HCIP-Datacom-Enterprise Network Solution Design Training V1.0

Duration: 5.0 Training Method: Course Level: Update Time: 2022-04-26 16:44:34

Objectives

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

Describe the definition, architecture, and application scenarios of OpenStack.

Dunderstand campus network pain points and Huawei solutions.

¹ Have a good command of common technologies and applications on campus networks.

I 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.

¹ Have a good command of common technologies and applications in enterprise WAN interconnection.

¹ Have a good command of common technologies and applications in data centers (DCs) and data center networks (DCNs).

² Have a good command of the DCN design based on Huawei CloudFabric solution.

I Have a good command of common technologies and applications on bearer WAN.

¹ Have a good command of enterprise bearer WAN design based on Huawei CloudWAN solution.

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Target Audience

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.

Training Content

1. Enterprise Network and Solution Overview

Enterprise Network and Solution Overview

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

2. Campus Network Planning and Design

Campus Network Architecture and Key Technology Applications

Campus Network Overview

2 Campus Network Ethernet Technologies and IP Routing Technologies and their Applications

2 Campus Network Wireless Access Technologies and Campus Egress Technologies and Applications

2 Campus Network Reliability and Network Security Technologies and Applications

Campus Network Service and Management Technology and Application

I Typical Applications of Campus Network Technologies

Large- and Medium-Sized Virtualized Campus Network Design

2 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

Duderlay Network Design for Medium- and Large-Sized Virtualized Campus Networks

B Fabric and Overlay Network Design for Medium- and Large-Sized Virtualized Campus Networks

In 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

In Network Management Mode, Network O&M Mode, and License Scheme Design for Small- and Medium-Sized Cloud Management Campus Networks

In 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

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3. 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

I Huawei SD-WAN Solution Overview, Main Functions, and Application Scenarios

I Huawei SD-WAN Networking Design: Site Design, Tunnel Design, and VPN Design

I Huawei SD-WAN Service Design: Application Service Design, Network Service Design

I Huawei SD-WAN Reliability and Security Design: Site Reliability Design, Controller Reliability Design, and Security Design

4. 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**

I Huawei CloudFabric Solution Overview, Solution Components, Network Architecture, Typical Scenarios, and Key Technologies

- **DCN Planning and Design Methods**
- 2 Typical DCN Overall Architecture Design and Network Zone Design
- I Typical DCN Key Attribute Design, Network Security Design, and O&M Design
- 5. 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
- **2** 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

- 2 Service Level Agreements (SLAs): QoS, Channelized Sub-interface, and FlexE
- I Network Reliability: TE Tunnel Protection Technologies
- I 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

- I Tunnel and VPN Design for the Enterprise Bearer WAN: Tunnel Design and VPN Design
- I 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