

HCIP-Datacom-Core Technology

Objectives

After completing the HCIP-Datacom-Core Technology training, you will be able to:

(1) Understand the entire process of forwarding data packets by network devices. (2) Understand the working principles and configurations of OSPF, IS-IS, and BGP. (3) Deploy route control and traffic path control. (4) Understand the working principles of RSTP/MSTP. (5) Understand the working principles of stacking technology. (6) Understand the working principle of multicast and set up a multicast network. (7) Configure ICMPv6, NDP, and IPv6 addresses. (8) Master Huawei firewall technologies. (9) Configure basic security features for network devices. (10) Master the basic configurations for network reliability. (11) Describe common network management protocols. (12) Understand Huawei enterprise datacom solutions.

Target Audience

Who want to become senior Data Communication engineers. Who wants to obtain the HCIP-Datacom-Advanced Routing & Switching Technology Certification.

Prerequisites

Be familiar with common operations of Huawei network devices. Have the knowledge and skills described in the HCIA-Datacom and HCIP-Datacom-Core Technology course.

Training Content

1. IP Routing Basics

Introduction to Network Devices: Hardware modules of modular switches, Three planes of network devices, Packet processing on network devices.

IP Routing Basics: RIB and FIB, Route import scenario.

2. OSPF Core Knowledge

OSPF Basics: Introduction to dynamic routing protocols, Basic OSPF concepts, Process of establishing an OSPF neighbor relationship, Basic OSPF configuration

OSPF Route Calculation: Intra-area route calculation, Inter-area route calculation, External route calculation

OSPF Special Area and Other Features: Stub area and totally stub area, NSSA area and totally NSSA area, Inter-area route summarization and external route summarization, OSPF Features

3. IS-IS Core Knowledge

IS-IS Principles and Configuration: Basic concepts of IS-IS, IS-IS working principle, Basic IS-IS configuration

4. BGP Core Knowledge

BGP Basics: BGP overview, Basic concepts of BGP, Basic BGP configuration

BGP Path Attributes and RRs

BGP route selection

BGP EVPN Basics: MP-BGP, EVPN overview, Common EVPN routes, Typical EVPN application scenarios

5. Routing and Traffic Control

Routing Policy and Route Control: Route matching tool, Routing policy tool, Route control cases

Traffic Filtering and Forwarding Path Control: Policy-based routing, MQC, Traffic filtering

6. Switching Core Knowledge

RSTP Principles and Configuration: RSTP overview, Improvements of RSTP over STP, RSTP working process, Basic RSTP configurations

MSTP Principles and Configuration: MSTP overview, Basic concepts of MSTP, Working principles of MSTP, Basic MSTP configuration

Stack and CSS: Overview of Stack and CSS technologies, Stacking principles, CSS principles, Basic configuration

7. Multicast Basics

IP Multicast Basics: Basic concepts of IP multicast, Multicast data forwarding principle

IGMP Principles and Configuration: IGMP working principle, Introduction to the IGMP feature

PIM Principles and Configuration: PIM basics, PIM-DM, PM-SM

8. IPv6 Core Knowledge

IPv6 Overview: IPv6 overview, Introduction to IPv6 addresses

ICMPv6 and NDP: ICMPv6 overview, NDP overview, Router discovery, Duplicate address detection, Redirection

IPv6 address configuration: IPv6 address configuration mode, Stateless IPv6 address autoconfiguration, DHCPv6, Implementation of IPv6 address autoconfiguration

9. Network Security Basics

Huawei Firewall Technology: Firewall overview, Basic concepts of firewalls, Basic firewall configuration

Network Device Security Features: Security hardening policies for common devices, Network device security hardening deployment example

VPN Technology Overview: VPN technology overview, Common VPN technologies

Basic Concepts and Applications of VRF

10. Network Reliability

BFD Principles and Configuration: BFD Overview, BFD working principle, BFD application scenarios, Basic BFD configurations

VRRP Principles and Configuration: VRRP overview, VRRP working principles, Typical VRRP application, Basic VRRP configuration

11. Network Service and Management

DHCP Principles and Configuration: DHCP background, DHCP working principle and configuration, DHCP Relay working principle and configuration

Introduction to Network Management Protocols: Development of network management, Functional features of network management, Network management protocols, Application scenarios of network management

12. Large-scale WLAN Architecture

Large-Scale WLAN Networking and Deployment: Overview of large-scale WLAN networking, VLAN pool, DHCP technology, Roaming technology, High reliability technology, Network Admission Control technology

13. Network Solution

Enterprise Datacom Solution Overview: Campus, Data center , SDN-WAN, SD-WAN