

# HCIP-Datacom-Core Technology

## 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 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

### 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