Customer Training Catalog
Course Descriptions
IPv6 Solution Training

HUAWEI Learning Service
2015

CONTENTS

1.1 Training Course Descriptions

IPv6 Solution Training Courses are designed as follows:

Code	Training Courses	Level	Duration (working days)	Training Location	Class Size
IPv6 Evolution and Trends Training Courses					
ODN40	IPv6 Migrating Solutions Introduction	II	0.5		6 ~ 12
ODN41	FBB IPv6 Solutions Introduction	II	0.5		6 ~ 12
ODN42	Mobile Broadband Services IPv6 Solutions Introduction	II	0.5		6 ~ 12
ODN43	WLAN Services IPv6 Solutions Introduction	II	0.5		6 ~ 12
IPv6 Planning and Design Training Courses					
ODN44	IPv6 Basic Protocols Introduction	II	1		6 ~ 12
ODN45	FBB IPv6 Network Structure and Products Introduction	III	0.5		6 ~ 12
ODN46	FBB IPv6 HSI Service Planning	IV	1.5		6 ~ 12
ODN47	FBB IPv6 Enterprise Leased Line Service Planning	IV	0.5		6 ~ 12
IPv6 Operation and Maintenance Training Courses					
ODN49	IPv6 Technology Principles	II	3.5		6 ~ 12
ODN50	IPv6 Backbone Network Solution Introduction and Configuration	III	1		6 ~ 12
ODN51	FBB IPv6 HSI Solution Introduction and Configuration	III	2.5		6 ~ 12
ODN52	FBB IPv6 Enterprise Leased Line Service Solution Introduction and Configuration	III	2		6 ~ 12
ODN53	FBB IPv6 WLAN Service Solution Introduction and Configuration	III	1		6 ~ 12
ODN54	FBB IPv6 Service Troubleshooting	III	0.5		6 ~ 12
ODN55	IPv6 CGN Solution Introduction and Configuration	III	1.5		6 ~ 12

1.2 IPv6 Evolution and Trends Training Course Descriptions

1.2.1   ODN40 IPv6 Migrating Solutions Introduction

Objectives

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

- Describe the basic features of IPv6
- Describe the mainstream IPv6 network evolution solution
- Describe the application scenario of different IPv6 evolution solution

Target Audience

Manager

IPv6 service operation and maintenance engineer

Network planning engineer

Prerequisites

- With basic knowledge of TCP / IP
- Familiar with the IPv4 communications network

principle
- Would like to know the IPv6 evolution program

Content

- IPv6 migration driving force
- IPv6 current status
- The introduction of IPv6 evolution solution
- Huawei IPv6 evolution solution

Training Methods

Lecture,LVC

Duration

0.5 working day

Class Size

Min 6, max 12

1.2.2 ODN41 FBB IPv6 Solutions Introduction

Objectives

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

- Describe the evolution trend of the FBB network
- Describe the impact on the existing network due to FBB IPv6 evolution
- Describe FBB IPv6 solution application scenario division, solution features and solution selection
- Describe FBB IPv6 solution involved products and their functions

Target Audience

Manager

IPv6 service operation and maintenance engineer

Network planning engineer

Prerequisites

- With basic knowledge of TCP / IP
- Familiar with the IPv4 communications network principle
- Would like to know the IPv6 evolution program

Content

- Service analysis of FBB IPv6 solution
- Application scenario of FBB IPv6 solution
- Products involved in FBB IPv6 solution

Training Methods

Lecture,LVC

Duration

0.5 working day

Class Size

Min 6, max 12

1.2.3 ODN42 Mobile Broadband Services IPv6 Solutions Introduction

Objectives

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

- Describe the evolution trend of the MBB network
- Describe the impact on the existing network due to MBB IPv6 evolution
- Describe MBB IPv6 solution application scenario division, solution features and solution selection

Target Audience

Manager
IPv6 service operation and maintenance engineer
Network planning engineer

Prerequisites

- With basic knowledge of TCP / IP
- Familiar with the IPv4 communications network principle
- Would like to know the IPv6 evolution program

Content

- Service analysis of MBB IPv6 solution
- Application scenario of MBB IPv6 solution

Training Methods

Lecture,LVC

Duration

0.5 working day

Class Size

Min 6, max 12

1.2.4   ODN43 WLAN Services IPv6 Solutions Introduction

Objectives

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

- Describe the evolution trend of the WLAN network
- Describe the impact on the existing network due to WLAN IPv6 evolution
- Describe WLAN IPv6 solution application scenario division, solution features and solution selection

Target Audience

Manager

IPv6 service operation and maintenance engineer

Network planning engineer

Prerequisites

- With basic knowledge of TCP / IP
- Familiar with the IPv4 communications network principle
- Would like to know the IPv6 evolution program

Content

- Service analysis of WLAN IPv6 solution
- Application scenario of WLAN IPv6 solution

Training Methods

Lecture,LVC

Duration

0.5 working day

Class Size

Min 6, max 12

1.3 IPv6 Planning and Design Training Course Descriptions

1.3.1 ODN44 IPv6 Basic Protocols Introduction

Objectives

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

- Analyze the IPv6 packet structure
- Analyze the differences of the IPv6 and IPv4 packets
- Describe ICMPv6 protocol message format
- Describe ICMPv6 protocol packet type
- Describe ICMPv6 protocol function
- Describe the different functions of the ND protocol
- Describe the type of ND protocol messages
- Describe how the ND address assignment protocol works
- Describe how DHCPv6 address assignment protocol works
- Describe the difference between Stateless address assignment and Stateful address assignment
- Describe the IPv6 address allocation process of HSI users getting on-line

Target Audience

IPv6 service operation and maintenance engineer

Network planning engineer

Prerequisites

- Familiar with the IPv4 data communications network protocols and related technologies

- Experience in the operation and maintenance of IPv4 data communications products

Content

- IPv6 addresses generated background
- Introduction to IPv6 Address
- IPv6 packet structure introduction
- The ICMPv6 protocol introduction
- ND protocol introduction
- Overview of IPv6 address automatically assigned solution
- ND address auto-configuration protocol introduction
- DHCPv6 address allocation protocol introduction
- IPv6 broadband access address assignment case
- IPv6 address configuration practice
- IPv6 ND protocol practice
- DHCPv6 practice

Training Methods

Lecture,Hands-on exercise,E-lab

Duration

1 working day

Class Size

Min 6, max 12

1.3.2 ODN45 FBB IPv6 Network Structure and Products Introduction

Objectives

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

- Describe IPv6 mainstream evolution solution
- Describe the dual-stack + NAT scene HSI service networking
- Describe the DS-Lite scene HSI service networking
- Describe the different scenarios HSI service related products
- Describe the IPv6 scene enterprise leased line service networking
- Describe the IPv6 scene enterprise leased line service related products
- Describe the IPv6 scene WLAN service networking
- Describe the IPv6 scene WLAN service related products

Target Audience

IPv6 service operation and maintenance engineer

Prerequisites

- Familiar with the IPv4 data communications network protocols and related technologies
- Experience in the operation and maintenance of IPv4 data communications products
- Familiar with the IPv4 FBB network structure

Content

- IPv6 HSI service networking solutions introduction
- Dual-stack + NAT scenes HSI for service networking introduction
- DS-Lite scene HSI networking introduction
- IPv6 HSI networking products introduction
- IPv6 enterprise leased line service networking solutions introduction
- IPv6 enterprise leased line service networking and products introduction
- IPv6 WLAN service networking solutions introduction
- IPv6 WLAN service networking and products introduction

Training Methods

Lecture

Duration

0.5 working day

Class Size

Min 6, max 12

1.3.3 ODN46 FBB IPv6 HSI Service Planning

Objectives

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

- Describe how to plan IPv6 HSI backbone network
- Describe how to plan IPv6 HSI dual-stack user access
- Describe how to plan IPv6 HSI CGN solution
- Describe how to plan IPv6 HSI DS-Lite solution

Target Audience

Network planning engineer

Prerequisites

- Completed the course of 《FBB IPv6 HSI Solution Introduction and Configuration》
- Familiar with the HSI business processes

- Familiar with the characteristics of BRAS business

Content

- IPv6 HSI backbone network solution planning
- IPv6 HSI Dual Stack user-access solution planning
- IPv6 HSI CGN solution planning

Training Methods

Lecture

Duration

1.5 working days

Class Size

Min 6, max 12

1.3.4 ODN47 FBB IPv6 Enterprise Leased Line Service Planning

Objectives

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

- Describe the IPv6 scene enterprise leased line service networking and products
- Describe how to plan IPv6 enterprise leased line service
- Describe how to plan IPv6 enterprise leased line network carrier solution

Target Audience

Network planning engineer

Prerequisites

- Familiar with the Enterprise Leased Line service processes
- Familiar with the features of enterprise leased line service
- At least three years of experience in the operation and maintenance of data communication equipment

Content

- IPv6 Enterprise Leased Line Service Solution Planning

Training Methods

Lecture

Duration

0.5 working day

Class Size

Min 6, max 1

1.4 IPv6 Operation and Maintenance Training Course Descriptions

1.4.1　ODN49 IPv6 Technology Principles

Objectives

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

- Describe the basic features of IPv6
- Describe the principle and configuration of OSPFv3
- Describe the principles and configuration of ISISv6
- Describe the principle and configuration of BGP4 +
- Describe the IPv6 mobility features
- Describe the IPv6 security features
- Configure IPv6 various types of routing
- Configure IPv6 ND and DHCPv6

Target Audience

IPv6 service operation and maintenance engineer

Prerequisites

- Familiar with the IPv4 data communications network protocols and related technologies
- Experience in the operation and maintenance of IPv4 data communications products

Content

- IPv6 addresses generated background
- Introduction to IPv6 Address
- IPv6 packet structure introduction
- IPv6 routing protocol configuration practice
- 6PE configuration practice
- 6vPE configuration practice
- RIPng principle
- OSPFv3 principle and configuration
- ISISv6 principle and configuration
- BGP4+ principle and configuration
- 6PE and 6VPE Principles and Implementation
- IPv6 security introduction
- Why mobile IPv6
- Mobile IPv6－building blocks
- Mobile IPv6－example

Training Methods

Lecture,Hands-on exercise,E-lab

Duration

3.5 working days

Class Size

Min 6, max 12

1.4.2 ODN50 IPv6 Backbone Network Solution Introduction and Configuration

Objectives

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

- Describe IPv6 backbone relevant technical solution
- Describe 6PE
- 6VPE principles
- Configure backbone network dual-stack solution
- Configure backbone network 6PE
- 6VPE solution

Target Audience

IPv6 service operation and maintenance engineer

Prerequisites

- Having basic knowledge of TCP/IP
- Familiar with the IPv4 backbone network communications technique

Content

- IPv6 HSI backbone network solution introduction
- IPv6 Backbone network configuration practice

Training Methods

Lecture,Hands-on exercise,E-lab

Duration

1 working day

Class Size

Min 6, max 12

1.4.3 ODN51 FBB IPv6 HSI Solution Introduction and Configuration

Objectives

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

- Describe IPv6 backbone relevant technical solution
- Describe 6PE
- 6VPE principles
- Configure backbone network dual-stack solution
- Configure backbone network 6PE
- 6VPE solution
- Describe IPv6 HSI business backbone network solutions
- Describe IPv6 HSI business dual-stack user access solutions
- Describe IPv6 HSI business CGN solutions
- Describe IPv6 HSI business DS-Lite solutions
- Describe IPv6 HSI business network carrier solutions
- Configure IPv6 backbone network
- Configure IPv6 HSI business dual-stack, DS-Lite and CGN solutions

Target Audience

IPv6 service operation and maintenance engineer

Prerequisites

- With basic knowledge of TCP / IP
- Familiar with the IPv4 communications network principle
- Familiar with FBB network structure
- Familiar with IPv4 FBB HSI related business

Content

- CGN principle introduction
- CGN classification
- The CGN access scene classification introduction
- Dual-stack access solution key technologies
- Dual-stack access solution introduction
- Examples of typical application scenarios
- DS-Lite basic concept introduction
- DS-Lite network introduction
- DS-Lite technology
- IPv6 the DNS introduction
- IPv6 the QoS introduction
- IPv6 HSI user access authentication
- IPv6 HSI dual stack user-access solution configuration practice
- IPv6 HSI DS-Lite solution configuration practice

Training Methods

Lecture,Hands-on exercise

Duration

2.5 working days

Class Size

Min 6, max 12

1.4.4 ODN52 FBB IPv6 Enterprise Leased Line Service Solution Introduction and Configuration

Objectives

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

- Describe IPv6 enterprise leased line service solutions
- Configure IPv6 enterprise leased line service solutions

Target Audience

IPv6 service operation and maintenance engineer

Prerequisites

- At least three years of experience in the operation and maintenance of data communication equipment
- Familiar with FBB network structure
- Familiar with IPv4 FBB Enterprise Leased Line related service

Content

- IPv6 enterprise leased line service solution key technologies
- IPv6 enterprise leased line service solution introduction
- Examples of typical application scenarios
- VLAN solution
- Routing solution
- Qos solution
- IPv6 enterprise leased line service configuration practice

Training Methods

Lecture,Hands-on exercise

Duration

2 working days

Class Size

Min 6, max 12

1.4.5 ODN53 FBB IPv6 WLAN Service Solution Introduction and Configuration

Objectives

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

- Describe IPv6 WLAN service solutions

Target Audience

IPv6 service operation and maintenance engineer

Prerequisites

- At least three years of experience in the operation and maintenance of data communication equipment
- Familiar with FBB network structure
- Familiar with IPv4 FBB WLAN related service

Content

- IPv6 WLAN service solution key technologies
- IPv6 WLAN service solution introduction
- Examples of typical application scenarios
- VLAN solution
- Routing solution
- Qos solution

Training Methods

Lecture

Duration

1 working day

Class Size

Min 6, max 12

1.4.6 ODN54 FBB IPv6 Service Troubleshooting

Objectives

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

- Description FBB IPv6 business troubleshooting

Target Audience

IPv6 service operation and maintenance engineer

Prerequisites

- Completed the course of 《FBB IPv6 HSI Solution Introduction and Configuration》

Content

- FBB IPv6 HSI service user aceess

troubleshooting

- FBB IPv6 HSI service BRAS troubleshooting
- FBB IPv6 HSI service CGN troubleshooting
- CGN Features Troubleshooting

Training Methods

Lecture

Duration

0.5 working day

Class Size

Min 6, max 12

1.4.7   ODN55 IPv6 CGN Solution Introduction and Configuration

Objectives

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

- Describe CGN function in the IPv6 transition solution
- Describe CGN deployment scenarios
- Describe the characteristics of CGN port resource allocation scheme
- Configure the CGN features

Target Audience

IPv6 service operation and maintenance engineer

Prerequisites

- Having basic knowledge of TCP/IP
- Familiar with the IPv4 NAT principle

Content

- CGN principle introduction
- CGN classification
- The CGN access scene classification introduction
- NAT basic principle
- NAT Session principle
- Port-Range principle and configuration suggestion
- CGN configuration practice

Training Methods

Lecture,Hands-on exercise

Duration

1.5 working days

Class Size

Min 6, max 12