HW-HCIPDCNPD

HCIP DATACOM CAMPUS NETWORK PLANNING AND DESIGN

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

INTRODUCTION

This 5-day HCIP-Datacom-Campus Network Planning and Deployment certification course aims to cultivate senior engineers with planning, deployment, O&M, and optimization capabilities in large, medium and small-sized enterprise campus network scenarios. The course will cover traditional campus network technologies, Huawei's Cloud Campus solution, network admission control, free mobility, VXLAN, BGP EVPN, campus network virtualization, and iMaster NCE-Campus O&M and Campus Insight intelligent O&M.

AUDIENCE PROFILE

- Those who wants to be datacom campus network senior engineer.
- Those who wants to achieve HCIP-Datacom-Campus Network Planning and Deployment certification.

PREREQUISITES

- It is recommended that prerequisite knowledge be obtained from attending the HCIP-Datacom-Core Technology course first to be familiar with common operations on Huawei network devices.

COURSE OBJECTIVES

After completing this course, delegates will be able to:

- Understand campus network pain points and Huawei solutions.
- Master common technologies on campus networks.
- Be familiar with the principles and implementation methods of Network Admission Control.
- Master the application scenarios and configuration methods of policy association.
- Understand the functions and implementation methods of free mobility.
- Understand VXLAN principles and configuration methods.
- Understand EVPN principles and configuration methods.
- Understand the campus network virtualization concept.
- Master how to use VXLAN and EVPN to implement campus network virtualization.
- Have a good command of network design for medium- and large-sized campus based on VXLAN virtualization technologies.
- Deploy virtual campus networks using iMaster NCE-Campus.
- Master the design of small- and medium-sized campus networks.
- Use iMaster NCE-Campus to deploy small- and medium-sized campus networks.
- Have a good command of the planning and design of campus wireless networks.
- Have a good command of wireless network planning, design, and acceptance using the Huawei WLAN Planner and CloudCampus app.

- Intelligent O&M of campus networks using CampusInsight

COURSE CONTENT

1: Campus Network and Common Technologies

Campus Network and Solution Overview

- Campus Network Concept
- Different Types of Campus Networks and their Main Features
- Common Campus Networks and their Characteristics
- Logical and Physical Architecture of a Typical Campus Network
- Development Trends and Challenges of Campus Networks
- Huawei Campus Network Solution

Campus Network Architecture and Typical Technology Applications

- Typical Campus Network Architecture
- Common Ethernet Switching Technologies
- Common WLAN Network Architecture
- Campus Network Reliability Technologies
- Common Network Services and Management Technologies for Campus Networks
- Common Network Security Technologies on Campus Networks
- Common VPN Technologies on Campus Networks

2. Campus Network Technology Details

Network Admission Control

- Basic Concepts of Network Admission Control
- Common Authentication Technologies, Working Principles, and Application Scenarios
- Basic User Access Authentication Configuration
- Function and Principle of Policy Association

Free Mobility

- Policy Control Requirements of Large-Scale Campus Networks
- Differences Between Free Mobility and Traditional Technologies or Solutions
- Basic Functions and Working Mechanism of Free Mobility
- Relationship between Free Mobility and Campus Network Admission Authentication
- Typical Application Solution of Free Mobility

VXLAN And Campus Network Virtualization

- New Network Requirements in Data Center Scenarios and How VXLAN Can Meet These Requirements
- Basic Concepts of VXLAN
- Basic Principles of VXLAN
- VXLAN Application in Campus Network Virtualization
- Application of BGP EVPN in Campus Virtualization Scenarios and Cooperation with VXLAN

Campus Multi-Branch Interconnection Technology

- Enterprise WAN Development Trend
- Common Campus Network Interconnection Solutions
- Basic Concepts, Application Scenarios, and Working Principles of IPsec VPN
- Basic Concepts of SD-WAN
- Technical Architecture of Huawei SD-WAN Solution
- SD-WAN Interconnection Solution Implementation

3. Huawei Campus Network Solution Overview

Huawei CloudCampus Solution

- CloudCampus Solution Architecture, Key Components, and Functions
- Ultra-Broadband and Simplified Network Defined by the CloudCampus Solution
- VXLAN-based Virtual Campus and Application Scenarios
- Common Campus Network Admission Authentication Solutions
- CloudCampus Intelligent Policy and Intelligent O&M Implementation

4. Campus Network Design and Deployment

Large- and Medium-sized VXLAN Virtual Campus Network Design Guide

- Requirements and Challenges for Large- and Medium-sized Campus Networks
- Network Layers and Architecture of the CloudCampus Large- and Medium-Sized Campus Network
- Concepts and Relationships of Underlay, Fabric, and Overlay on Campus Networks
- Underlay Network Design for VXLAN-based Virtual Campus Networks
- Fabric and Overlay Network Design for VXLAN-based Virtual Campus Networks
- WLAN Service Design, Authentication Design, and O&M Management Design

VXLAN-based Virtualized Campus Network Deployment Guide

- Deployment Process of the VXLAN-based Virtual Campus Network Using iMaster NCE-Campus
- Deploying a Typical VXLAN-based Virtual Campus Network
- Configuring iMaster NCE-Campus to Manage and Maintain the VXLAN Virtual Campus Network

Small- and Medium-Sized Campus Network Design Guide

- Service Requirements, Development Trends, and Challenges of Small- and Medium-sized Campus Networks
- Huawei CloudCampus Solution Architecture for Small- and Medium-Sized Campus Networks
- Typical Small- and Medium-Sized Campus Network Solution

Small- and Medium-Sized Campus Network Deployment Guide

- AR Routers PnP through DHCP
- AR Routers PnP through Command Lines
- Configure AR Routers Using iMaster NCE-Campus
- Configure Wireless Services on iMaster NCE-Campus

Campus Wireless Network Planning and Design

- WLAN Network Planning and Delivery Process
- WLAN Requirement Collection and Site Survey
- Signal Coverage Analysis, Service Analysis, Capacity Design, and AP Selection
- Wireless Channel Planning, AP Deployment Design, Power Supply and Cabling Design, and AP Installation Design
- WLAN Acceptance

5. Intelligent Campus Network O&M **CampusInsight Intelligent O&M**	– Pain Points and Requirements of Intelligent Campus Network O&M – Application Scenarios and Deployment Modes of CampusInsight – Typical CampusInsight Network Scenarios	– Logical Architecture and External Interfaces of CampusInsight – Main Functions and Features of CampusInsight – Technical Principles and Applications of CampusInsight – Main Operations of CampusInsight

ASSOCIATED CERTIFICATIONS & EXAM.

The HCIP-Datacom-Campus Network Planning and Deployment V1.5 exam # H12-841 covers high-level knowledge of enterprise campus network scenarios in the data communication field, including campus network and common technologies, campus network technology details, Huawei campus network solution overview, campus network planning, design, and deployment, and intelligent campus network O&M.