UAP2105

V300R011C90

User Guide

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About This Document

Purpose

This document describes the features, specifications, installation, commissioning, and routine operation and maintenance of Huawei UAP2105 (hereafter referred to as AP).

Product Version

The following table lists the product version related to this document.

Product Name	Product Version
UAP2105	V300R011C90

Intended Audience

This document is intended for:

- System engineers
- Site maintainers
- Network administrators

Change History

For changes in the document, see **1 Changes in the UAP2105 User Guide**.

Organization

1 Changes in the UAP2105 User Guide

This describes the changes in the *UAP2105 User Guide*.

2 Safety Precautions

This describes the safety precautions that are taken when installing, operating and maintaining the equipment manufactured by Huawei.

3 Introduction to the UAP2105

Developed in compliance with the protocols of R99/R4/R5/R6 FDD, the UAP2105 provides UMTS radio network access for home and Small Office and Home Office (SOHO) users.

4 Installing the UAP2105

This describes how to install the UAP2105, accessories, and related cables.

5 Configuring the UAP2105

This describes how to configure the UAP2105 through the WebUI or the AP Manager.

6 Routine Operation and Maintenance of the UAP2105

This describes how to perform commissioning, routine maintenance, and software management of the AP after installation and configuration.

7 Communication Ports Used by the UAP2105

Conventions

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
DANGER	Indicates a hazard with a high level of risk, which if not avoided,will result in death or serious injury.
WARNING	Indicates a hazard with a medium or low level of risk, which if not avoided, could result in minor or moderate injury.
CAUTION	Indicates a potentially hazardous situation, which if not avoided,could result in equipment damage, data loss, performance degradation, or unexpected results.
TIP	Indicates a tip that may help you solve a problem or save time.
NOTE	Provides additional information to emphasize or supplement important points of the main text.

General Conventions

The general conventions that may be found in this document are defined as follows.

Convention	Description
Times New Roman	Normal paragraphs are in Times New Roman.
Boldface	Names of files, directories, folders, and users are in **boldface**. For example, log in as user **root**.
Italic	Book titles are in *italics*.
`Courier New`	Examples of information displayed on the screen are in Courier New.

Command Conventions

The command conventions that may be found in this document are defined as follows.

Convention	Description
Boldface	The keywords of a command line are in **boldface**.
Italic	Command arguments are in *italics*.
[ ]	Items (keywords or arguments) in brackets [ ] are optional.
{ x | y | ... }	Optional items are grouped in braces and separated by vertical bars. One item is selected.
[x | y | ...]	Optional items are grouped in brackets and separated by vertical bars. One item is selected or no item is selected.
{ x | y | ... }*	Optional items are grouped in braces and separated by vertical bars. A minimum of one item or a maximum of all items can be selected.
[x | y | ...]*	Optional items are grouped in brackets and separated by vertical bars. Several items or no item can be selected.

GUI Conventions

The GUI conventions that may be found in this document are defined as follows.

Convention	Description
Boldface	Buttons, menus, parameters, tabs, window, and dialog titles are in **boldface**. For example, click **OK**.
>	Multi-level menus are in **boldface** and separated by the ">" signs. For example, choose **File** > **Create** > **Folder** .

Keyboard Operations

The keyboard operations that may be found in this document are defined as follows.

Format	Description
Key	Press the key. For example, press **Enter** and press **Tab**.
Key 1+**Key 2**	Press the keys concurrently. For example, pressing **Ctrl**+**Alt** +**A** means the three keys should be pressed concurrently.
Key 1, **Key 2**	Press the keys in turn. For example, pressing **Alt**, **A** means the two keys should be pressed in turn.

Mouse Operations

The mouse operations that may be found in this document are defined as follows.

Action	Description
Click	Select and release the primary mouse button without moving the pointer.
Double-click	Press the primary mouse button twice continuously and quickly without moving the pointer.
Drag	Press and hold the primary mouse button and move the pointer to a certain position.

1 Changes in the UAP2105 User Guide

This describes the changes in the *UAP2105 User Guide*.

03(2009-09-20)

This is the second commercial release..

Compared with issue 02(2009-07-10) of V300R011C90, this issue does not add contents.

Compared with issue 02(2009-07-10) of V300R011C90, this issue incorporates the following changes:

Topic	Change Description
Logging in to the WebUI	The user name and password for logging in to the WebUI are changed. The description of setting the Internet Explorer 8.0 compatibility is added.

Compared with issue 02(2009-07-10) of V300R011C90, this issue does not delete contents.

02(2009-07-10)

This is the first commercial release.

Compared with issue 01 (2009-05-30) of V300R011C90, this issue does not add contents.

Compared with issue 01 (2009-05-30) of V300R011C90, this issue incorporates the following changes:

Topic	Change Description
3.4.1 Performance Specifications of the UAP2105	The description of the capacity and service capabilities of the UAP2105 is modified.

Compared with issue 01 (2009-05-30) of V300R011C90, this issue does not delete contents.

01 (2009-05-30)

This is the first commercial release.

2 Safety Precautions

This describes the safety precautions that are taken when installing, operating and maintaining the equipment manufactured by Huawei.

Following All Safety Precautions

When installing, operating, and maintaining the devices, follow all instructions and precautions on the equipment and in this document for the sake of personal and equipment safety. The indications such as Danger, Caution, and Note in the related documents are additional information. They do not contain all the safety precautions for operations.

Complying with the Local Safety Regulations

When operating devices, the personnel must comply with the local safety regulations.

Installation Requirements

The personnel installing and maintaining Huawei products should be trained. Before performing any operation such as device installation and maintenance, the personnel should be familiar with the proper operation methods and safety precautions.

- Only trained and qualified personnel are allowed to install, operate, and maintain devices.
- Only qualified specialists are allowed to check and repair the device and remove the safety facilities.
- Only personnel that are certificated or authorized by Huawei are allowed to replace or change the device or accessories (including software).
- Any fault or error that might cause safety problems must be reported to the personnel in charge immediately.

Safety of Personnel

- Do not perform operation on the device and related cables during thunderstorms.
- Unplug the device during thunderstorms.
- Before installing the device and related cables, unplug the device.
- Take proper safety measures to protect your eyes and respiratory tract against the dust before drilling holes.

- Wear gloves before drilling holes.

Device Safety

- Ensure that the device is always kept in a dry environment and is protected against leakage.
- Leave sufficient space around the device for heat dissipation. Do not block the air vents of the device.
- Place the device in a dry, ventilated, and dustfree place that is neither exposed to direct sunlight nor close to heat or fire.
- Keep the device far away from strong magnetic or electric fields.

3 Introduction to the UAP2105

About This Chapter

Developed in compliance with the protocols of R99/R4/R5/R6 FDD, the UAP2105 provides UMTS radio network access for home and Small Office and Home Office (SOHO) users.

3.1 Appearance of the UAP2105

The UAP2105 has a case structure. It is elegant, harmonious, and stylish.

The UAP2105 is available in black or white. **Figure 3-1** shows a black UAP2105.

Figure 3-1 UAP2105

3.2 LED on the UAP2105

The UAP2105 has only one LED, which indicates the working status of the UAP2105.

Figure 3-2 shows the LED on the UAP2105.

Figure 3-2 LED on the UAP2105

Table 3-1 describes the LED and its status.

Table 3-1 LED on the UAP2105

Status	Description
ON (red)	No AP cell is set up, or an alarm of cell setup failure is generated.
ON (blue)	An AP cell is set up. No service is provided, and no interference exists in the signals of the cell.
Blinking in red (ON for 1s and OFF for 1s)	Slight interference exists in the signals of an AP cell. The UAP2105 works properly, but the quality of service (QoS) deteriorates.
Blinking in red (ON for 0.25s and OFF for 0.25s)	Strong interference exists in the signals of an AP cell. The UAP2105 cannot work properly.
Blinking in blue (ON for 1s and OFF for 1s)	An AP cell is set up successfully, and services are being provided in the cell.
Blinking in blue (ON for 0.125s and OFF for 0.125s)	Software is being downloaded, or the system is being upgraded.

3.3 Ports and Buttons on the UAP2105

This describes the ports and buttons on the UAP2105. The ports are used for the power supply, Ethernet cable, and SIM or USIM card. The RESTORE button is used to restore the login password of the WebUI to the default password. The power switch is used to power on or power off the UAP2105.

Figure 3-3 shows the ports and buttons on the panel of the UAP2105.

Figure 3-3 Ports and buttons on the UAP2105

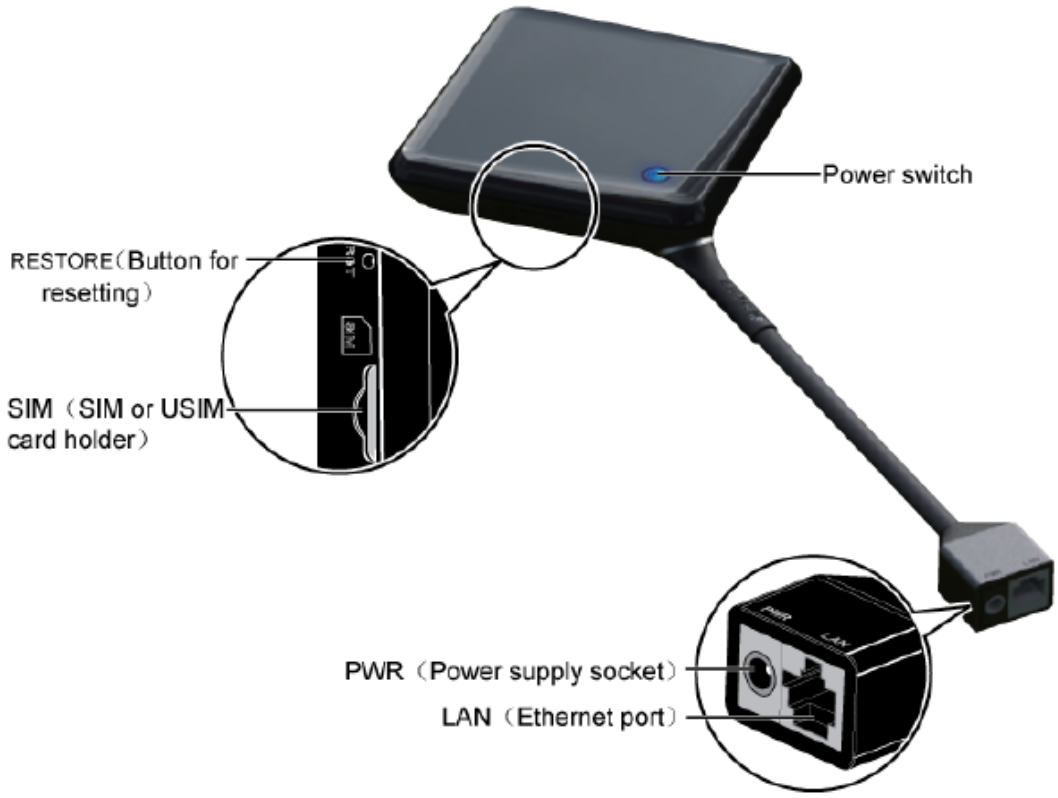


Table 3-2 describes the ports and buttons on the UAP2105.

Table 3-2 Ports and buttons on the UAP2105

Port or Button	Description
RESTORE	Button for restoring the login password of the WebUI. After you press the button for five seconds, Restore the AP to factory settings (including the IP address for AP local maintenance and the user name and password for logging in to the WebUI).
SIM	SIM or USIM card holder, which is used for housing the SIM or USIM card

Port or Button	Description
LAN	Ethernet port for an Ethernet cable
PWR	Power socket, which is connected to the 12 V DC power adapter
Power switch	Used to power on or power off the UAP2105

3.4 Specifications of the UAP2105

This describes the performance specifications and technical specifications of the UAP2105.

3.4.1 Performance Specifications of the UAP2105
This describes the performance specifications of the UAP2105 in terms of the frequency bands, maximum transmit power, number of TRXs, transmit and receive diversity, receiver sensitivity, and clock precision.

3.4.2 Technical Specifications of the UAP2105
This describes the technical specifications of the UAP2105.

3.4.1 Performance Specifications of the UAP2105

This describes the performance specifications of the UAP2105 in terms of the frequency bands, maximum transmit power, number of TRXs, transmit and receive diversity, receiver sensitivity, and clock precision.

Performance Specifications

Table 3-3 Performance specifications of the UAP2105

Item	Specification		
Frequency bands	Frequency band	RX band (MHz)	TX band (MHz)
	BAND I (2100 MHz)	1920 to 1980	2110 to 2170
	Band II (1900 MHz)	1850 to 1910	1930 to 1990
	Band V (850 MHz)	824 to 849	869 to 894
Maximum transmit power	13 dBm (20 mW)		
Capacity	Only one TRX is supported. Only one cell is supported. A maximum of 20 UL channel elements (CEs) and 20 DL CEs is supported.		

Item	Specification
Service capabilities	Common PS and CS services: ● A maximum of four concurrent AMR services is supported. ● A maximum of four concurrent VP services is supported. ● A maximum of eight concurrent PS services is supported. ● A maximum of four concurrent R99 384 kbit/s PS services is supported. ● A maximum of four concurrent CS users is supported. ● A maximum of four concurrent PS users is supported. HSDPA service: ● The maximum supported HSDPA rate is 3.6 Mbit/s or 7.2 Mbit/s. The default value is 3.6 Mbit/s. The license can be used to control the maximum HSDPA rate of the UAP2105. ● 3GPP R99, R4, R5, and R6 services can be provided at the same time. ● A maximum of four concurrent HSDPA users is supported. ● A maximum of 10 HS-PDSCH codes is supported. HSUPA service ● The maximum supported HSUPA rate is 1.44 Mbit/s. ● 3GPP R99, R4, R5, and R6 services can be provided at the same time. ● A maximum of four concurrent HSUPA users is supported. ● The 10 ms Transmission Time Interval (TTI) over the E-DCH is supported.
Transmit and receive diversity	No transmit diversity or receive diversity
Receiver sensitivity	-110 dBm
Clock precision	±0.1 ppm

3.4.2 Technical Specifications of the UAP2105

This describes the technical specifications of the UAP2105.

Technical Specifications

Table 3-4 Technical specifications of the UAP2105

Item	Specification
Dimensions (Height x Width x Depth)	33 mm x 125 mm x 125 mm
Weight	0.4 kg

Item	Specification
Power consumption	< 8 W
Ambient temperature	Working temperature: -5°C to +40°C
	Storage temperature: -40°C to +70°C
Relative humidity	5% RH to 95% RH
Specifications of the power adapter	Input voltage: 90 V AC to 264 V AC
	Frequency range: 47 Hz to 63 Hz

4 Installing the UAP2105

About This Chapter

This describes how to install the UAP2105, accessories, and related cables.

4.1 Selecting a Position for Installing the UAP2105

This describes the requirements for the installation position of the UAP2105.

Requirements for the Installation Position

The UAP2105, a home device, is installed indoor areas that are away from children, such as living rooms or studies. It supports the tabletop or wall-mounted installation. The UAP2105 mounted on a wall obtatains better coverage than that placed on a tabletop. Leave a minimum of 20 cm space around the UAP2105 for heat dissipation. When selecting a position for installing the UAP2105, adhere to the following rules:

- Do not place the AP near the window.
- Do not cover or block the AP.
- Do not overload the AP.
- Do not place AP near a microwave oven.
- Do not place the AP on an electrical device.
- Do not directly blow hot wind to the AP.

4.2 Installing the SIM or USIM Card

This describes how to install the SIM or USIM card. The data in the card enables the UAP2105 to perform user authentication and then to connect the core network after the authentication is successful.

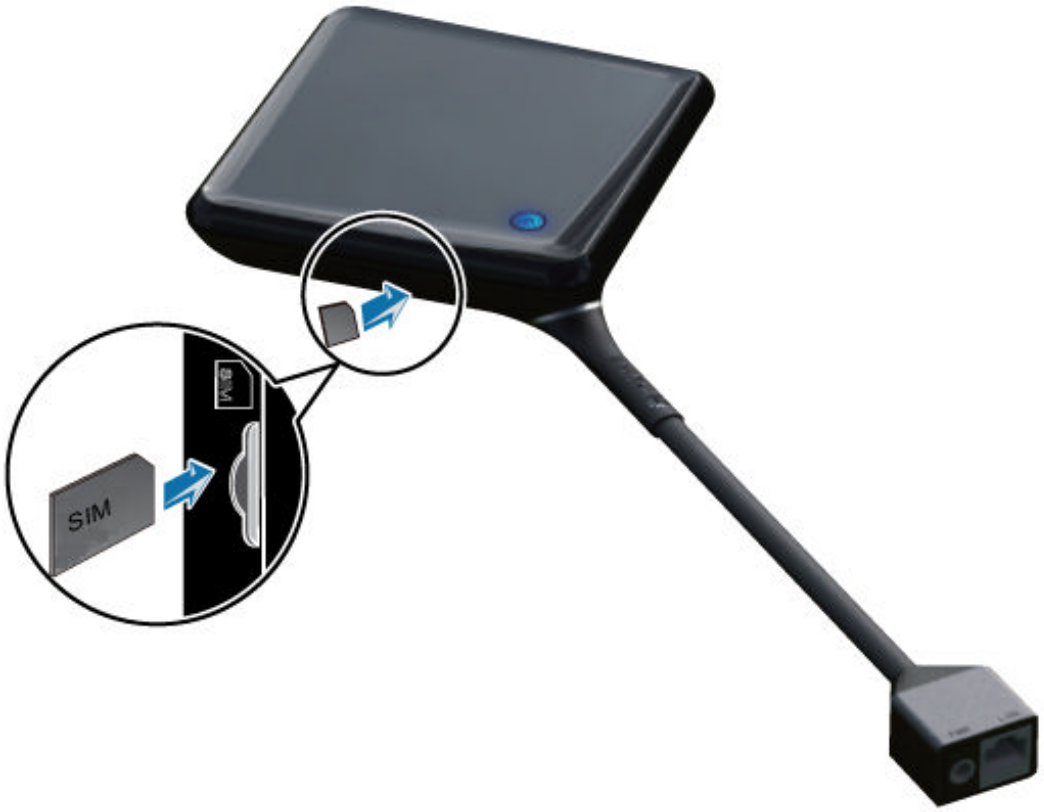
Prerequisite

Before installing the SIM or USIM card, power off the UAP2105 and disconnect the power cable.

Procedure

Step 1 Insert the SIM or USIM card into the card holder, as shown in **Figure 4-1**.

Figure 4-1 Installing the SIM or USIM card



CAUTION

- While inserting the SIM or USIM card into the card holder, ensure that the notch on the SIM or USIM card faces the silkscreen.
- Do not remove the SIM or USIM card while the UAP2105 is running. Otherwise, the AP cell cannot be set up. After the SIM or USIM card is re-inserted, the UAP2105 cell is reestablished.

----End

4.3 Connecting UAP2105 Cables

This describes how to connect the power adapter of the UAP2105 and how to connect the Ethernet cable based on the network topology of the UAP2105.

Context

A power adapter and straight-through cable are delivered with the UAP2105 and are placed in the external packing box.

Procedure

Step 1 Connect the power adapter, as shown in **Figure 4-2**.

Figure 4-2 Connecting the power adapter of the UAP2105

CAUTION

To ensure that the UAP2105 runs properly, use the power adapter delivered with the UAP2105.

Step 2 Connect the Ethernet cable.

- In PPPoE mode

  The UAP2105 is connected to the Ethernet through an xDSL device, such as a modem, BAS, or DSLAM.

If the Modem has ...	Then ...
Only one LAN port	1. Use Ethernet cables to connect the UAP2105 and the computer for local maintenance to idle LAN ports on a router or switch. 2. Connect the router or switch to a modem. For details on connections, see the documents delivered with the router or switch. **Figure 4-3** shows the cable connections when the modem has only one LAN port. **NOTE** If no router is configured, you can directly connect the computer for local maintenance to the modem to configure the modem, and then connect the computer to the UAP2105 to configure the UAP2105. After the modem and the UAP2105 are configured, you can directly connect the UAP2105 to the LAN port on the modem.

If the Modem has ...	Then ...
Multiple LAN ports	Connect the UAP2105 to an idle LAN port on the modem through an Ethernet cable, as shown in **Figure 4-4**. The UAP2105 and the computer for local maintenance should be connected to the same modem.

Figure 4-3 Cable connections (with the modem having only one LAN port)

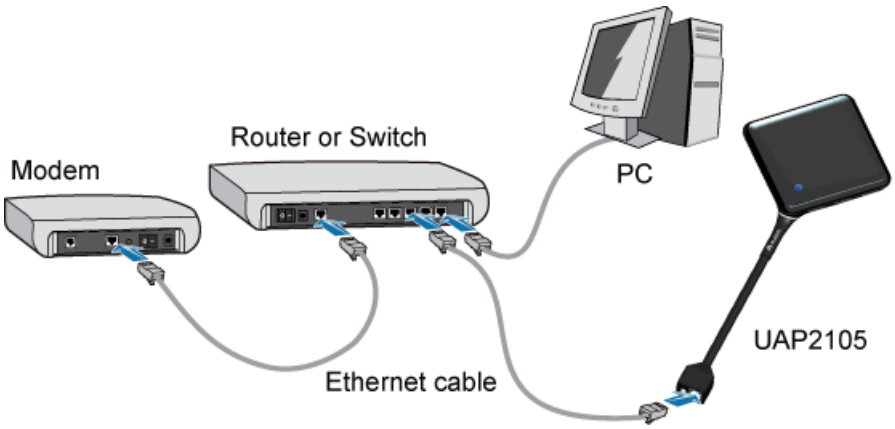
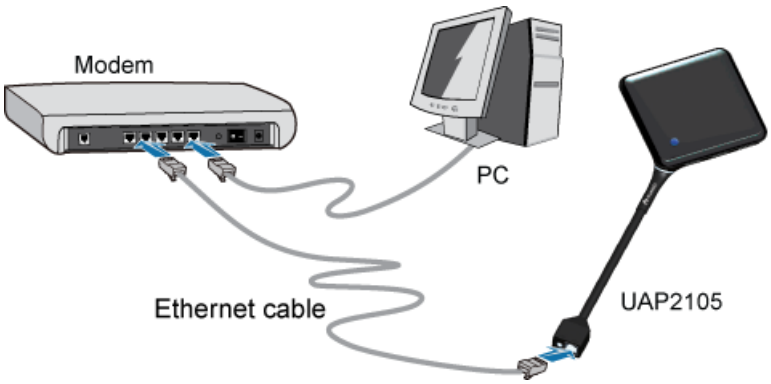


Figure 4-4 Cable connections (with the modem having multiple LAN ports)



CAUTION

If a cable modem is used (Cable Modem is labeled on the housing of the modem), connect the cables according to the documents delivered with the cable modem.

- In FE direct connection mode

The UAP2105 is directly connected to the Ethernet through a device, such as a router. The number of devices used in FE direct connection mode is smaller than the number of devices used in PPPoE mode. As a result, the UAP2105 provides higher uplink and downlink rates.

1. Connect the UAP2105 to an idle LAN port on the router through an Ethernet cable.

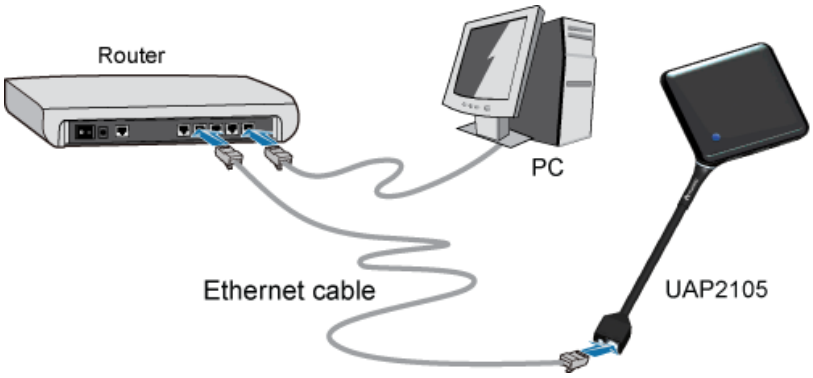
   The UAP2105 and the computer for local maintenance should be connected to the same router.

2. Connect the router to the Ethernet.

   For details on connections, see the documents delivered with the router.

Figure 4-5 shows the cable connections in FE direct connection mode.

Figure 4-5 Cable connections (in FE direct connection mode)



Step 3 Check the cables to ensure that all connections are secure.

----End

5 Configuring the UAP2105

About This Chapter

This describes how to configure the UAP2105 through the WebUI or the AP Manager.

5.1 Initial Configuration

This describes how to configure the IP address of the AP and the connection mode through an ADSL modem or router according to the network topology of the AP.

5.1.1 PPPoE Mode

The PPPoE mode consists of PPPoE bridge mode and PPPoE route mode. Regardless of the mode you choose, you need to set the parameters of the ADSL modem and the AP.

Prerequisite

- You have logged in to the WebUI. For details, see **Logging in to the WebUI**.
- The IP address of the computer is set on the 192.168.1.x network segment.

Context

In PPPoE bridge mode

- The connection mode when an ADSL modem works in bridge mode and the application type of the modem is set to **Bridge Only** is called PPPoE bridge mode. In PPPoE bridge mode, you need to enter the user name and password of each terminal connected to the modem to initiate PPPoE dial-up connections for authentication.

In PPPoE route mode

- The modem obtains the IP address and related information such as the IP address of the gateway and subnet mask from the BAS through PPPoE dial-up connections. After the modem passes the authentication, it is connected to Internet. In PPPoE route mode, the modem works in **DHCP Server** mode. Each terminal connected to the modem can automatically obtain the IP address of the LAN from the modem without PPPoE dial-up connections.

Procedure

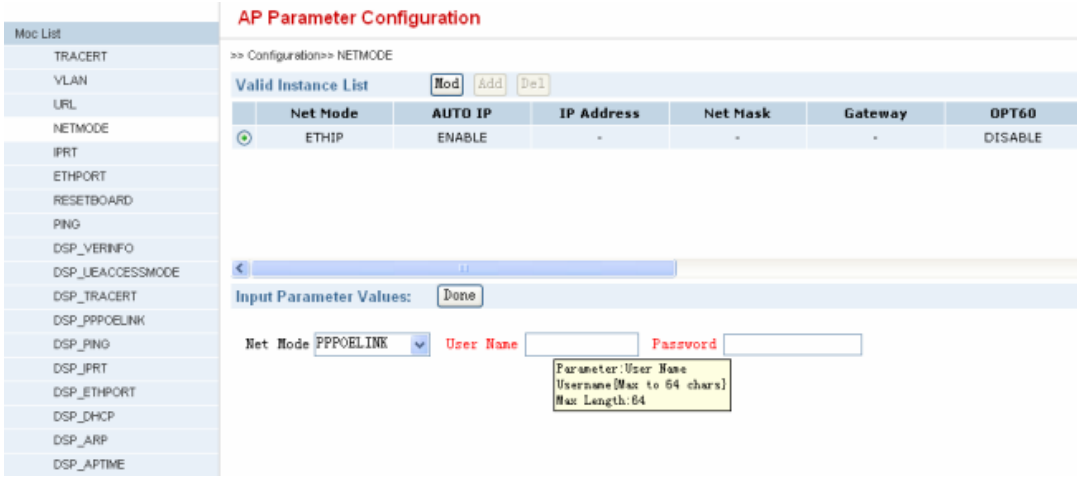
- In PPPoE bridge mode
  1. Configure the ADSL modem.

     NOTE

     To set **WAN Configuration** of the ADSL modem in PPPoE bridge mode, set the application type of the ADSL modem to **Bridge Only** and the connection of the ADSL modem to **RFC 2684 Bridge**. The setting method varies according to the type of the ADSL modem. For details, see the document delivered with the ADSL modem.

2. Configure the AP. On the WebUI, choose **Transfer Basic** > **NETMODE** . Click **Mod**, set **Net Mode** to **PPPOELINK**, and then type the user name and password for a PPPoE dial-up connection, as shown in **Figure 5-1**.

Figure 5-1 Configuring an AP



NOTE

After the networking mode of the AP is changed, the AP is automatically restarted. The existing configurations are not modified.

- In PPPoE route mode

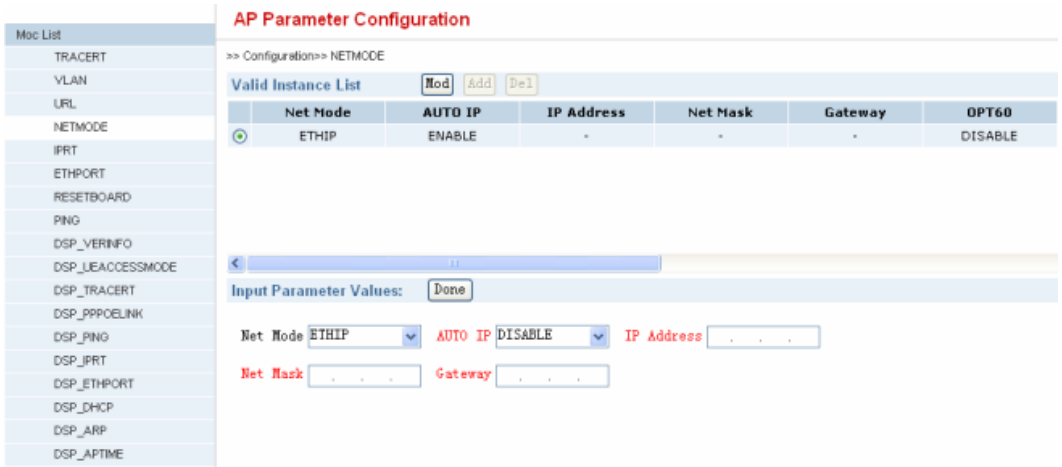
1. Configure the ADSL modem.

NOTE

To set **WAN Configuration**, **NAT**, and **DNS** of the ADSL modem in PPPoE route mode, set the application type of the ADSL modem to **PPPoE**, NAT to **NAPT**, DNS to **Allow**, and DHCP to **DHCP Server**. The setting method varies according to the type of the ADSL modem. For details, see the document delivered with the ADSL modem.

2. Check the configuration of the AP. On the WebUI, choose **Transfer Basic** > **NETMODE** to check the configuration of the AP, as shown in **Figure 5-2**.

Figure 5-2 Checking the configuration of the AP



If ...	Then ...
Net Mode is set to **ETHIP** and **AUTO IP** to **ENABLE**	The configuration is complete. End the operation. **NOTE** When an AP is delivered, **Net Mode** is set to **ETHIP** and **AUTO IP** to **ENABLE** by default. Therefore, in PPPoE route mode, it is not necessary to configure the AP.
Net Mode is not set to **ETHIP** or **AUTO IP** to **ENABLE**	Go to **3**.

3. Configure the AP. On the WebUI, choose **Transfer Basic** > **NETMODE** . Click **Mod** and set **Net Mode** to **ETHIP** and **AUTO IP** to **ENABLE**.0

----End

5.1.2 FE Direct Connection Mode

This describes how to configure the IP address of the AP and the connection of the router in FE direct connection mode.

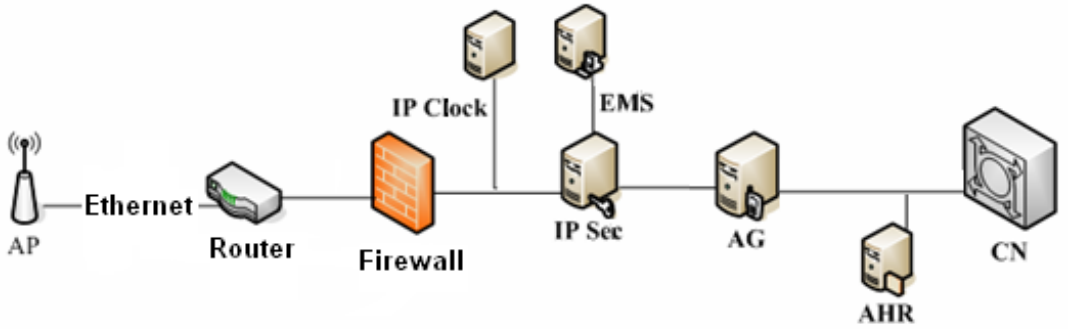
Prerequisite

- You have logged in to the WebUI. For details, see **Logging in to the WebUI**.
- The IP address of the computer is set on the 192.168.1.x network segment.

Context

Figure 5-3 shows the FE direct connection mode.

Figure 5-3 FE direct connection mode



Procedure

Step 1 For details, see the description of **PPPoE route mode** in **5.1.1 PPPoE Mode**.

NOTE

The method of setting the router in FE direct connection mode is the same as the method of setting the ADSL modem in **PPPoE route mode**.

----End

5.2 Defining a Subscriber in the AHR

This describes how to define an AP subscriber in the AHR. To define an AP subscriber in the AHR, create an AP zone, and then add an AP user to the zone.

5.2.1 Adding a Zone
This describes how to add an AP zone in the AHR. Before adding an AP zone, obtain the information about neighboring macro cells around the AP cell and the IP addresses of the AP Manager, AG, SeGW, and CLK used in the AP network.

5.2.2 Adding a User
This describes how to perform AP user management in the AHR, for example, add an AP user in the AHR.

5.2.1 Adding a Zone

This describes how to add an AP zone in the AHR. Before adding an AP zone, obtain the information about neighboring macro cells around the AP cell and the IP addresses of the AP Manager, AG, SeGW, and CLK used in the AP network.

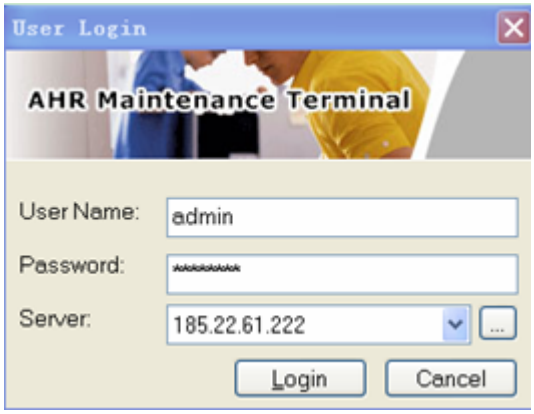
Prerequisite

- You have installed the AHR client that matches the version of the AHR server.
- You have obtained the IMSI of the SIM or USIM card used in the AP and the IP addresses of the AP Manager, AG, SeGW, and CLK used in the AP network.

Procedure

Step 1 Start the AHR client, and then type the user name, password, and IP address of the AHR server, as shown in **Figure 5-4**.

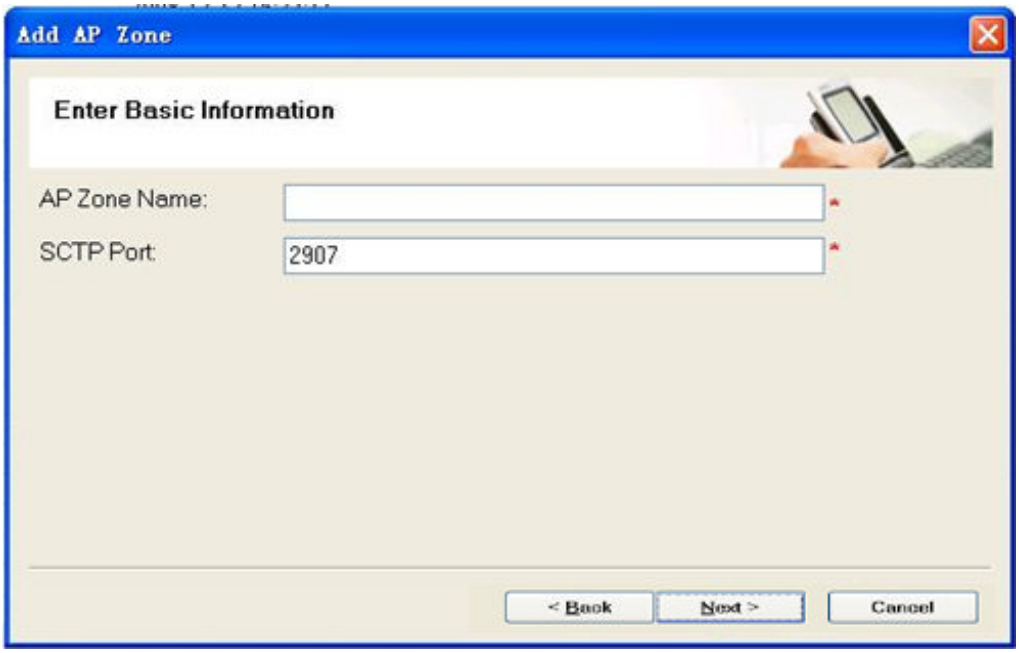
Figure 5-4 Logging in to the AHR



Step 2 Choose **Area** > **AP Zone Management**. The **Zone Configuration** page is displayed.

Step 3 Click **Add**. The **Add AP Zone** dialog box is displayed, as shown in **Figure 5-5**.

Figure 5-5 Adding an AP zone

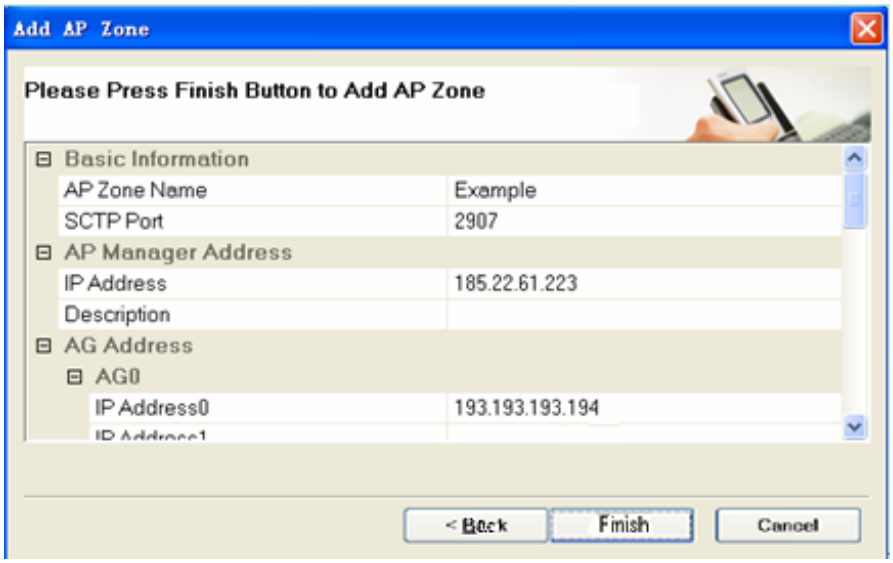


Step 4 Type the zone where the AP is located and set **SCTP Port** to the port ID that is the same as the port ID of the AG.

Step 5 Click **Next** to set the IP addresses of the AP Manager, AG, SeGW, and CLK and the information about neighboring macro cells around the AP cell in sequence.

Step 6 Confirm the settings, and then click **Finish**, as shown in **Figure 5-6**.

Figure 5-6 Completing settings



----End

5.2.2 Adding a User

This describes how to perform AP user management in the AHR, for example, add an AP user in the AHR.

Procedure

Step 1 Choose **Service** > **AP User Management**. The **AP User Management** page is displayed.

Step 2 Click **OK**.

The **Add AP User** page is displayed, as shown in **Figure 5-7**.

Figure 5-7 Adding an AP user

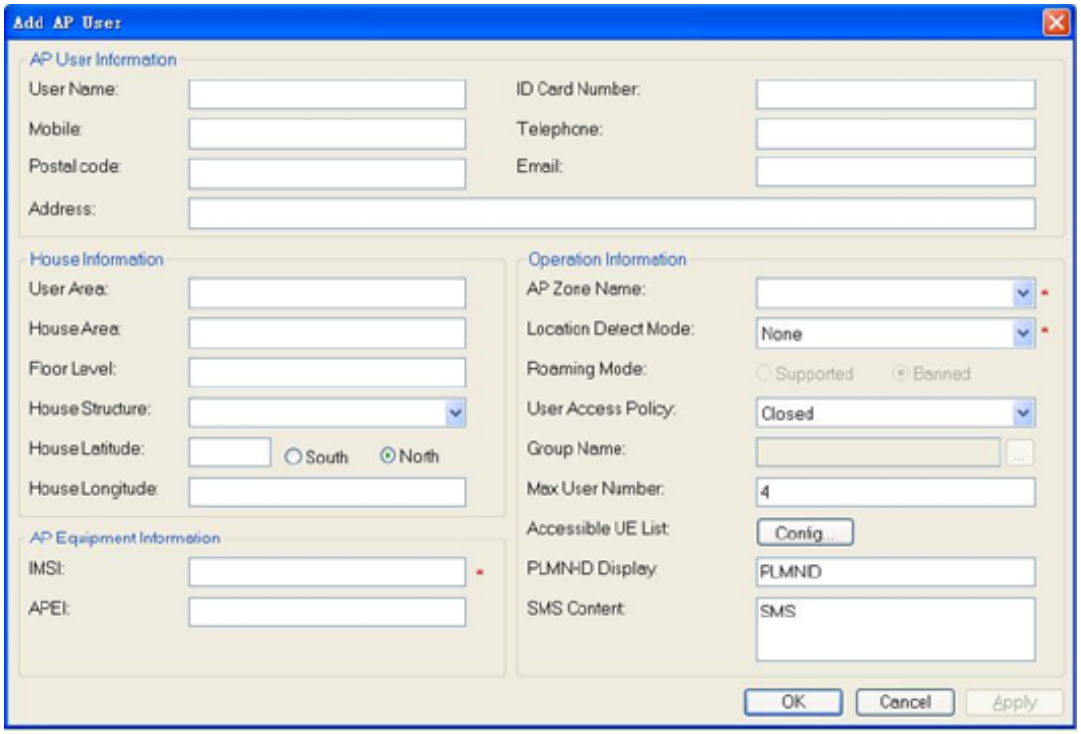


Table 5-1 describes the parameters.

Table 5-1 Meanings of parameters

Parameter	Input Value	Description
IMSI	IMSI of the SIM or USIM card used in the AP	-
AP Zone Name	Name of the zone configured in the **5.2.1 Adding a Zone**	Name of the zone where the AP is located

Parameter	Input Value	Description
Location Detect Mode	Cell ID	Location detection is performed according to the macro cell reported by the AP. The location detection is used to check the validity of the AP.
	PLMNID	Location detection is performed according to the PLMN ID reported by the AP.
	IP Address	Location detection is performed according to the IP address reported by the AP.
	None	No location detection is performed for the AP.
User Access Policy	Close	Only the UEs in the UE permission list set in the AHR can connect to the AP network.
	Open	All UEs under the AP coverage can connect to the AP network.
PLMNID Display	Information about the operator that provides services	When the **PLMNID Display** switch is enabled on the AP Manager and a UE camps on the AP cell, the information about the operator is displayed on the UE.
SMS Content	SMS content for location indication	When the **SMS Content** switch is enabled on the AP Manager and a UE camps on the AP cell, a message containing the location indication information is sent to the UE.

Step 3 Type parameters (the parameters with red asterisks are mandatory), and then click **OK**. The AP user is added successfully.

----End

5.3 Setting Parameters on the AP Manager

This describes how to set AP parameters on the AP Manager. The parameter settings are applicable to all APs managed by the AP Manager.

5.3.1 Activating a Zone

Before setting the parameters in a zone on the AP Manager, activate the zone.

Prerequisite

- You have obtained the IP address, login user name, and password of the AP Manager.
- You have obtained the Mobile Network Code (MNC), Mobile Country Code (MCC), Air Mobile Country Code (MCCAIR), Air Mobile Network Code (MNCAIR), and Air Location Area Code Range (LACAIR) used by the AP.
- You have obtained the APCELLAC, list of frequencies, and list of scrambling codes in the zone where the AP is located.

Procedure

Step 1 Open the Internet Explorer (IE), and then type the IP address and login port number (such as, http://185.22.61.79:8080/apm) of the AP Manager. The login dialog box is displayed, as shown in **Figure 5-8**.

Figure 5-8 Logging in to the AP Manager

Step 2 Type the user name, password, and verify code to log in to the AP Manager.

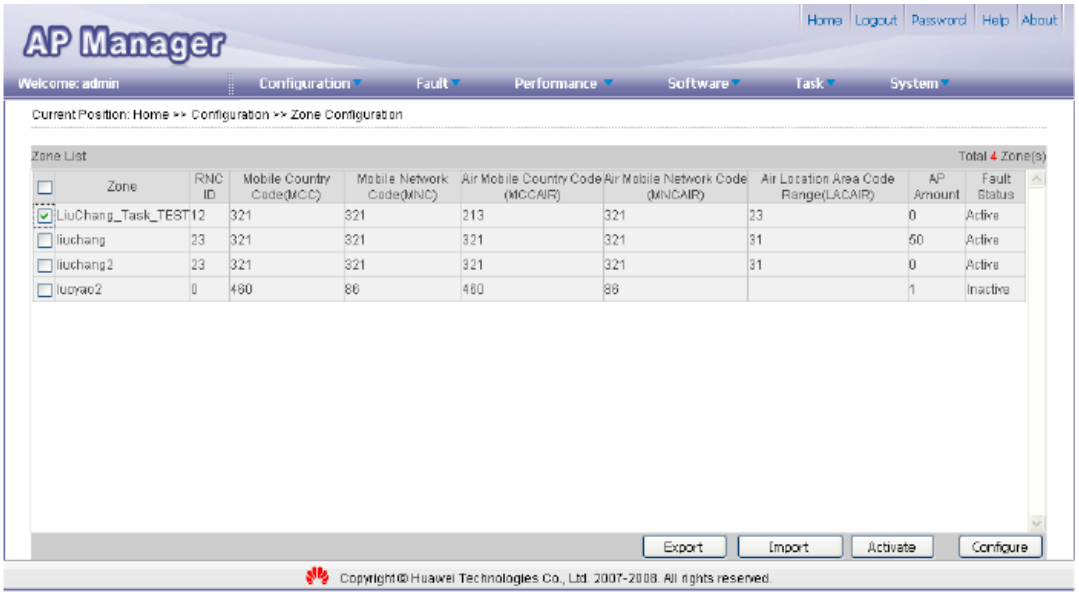
NOTE

The default user name is admin, and the default password is 11111111.

Step 3 Choose **Configuration** > **Zone Configuration**. The **Zone Configuration** page is displayed.

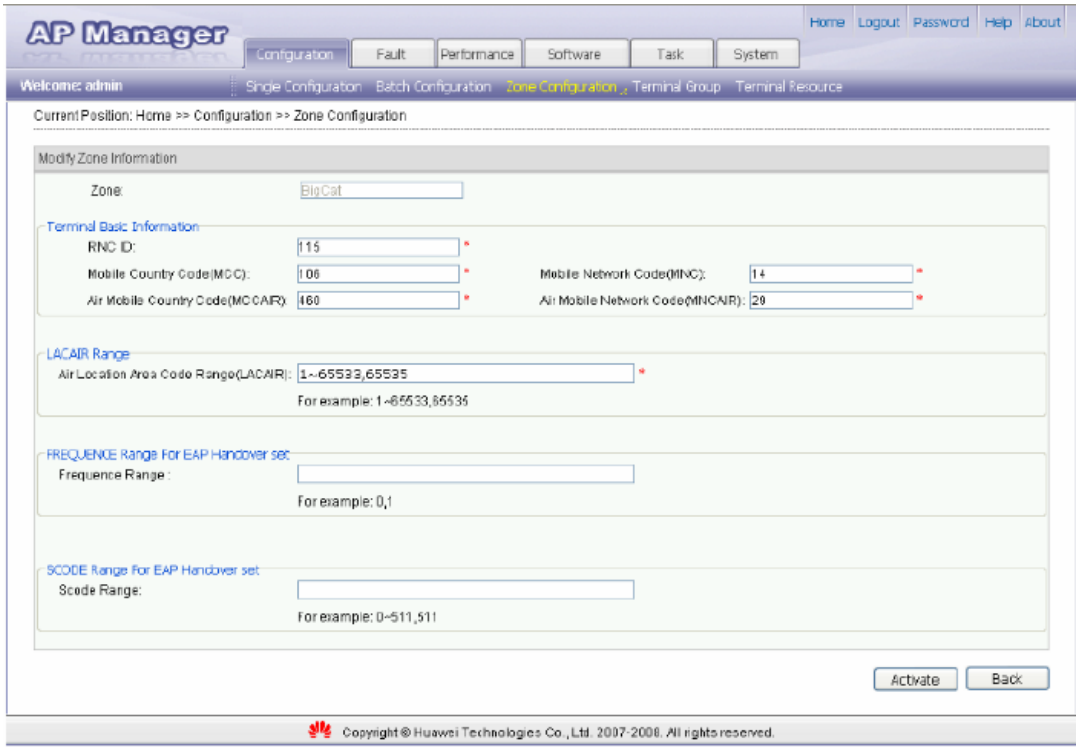
Step 4 Select the zone in which parameters need to be set, as shown in **Figure 5-9**. Then, click **Activate**.

Figure 5-9 Configuring a zone



Step 5 Set the parameters based on network planning, and then click **Activate** to activate the zone, as shown in **Figure 5-10**.

Figure 5-10 Activating a zone



----End

5.3.2 Setting Parameters in a Zone

Select the zone in which parameters need to be set, and then set the APCELLAC, list of AP frequencies, and list of AP scrambling codes.

Prerequisite

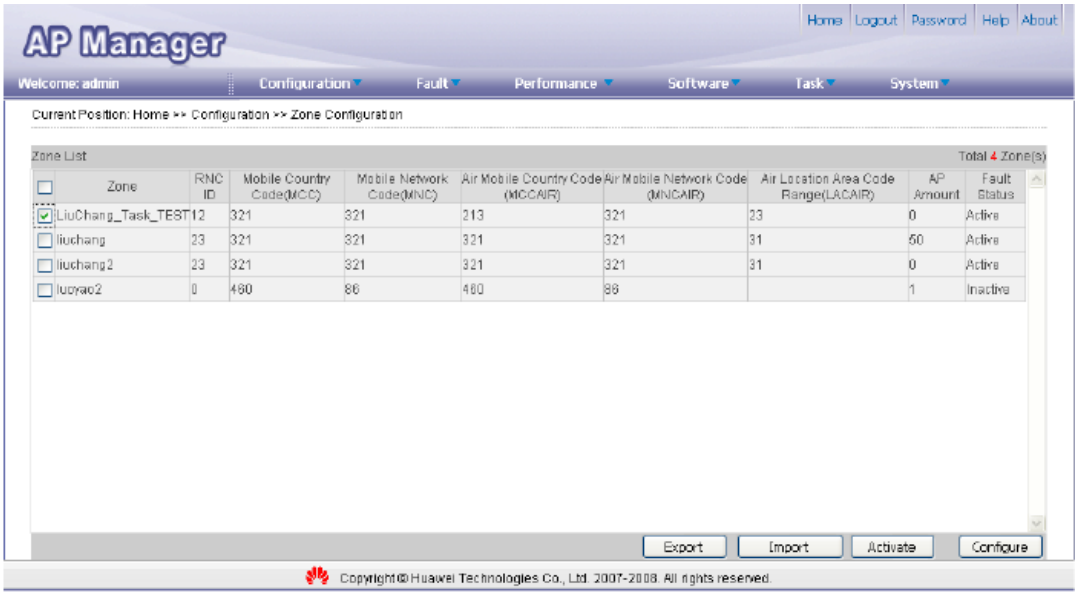
The zone has been activated.

Procedure

Step 1 Choose **Configuration** > > **Zone Configuration** . The **Zone Configuration** page is displayed.

Step 2 Select the zone in which parameters need to be set, as shown in **Figure 5-11**. Then, click **Configure**.

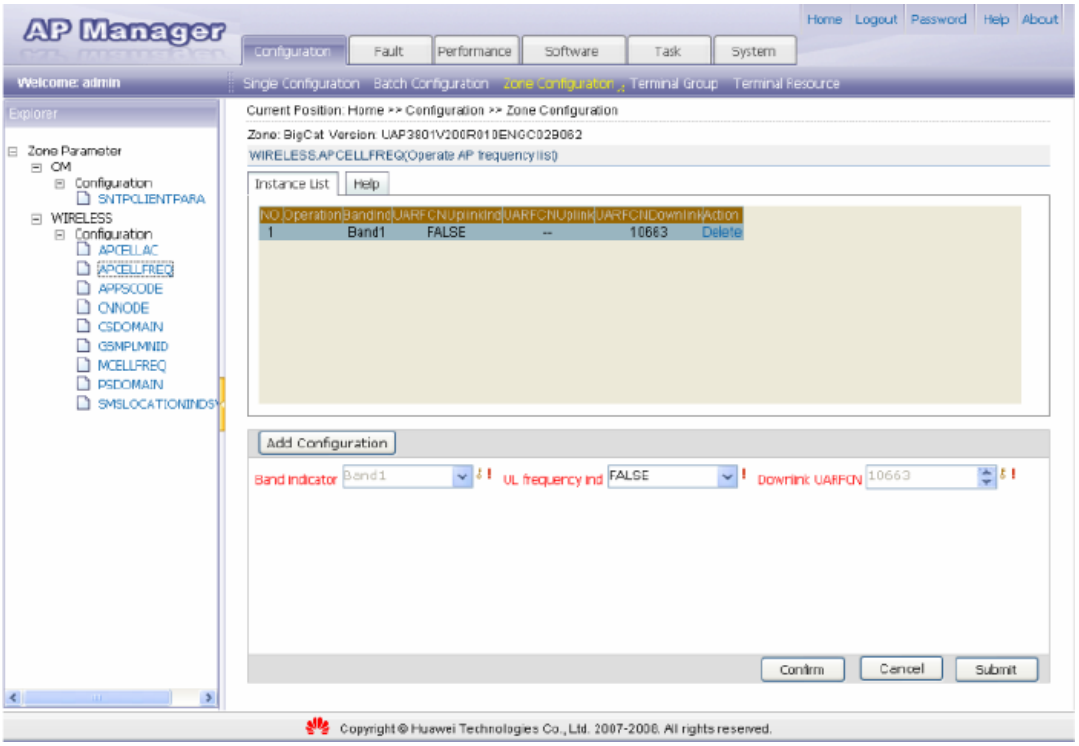
Figure 5-11 Configuring a zone



Step 3 Select the target AP in the zone, and then click **Next**.

Step 4 Choose **APCELLFREQ** from the left pane and set the list of AP frequencies, as shown in Figure 5-12.

Figure 5-12 Setting the list of AP frequencies



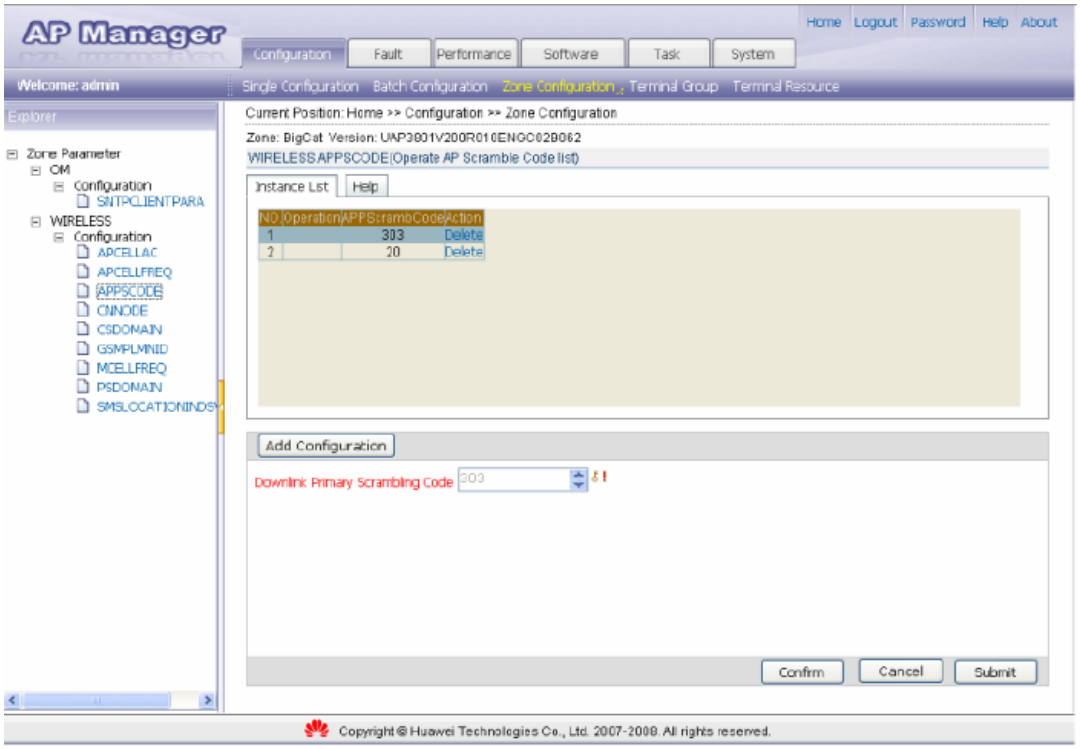
NOTE

Click **Add Configuration** to add a frequency of the AP.

Step 5 After completing the settings, click **Confirm**.

Step 6 Choose **APPSCODE** from the left pane and set the list of AP scrambling codes, as shown in **Figure 5-13**.

Figure 5-13 Setting the list of AP scrambling codes



NOTE

Click **Add Configuration** to add a frequency of the AP.

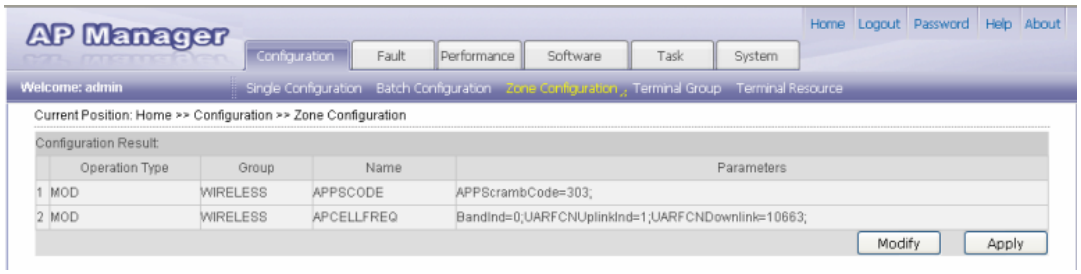
Step 7 After completing the settings, click **Confirm**.

Step 8 Choose **APCELLAC** from the left pane and set the APCELLAC of the AP.

Step 9 After completing the settings, click **Confirm**.

Step 10 Click **Submit** after the APCELLAC, list of AP frequencies, and list of AP scrambling codes are set. The configuration confirmation page is displayed, as shown in **Figure 5-14**.

Figure 5-14 Configuration confirmation



Step 11 After confirming the settings, click **Apply**.

----End

6 Routine Operation and Maintenance of the UAP2105

About This Chapter

This describes how to perform commissioning, routine maintenance, and software management of the AP after installation and configuration.

6.1 Commissioning Services

This describes how to trace the Uu interface, Iu interface, and CDT messages to test the services offered by the AP through the Trace Viewer tool of the Local Maintenance Terminal (LMT).

Prerequisite

- The AP is powered on, and the AP cell is set up.
- Two functional UEs, UE 1 and UE 2, are ready.
- If the admission mode of the AP is set to **Close** or **Group**, the IMSIs of UE 1 and UE 2 are added to the AP permission list.

  For details about how to configure the AP permission list, see the *AHR Operator Guide*.
- A functional fixed-line phone is ready.
- The LMT that matches the AP version works properly.
- The CS and PS domains are functional.

Context

Table 6-1 describes the basic tasks involved in service commissioning.

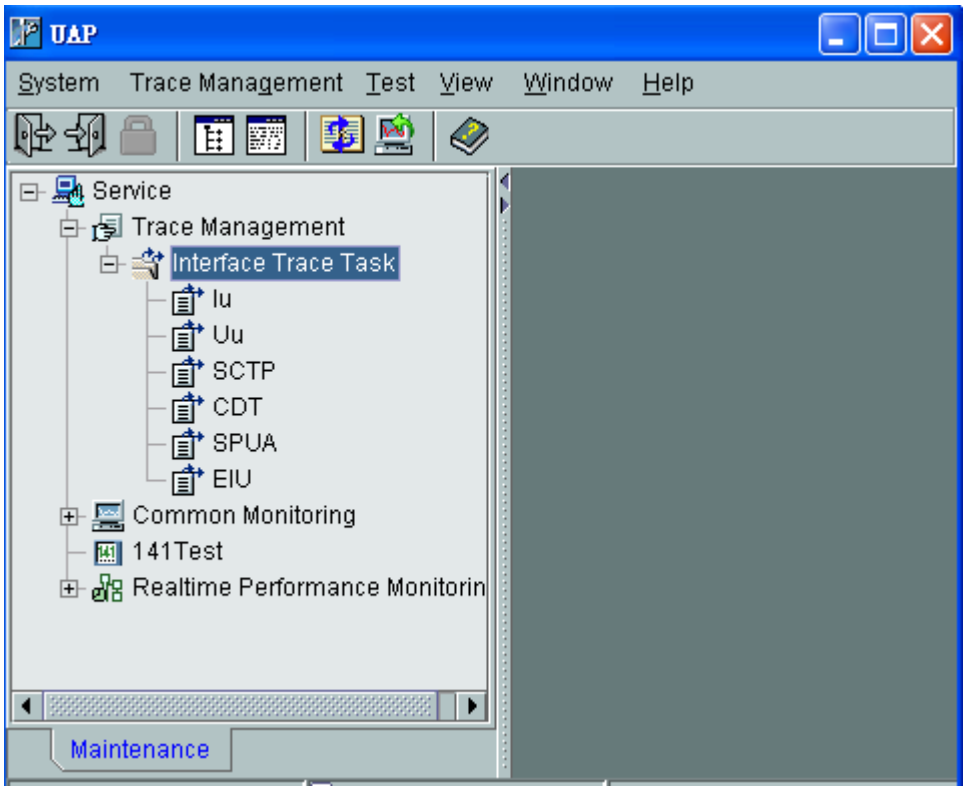
Table 6-1 Commissioning AP Services

Task	Method	Expected Result
Test voice call services.	UE 1 or UE 2 originates a voice call to the fixed-line phone.	The voice quality is good without loud noise.
	UE 1 originates a voice call to UE 2.	The voice quality is good without loud noise.
Test video call services.	UE 1 originates a video call to UE 2.	• The voice is clear. • The video is clear and fluent. • The voice is synchronized with the video.
Test PS services.	Browse web pages and upload or download data through a UE.	Web pages are browsed normally, and data is uploaded or downloaded successfully within the specified time.

Procedure

Step 1 Log in to the LMT, and then choose **Service** > **Trace Management** > **Interface Trace Task** to trace the Uu interface, Iu interface, and CDT messages, as shown in Figure 6-1.

Figure 6-1 Tracing management



Step 2 Power on the UE under the coverage of the AP cell. Check whether the UE can automatically search for the AP cell during startup.

If ...	Then ...
The UE fails to search for the AP cell	1. Identify and rectify the fault. For details, see **Failure of the UE to Search for the AP Cell**. 2. Go to **Step 3**.
The UE succeeds in searching for the AP cell	Go to **Step 3**.

Step 3 Wait until the UE is under the coverage of the AP cell and the location update is complete.

If the AP fails to access the AP cell, identify and rectify the faulty. For details, see **Failure of the UE to Access the AP Cell**.

Step 4 Test the services provided by the AP.

1. A UE originates a voice call to the fixed-line phone.
2. UE 1 originates a voice call to UE 2.
3. UE 1 originates a video call to UE 2.
4. Browse web pages and upload or download data through a UE.

----End

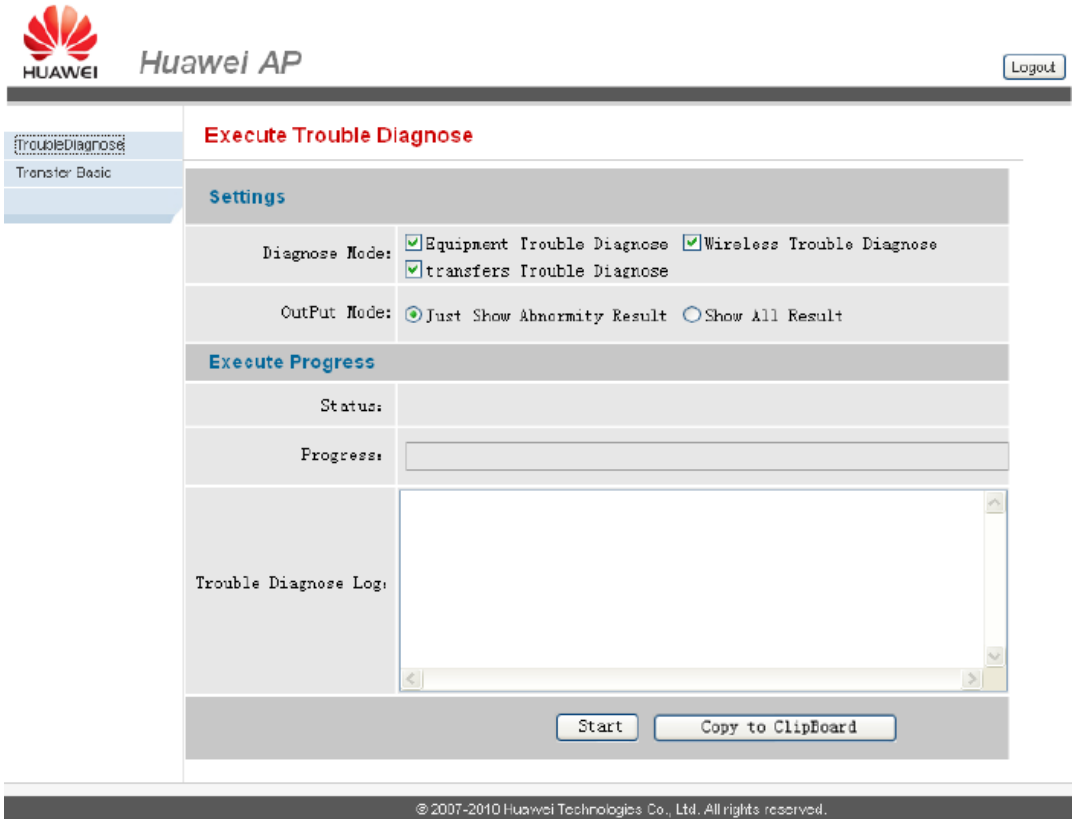
6.2 Diagnosing Faults

This describes how to diagnose the faults in the AP, faults at the radio network layer, and faults at the transport network layer on the WebUI and how to view diagnosis results.

Procedure

Step 1 Log in to the WebUI. For details, see **Logging in to the WebUI**. Then, choose **TroubleDiagnose**. The **Execute Trouble Diagnose** page is displayed, as shown in **Figure 6-2**.

Figure 6-2 Execute Trouble Diagnose



Step 2 Set **Diagnose Mode** and determine the type of a fault.

- **Equipment Trouble Diagnose**: indicates the faults in the AP.
- **Wireless Trouble Diagnose**: indicates the faults at the radio network layer.
- **transfers Trouble Diagnose**: indicates the faults at the transport network layer.

Step 3 Set **OutPut Mode** and determine the output mode of the fault diagnosis result.

- **Just Show Abnormity Result**: indicates that only fault diagnosis results are displayed.
- **Show All Result**: indicates that all diagnosis results are displayed.

Step 4 Click **Start** to diagnose the faults.

After the fault diagnosis is complete, diagnosis results are displayed in the **Trouble Diagnose Log** pane.

----End

6.3 Handling Alarms

This describes how to manage AP alarms on the AP Manager. You can subscribe to alarms, query alarm logs, and query and monitor active alarms.

Procedure

Step 1 Log in to the AP Manager, and then click the **Fault** tab. On the tab page, manage alarms.

Table 6-2 describes alarm management options.

Table 6-2 Alarm management options

Alarm Management Option	Description
Alarm Subscribe	Subscribe to the alarms of an AP or maintain the list of the APs that have subscribed to alarms. **Active Alarm Monitor**, **Active Alarm Query**, and **Alarm Log Query** are available for only the APs that subscribe to alarms.
Active Alarm Monitor	View the active alarms that are not cleared in real time and delete the cleared active alarms.
Active Alarm Query	Query the active alarms reported to the AP Manager database by the AP. To query the detailed information about an alarm, click  on the left of the alarm.
Alarm Log Query	Query the alarm logs reported to the AP Manager database by the AP.
Terminal Alarm Log Query	Query the remaining alarm logs on the AP. If the AP is offline, the AP Manager prompts operation timeout.

----End

6.4 Upgrading the Software

This describes how to upgrade the AP software on the FTP server.

Prerequisite

- The FTP server is available.

  Log in to the AP Manager, and then choose **Software** > **File Server**. On the **File Servers** tab page, check **Status** of the corresponding FTP server.

If Status of the FTP Server is ...	Then ...
Available	The AP Manager communicates with the FTP server normally.
Unavailable	The AP Manager cannot communicate with the FTP server normally. ● Select the option button before the FTP server, and then click **Modify**. Configure the FTP server on the displayed **File Server Information** page.

- The target upgrade version of the AP is synchronized to the FTP server.

  Log in to the AP Manager, and then choose **Software**.

  - Choose **File Server**, and then query the version file of the FTP server on the **File Servers and Versions** tab page.
  - Choose **Version**, and then click **Add** to upload the version file. After the version file is uploaded successfully, the AP Manager synchronizes the file to the available FTP server automatically.

- The zone where the AP is located is in the zone list of the FTP server.

  Log in to the AP Manager, and then choose **Software** > **File Server**.

  - Select the FTP server on the **File Servers** tab page, and then query the zone list of the file server in the **File Server Information** dialog box.
  - Configure the mapping between the zone and the FTP server on the **Zone Servers Configuration** tab page.

Procedure

- Upgrading a single AP

  1. Log in to the AP Manager, and then choose **Software** > **Upgrade**.
  2. In the **Terminal List** pane, select the AP to be upgraded, and then click **Upgrade**.
  3. The **Terminal Upgrade** page is displayed. On the page, set options related to the upgrade task.

Option	Description
Upgrade Version	It refers to the target version that the AP software is upgraded to.
Immediately Reboot	It enables you to determine whether the AP is rebooted immediately after the software is downloaded successfully.

  4. Click **Submit** to complete the settings.

If You Set Immediately Reboot to ...	Then ...
Yes	The AP is rebooted immediately for upgrade after the software is downloaded successfully. **NOTE** Rebooting the AP disrupts the services provided by the AP.
No	After the software is downloaded successfully, check whether services are provided, and then reboot the AP. ● If no service is provided, reboot the AP for upgrade immediately. ● If services are ongoing, reboot the AP for upgrade after services are performed.

- Upgrading APs in batches
  1. Log in to the AP Manager, and then choose **Software** > **Batch Upgrade**.
  2. The **Task Information** page is displayed. On the page, set options related to the upgrade task.

Option	Description
Target Version	It refers to the target version that the AP software is upgraded to.
Immediately Reboot	It enables you to determine whether the AP is rebooted immediately after the software is downloaded successfully.
Allow Retry	It enables you to determine whether the software is upgraded again when sending an upgrade command fails.
Triggering Mode	It refers to the triggering mode for upgrading the software. Options: ● **Timer**: indicates that you can specify the time for performing the upgrade. ● **Immediately**: indicates that the software is upgraded immediately. ● **Manual**: indicates that the software is upgraded manually.
Valid Time	It refers to the validity period of an upgrade task. If the validity period expires, the software is not upgraded again even if the upgrade fails. If the upgrade mode is set to **Timer**, this option is enabled.

Option	Description
Time Setting	It is used to specify the time for starting the upgrade. If the upgrade mode is set to **Timer**, this option is enabled.

3. Click **Next**. On the displayed page, select the target APs.
   You can select the target APs on the AP Manager in the following two ways:
   - **Special Terminal**: indicates that you directly select APs to be upgraded.
   - **Special Condition**: indicates that you select APs to be upgraded by special conditions.
4. Click **Submit** to complete the settings.

If You Set Immediately Reboot to ...	Then ...
Yes	The AP is rebooted immediately for upgrade after the software is downloaded successfully. **NOTE** Rebooting the AP disrupts the services provided by the AP.
No	After the software is downloaded successfully, check whether services are provided, and then reboot the AP. ● If no service is provided, reboot the AP for upgrade immediately. ● If services are ongoing, reboot the AP for upgrade after services are performed.

----End

6.5 Uploading AP Terminal Files

This describes how to upload the AP log, configuration file, and performance file to the FTP server through the AP Manager for future analysis, use, or query.

Prerequisite

The FTP server is available.

Log in to the AP Manager, and then choose **Software** > **File Server**. On the **File Servers** tab page, check **Status** of the corresponding FTP server.

If Status of the FTP Server is ...	Then ...
Available	The AP Manager communicates with the FTP server normally.

If Status of the FTP Server is ...	Then …
Unavailable	The AP Manager cannot communicate with the FTP server normally. ● Select the option button before the FTP server, and then click **Modify**. Configure the FTP server on the displayed **File Server Information** page.

Procedure

Step 1 Log in to the AP Manager, choose **Fault** > **Terminal Files**, and then click **Uploading Files**.

Step 2 The **Uploading Files** page is displayed. On the page, type the APEI of the AP whose terminal files need to be uploaded in the **Serial NO.** box and select a target file from the **File Type** drop-down list.

The types of the AP terminal files to be uploaded are as follows:

- **Configuration File**
- **Performance File**
- **Alarm Log**

  Alarm logs consist of CurrUserAlm.log, HisUserAlm.log, and OrigAlm.log. The AP saves a maximum of 10,000 OrigAlm.log entries, 50 CurrUserAlm.log entries, and 1,000 HisUserAlm.log entries. After the number of saved entries reaches the threshold, the earliest entries are deleted so that follow-up entries can be saved.
- **Running Log**

  The AP saves a maximum of 2,000 running log entries. After the number of saved entries reaches 2,000, the earliest entries are deleted so that follow-up entries can be saved.
- **Core Log**

  The latest three core log entries for abnormal resetting of the AP are saved.

Step 3 Click **Uploading Files** to upload the specified terminal files of the AP.

If ...	Then …
View Files is displayed	Click **View Files**. In the **File List** pane, **Status** indicates the uploading status of the file.
View Files is not displayed, or a message box is displayed	The connection to the FTP server through the AP Manager is faulty. Choose **System** > **System Setting** > **Fault**, and then reset the login information of the FTP server.

NOTE

To view terminal files, click **View Files**, and store the terminal files on the local disk of the computer according to the displayed system message.

The methods of viewing terminal files are the same. Choose **Start** > **All Programs** > **Huawei Local Maintenance Terminal**, and then select the corresponding alarm browser tool. The following description takes the method of viewing alarm logs for example:

1. Choose **Start** > **All Programs** > **Huawei Local Maintenance Terminal** > **Alarmlog Browser Tool**.
2. Select the AP type and language type.
3. Click **OK**.
4. Select the alarm log to be viewed, and then click **Open**.

----End

7 Communication Ports Used by the UAP2105

Table 7-1 lists the communication ports used by the UAP2105.

Table 7-1 Communication ports used by the UAP2105

Protocol	Side A	Port Number at Side A (RX)	Side B	Port Number at Side B (TX)	Service	Rights Control
TCP	UAP2105	80	WebUI	1024-65535	WebUI port for local OM	User name and password
TCP	UAP2105	6000	LMT, WebUI Proxy	1024-65535	MML port for local OM	User name and password
TCP	UAP2105	6006	LMT, WebUI Proxy	1024-65535	Binary port for local OM	User name and password
TCP	UAP2105	7547	AP Manager	1024-65535	TR-069 protocol port	-
TCP	UAP2105	500	SeGW	1024-65535	Default IKE port of the IPSec	-
TCP	UAP2105	4500	SeGW	1024-65535	NAT protocol port of the IPSec	-
TCP	UAP2105	33003	CLK Server	1024-65535	Clock synchronization	-