KOENIG SOLUTIONS · COURSE OUTLINE

HCIP-Datacom-Enterprise Network Solution Design

Learn to design enterprise networks spanning campus, WAN interconnection, data center, and bearer WAN using Huawei CloudCampus, CloudFabric, and CloudWAN solutions.

5 Days	5	57
DURATION	MODULES	TOPICS

COURSE OVERVIEW

This course covers enterprise network and solution fundamentals before moving into campus network architecture and key technologies, including large- and medium-sized virtualized campus network design and small- and medium-sized cloud-managed campus network design based on Huawei CloudCampus solution. It then addresses WAN interconnection technologies and enterprise WAN interconnection design using Huawei SD-WAN. The course continues with data center network architecture and design based on Huawei CloudFabric solution, and concludes with bearer WAN architecture and enterprise bearer WAN design based on Huawei CloudWAN solution.

WHO THIS COURSE IS FOR

Personnel who want to become enterprise network solution design senior engineer

Personnel who want to obtain HCIP-Datacom-Enterprise Network Solution Design certification

PREREQUISITES

- Be familiar with common operations on Huawei network devices.
- Knowledge and skills described in the HCIP-Datacom-Core Technology course.

LEARNING OBJECTIVES

What You Will Learn

On completion of this program, the participants will be able to:

- Describe the definition, architecture, and application scenarios of OpenStack
- Understand campus network pain points and Huawei solutions
- Have a good command of common technologies and applications on campus networks
- Have a good command of large- and medium-sized virtualized campus network design based on Huawei CloudCampus solution
- Have a good command of small- and medium-sized cloud managed campus networks design based on Huawei CloudCampus solution
- Have a good command of common technologies and applications in enterprise WAN interconnection
- Have a good command of common technologies and applications in data centers (DCs) and data center networks (DCNs)
- Have a good command of the DCN design based on Huawei CloudFabric solution
- Have a good command of common technologies and applications on bearer WAN
- Have a good command of enterprise bearer WAN design based on Huawei CloudWAN solution

COURSE SYLLABUS

5 Modules, 57 Topics

01

Enterprise Network and Solution Overview

TOPICS

- Definition of Enterprise Networks
- Typical Enterprise Network Scenarios
- Development Trends and Challenges of Enterprise Networks
- Huawei Enterprise Network Solution

02

Campus Network Planning and Design

CAMPUS NETWORK ARCHITECTURE AND KEY TECHNOLOGY APPLICATIONS

- Campus Network Overview
- Campus Network Ethernet Technologies and IP Routing Technologies and their Applications
- Campus Network Wireless Access Technologies and Campus Egress Technologies and Applications
- Campus Network Reliability and Network Security Technologies and Applications
- Campus Network Service and Management Technology and Application
- Typical Applications of Campus Network Technologies

LARGE- AND MEDIUM-SIZED VIRTUALIZED CAMPUS NETWORK DESIGN

- Requirements and Challenges of Large- and Medium-Sized Campus Networks
- Huawei CloudCampus Solution Overview, Deployment Mode, Key Components, and Network Architecture
- Application of Huawei CloudCampus Solution on Medium- and Large-Sized Virtualized Campus Networks
- Underlay Network Design for Medium- and Large-Sized Virtualized Campus Networks
- Fabric and Overlay Network Design for Medium- and Large-Sized Virtualized Campus Networks
- Network Admission Control and Free Mobility Design for Large- and Medium-Sized Virtualized Campus Networks
- WLAN Design, Network Security Design, and O&M design for Large- and Medium-Sized Virtualized Campus Networks

SMALL- AND MEDIUM-SIZED CLOUD-MANAGED CAMPUS NETWORK DESIGN

- Trends and Challenges of Small- and Medium-Sized Campus Networks
- Huawei CloudCampus Solution Overview, Deployment Mode, Solution Components, and Key Technologies
- Application of Huawei CloudCampus Solution on Small- and Medium-Sized Cloud Managed Campus Networks
- Network Management Mode, Network O&M Mode, and License Scheme Design for Small- and Medium-Sized Cloud Management Campus Networks
- Network Architecture, Networking Solution, and Reliability Design for Small- and Medium-Sized Cloud Management Campus Networks
- Small- and Medium-Sized Cloud Management Campus Networks Basic Services, Network Deployment, WLAN, and NAC Design

03

WAN Interconnection Planning and Design

KEY TECHNOLOGIES FOR ENTERPRISE WAN INTERCONNECTION AND THEIR APPLICATIONS

- Basic Architecture of a Typical WAN Interconnection Solution
- WAN Interconnection Network Technologies and their Applications, including WAN Interconnection Networking Solution, Private Line Technologies, and VPN Technologies
- WAN Interconnection Reliability Technologies and their Applications, including Link Detection and Network and Service Reliability Technologies
- WAN Interconnection Optimization Technologies and their Applications, including QoS and FEC Technologies
- WAN Interconnection Security Technologies and their Applications, including WAN Transmission Security and Service Security Technologies

ENTERPRISE WAN INTERCONNECTION DESIGN

- Development Trends and Challenges of Enterprise WAN Interconnection
- Huawei SD-WAN Solution Overview, Main Functions, and Application Scenarios
- **Huawei SD-WAN Networking Design:** Site Design, Tunnel Design, and VPN Design
- **Huawei SD-WAN Service Design:** Application Service Design, Network Service Design
- **Huawei SD-WAN Reliability and Security Design:** Site Reliability Design, Controller Reliability Design, and Security Design

04

Data Center Network Planning and Design

DATA CENTER NETWORK ARCHITECTURE AND KEY TECHNOLOGY APPLICATION OVERVIEW

- Data Center(DC) and Data Center Network(DCN) Overview
- Typical DCN Architecture
- Common Terms of DCs
- Key Services of DCs
- Key services of DCNs
- Huawei CloudFabric Solution

DATA CENTER NETWORK DESIGN

- DCN Requirements and Challenges
- Huawei CloudFabric Solution Overview, Solution Components, Network Architecture, Typical Scenarios, and Key Technologies
- DCN Planning and Design Methods
- Typical DCN Overall Architecture Design and Network Zone Design
- Typical DCN Key Attribute Design, Network Security Design, and O&M Design

05

Bearer WAN Planning and Design

BEARER WAN ARCHITECTURE AND KEY TECHNOLOGIES

- Bearer WAN Architecture
- **Bearer WAN Basics:** Overview and Application of MPLS, SR-MPLS, and SRv6
- **VPN Service:** WAN VPN Overview and Tunnel Management Overview
- **Network Traffic Optimization:** Network Information Collection, Path Computation for Network Traffic Optimization, and Optimization Result Delivery
- **Service Level Agreements (SLAs):** QoS, Channelized Sub-interface, and FlexE
- **Network Reliability:** TE Tunnel Protection Technologies
- Network Management and O&M

ENTERPRISE BEARER WAN DESIGN

- Current Situation and Challenges of the Enterprise Bearer WAN
- Huawei CloudWAN Solution Overview
- **Basic Design for the Enterprise Bearer WAN:** Physical Network Design, IP Address Planning, and Routing Design
- **Tunnel and VPN Design for the Enterprise Bearer WAN:** Tunnel Design and VPN Design
- **SLA and Reliability Design for the Enterprise Bearer WAN:** SLA Design and Reliability Design
- **Optimization and O&M Design for the Enterprise Bearer WAN:** Network Optimization Design and O&M Design

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training | Live Online Classes (ILO) | Fly-Me-A-Trainer (FMAT) | Flexi (Self-Paced) | 1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

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