HW-HCIPDCT

HCIP – DATACOM – CORE TECHNOLOGY

DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
10 Days	Professional	Datacom	ILT/VILT	Huawei Voucher

INTRODUCTION

This 10-day course covers the general core knowledge of all scenarios in the Data communication field, routing basics, OSPF, IS-IS, BGP, routing and traffic control, Ethernet switching technology, multicast, IPv6, network security, network reliability, network service and management, WLAN, and network solutions.

Datacom certification focuses on the application of datacom technologies in industry scenarios. The HCIP-Datacom - Core Technology of HCIP-Datacom includes the general knowledge that must be mastered in all scenarios of the datacom industry, as it forms the foundation for learning each HCIP-Datacom sub-direction.

AUDIENCE PROFILE

Engineers who want to become senior Data Communication engineers. Engineers who want to obtain the HCIP-Datacom-Advanced Routing & Switching Technology Certification. It is recommended that you learn HCIA-Datacom in advance.

PREREQUISITES

- Be familiar with common operations of Huawei network devices.
- HCIA-Datacom course attendance , or relevant knowledge and skills described in the HCIA-Datacom course.

COURSE OBJECTIVES

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

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

COURSE CONTENT

Module 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.

Module 2: OSPF Core Knowledge

- OSPF Basics: Introduction to dynamic routing protocols, Basic OSPF concepts, Process of establishing an OSPF neighbour 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

Module 3: IS-IS Core Knowledge
- Basic concepts of IS-IS,
- IS-IS working principle
- Basic IS-IS configuration

Module 4: BGP Core Knowledge
- 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

Module 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

Module 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

Module 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

Module 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

Module 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

Module 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

Module 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

Module 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

Module 13: Network Solution
- Enterprise Datacom Solution Overview: Campus, Data centre, SDN-WAN, SD-WAN

ASSOCIATED CERTIFICATIONS & EXAM

This course will prepare delegates to take the HCIP-Datacom-Core Technology exam # H12-821.