting
- Congestion Avoidance Technologies
- Congestion Management Techniques
- Introduction to Hierarchical QoS (HQoS)

(5) High Availability (HA) Technology

- Link Reliability
- Network Reliability
- Service Reliability

(6) Introduction to Multi-Service Gateway

- Functions and Features of Huawei AR Routers
- AR WLAN Service Features
- AR Security Service Features

(7) Management and Operations & Maintenance (O&M)

- Introduction to Zero Touch Provisioning (ZTP)
- Overview of Network Maintenance
- Network O&M (Operations and Maintenance)

4. SD-WAN Solution Deployment and Design

(1) Huawei SD-WAN Solution: Technical Overview

- Architecture and Components of Huawei SD-WAN Solution
- Huawei iMaster NCE-WAN Controller
- Huawei SD-WAN Solution Principles
- Introduction to Huawei SD-WAN Customer Premises Equipment (CPE)

(2) SD-WAN Deployment

- Overview of SD-WAN Deployment
- SD-WAN Tenant Management
- SD-WAN Zero Touch Provisioning (ZTP)

(3) SD-WAN Networking Principles and Planning

- Fundamental Concepts of SD-WAN Networking
- SD-WAN Networking Principles
- SD-WAN Network Design

(4) SD-WAN Application Experience

- Overview of Application Experience Solutions
- Application Identification and Intelligent Traffic Steering
- Hierarchical QoS (HQoS)
- WAN Optimization

(5) SD-WAN Security

- Overview of SD-WAN Security
- System Security
- Service Security

(6) SD-WAN Intelligent Operations & Maintenance (O&M)

- Overview of Intelligent O&M
- Monitoring
- Maintenance

5. SD-WAN Design Practice

(1) SD-WAN Design Practice for Financial Industry

- Background of the Financial Industry
- Comprehensive SD-WAN Design for the Financial Industry
- SD-WAN Design Case Studies in the Financial Sector