ZXHN H268A

Home Gateway

Maintenance Management Manual(EXETEL)

Version V1.0

ZTE CORPORATION
No. 55, Hi-tech Road South, ShenZhen, P.R.China
Postcode: 518057
Tel: +86-755-26771900
Fax: +86-755-26770801
URL: http://support.zte.com.cn
E-mail: 800@zte.com.cn

LEGAL INFORMATION

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Contents

Chapter 1
Safety Precautions

Before using the device, read the following safety precautions. ZTE bears no liability to open the consequences incurred by violation of the safety instructions.

- Read the user manuals before using the device.
- Pay attention to all the cautions in the user manuals and on the product.
- To avoid fire or product damage, do not use accessories that are not related to this product.
- Use the power adapter delivered with the device.
- Do not place the device under the direct sunlight.
- Keep distance from the surrounding items for heat dissipation.
- Do not put anything on the device.
- Keep the device dry, clean, and well-ventilated.
- In thunder days, disconnect the device from the power supply to avoid thunder attack.
- Use soft and dry cloth to clean the device. Do not use liquid or spray to clean the device. Before cleaning the device, disconnect the power supply.
- Keep the air vent clean. Anything that dropping down into open the device through the air vent may cause short circuit and lead to device damage or fire.
- Keep any liquid away from the device surface.
- Do not open the shell of the device, especially when the device is powered ON.

Environmental Information

The equipment you purchased has required the extraction and use of natural resources for its production. It may contain substances that are hazardous to people's health and to open the environment. To avoid putting such substances into our environment and to reduce pressure on our natural resources, we ask that you reuse or recycle your end-of-life equipment by using an accredited electronics take-back system.

The symbols below indicate that this product should be reused or recycled and not simply discarded. Please locate and use an appropriate reuse and recycling site.

If you need more information on collection, reuse and recycling systems, contact your local or regional waste administration. You may also contact your equipment provider for more information on the environmental performances of these products.

Chapter 2
Product Overview

Table of Contents

2.1 Overview

2.1.1 Features

ZXHN H268A is an advanced home gateway. It provides high speed internet, IPTV and voice over IP services through the DSL or GE uplink. It supports the following features:

- It provides 4 Gigabit Ethernet LAN interfaces.
- It supports Dual-Band concurrent Wi-Fi up to 300 Mbps (compatible with IEEE 802.11n, 2.4 GHz compliant equipment) and 1.3 Gbps (compatible with IEEE 802.11ac, 5 GHz compliant equipment).
- It provides multiple lines via the FXS phone ports.
- It supports IPv4 / IPv6 dual stack mechanism for IPv6 network migration.
- It supports TR-069, including TR-098 data model and TR-104 voice provisioning.

2.1.2 Product Specifications

Item	Specification
Dimensions	221 mm × 180 mm × 33 mm (Length × Width × Height)
Operation temperature	0 °C~40 °C (32 °F~104 °F)
Storage temperature	-40 ℃~70 ℃(-40 °F~158 °F)
Operation humidity/ Storage humidity	5% ~ 95% (non-condensing)
Power adapter	Input: AC 100 V~240 V, 50 Hz/60 Hz
	Output: DC 12 V, 2 A

2.1.3 Package Check

After unpacking the ZXHN H268A product, check that the following items are complete.

Name	Quantity
ZXHN H268A	1
Splitter	1

Name	Quantity
Power Adapter	1
RJ-45 Ethernet cable	1
RJ-11 telephone cable	2
User Manual	1

Note:

If any item is found to be wrong, missing, or damaged, contact your service provider. Keep the package and all the items in good condition if you want to replace the product.

2.2 Installation Preparation

2.2.1 Hardware Description

Front panel

Figure 2-1 shows the indicators on the front panel of the ZXHN H268A

Figure 2-1 The Front Panel

Table 2-1 describes the indicators on the front panel of the ZXHN H268A unit.

Table 2-1 Descriptions of Indicators

LED Indicator	Status	Description
Power	🟢	ZXHN H268A is powered on.
	🔴	ZXHN H268A self-check failed.
	Off	ZXHN H268A is powered off.
Broadband (The DSL link is established.)	🟢	DSL synchronization is normal and the link connection is normal.
	Fast Flashing Green	ZXHN H268A is in the handshaking process to establish the link connection.
	Slowly Flashing Green	Physical link exists, however carrier wave has not been detected.
	Off	ZXHN H268A is not powered on or link has not been established.
Broadband (The WAN link is established.)	🟢	The link is activated.
	Flashing Green	Data is being transmitted.
	Off	The equipment is not powered on or the WAN port is disabled.

LED Indicator	Status	Description
Internet	🟢	The connection is established and a correct IP address is obtained.
	🔴	Internet connection failed.
	Flashing Green	Data is being transmitted.
WLAN	🟢	The WLAN RF switch is on.
	Flashing Green	Data is being transmitted.
	Off	ZXHN H268A is not powered on or the WLAN RF switch is off.
WPS	🟢	WPS access is successful. This solid-on light will be automatically off after 5 minutes.
	Fast Flashing Green	The WPS accessing of the WLAN terminal is Faulty.
	Slowly Flashing Green	WLAN terminal is in WPS accessing process.
	Off	No WPS access or the WPS access of the terminal exceeds 5 minutes
Phone	🟢	ZXHN H268A has registered on the VoIP network.
	Flashing Green	At least one SIP account is registered, and the SIP/RTP packets is transmitting.
	Off	ZXHN H268A is not powered on or ZXHN H268A has not been registered on the VoIP network.
USB	🟢	The USB interface is connected and operating in host mode, but no data is being transmitted.
	Flashing Green	Data is being transmitted on the interface.
	Off	ZXHN H268A is not powered on or the USB interface is not connected.

Rear panel

Figure 2-2 shows the buttons on the side panel of the ZXHN H268A.

Figure 2-2 The Side Panel

Table 2-2 describes the buttons on the side panel of the ZXHN H268A.

Table 2-2 The Side Panel

Button	Function
USB	USB 2.0 host interface.
On/Off	Power switch. Power on or power off the device.

Figure 2-3 shows the interfaces and buttons on the back panel of the ZXHN H268A.

Figure 2-3 The Back Panel

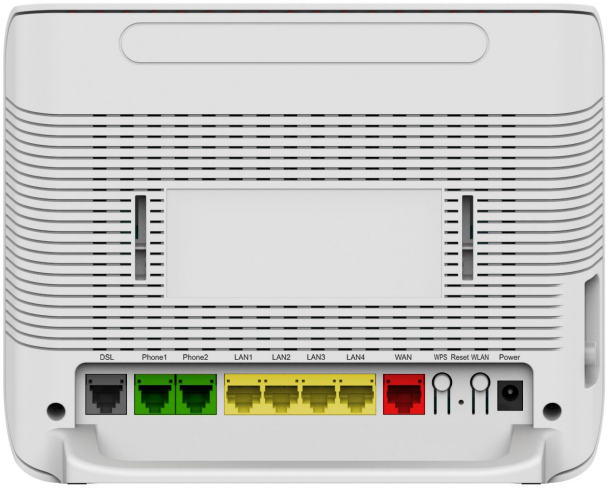


Table 2-3 describes the interfaces and buttons on the back panel of the ZXHN H268A.

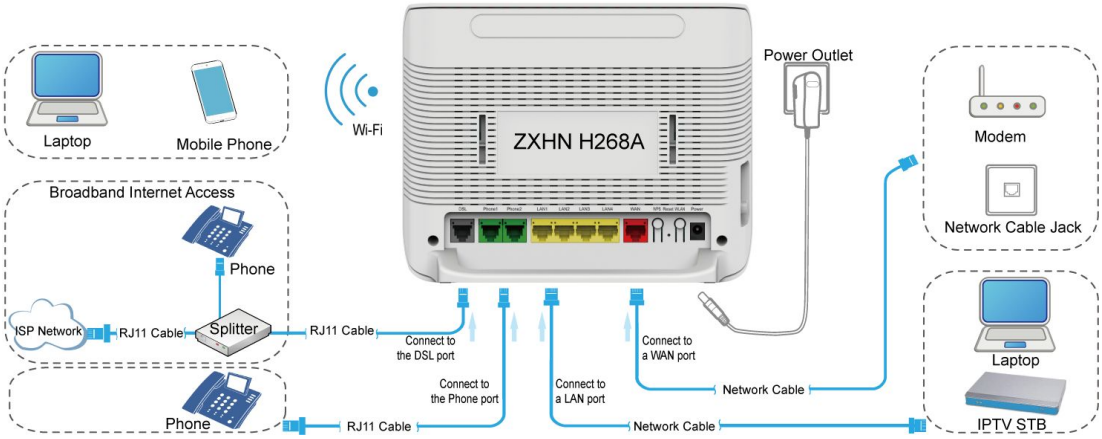
Table 2-3 The Back Panel

Interface/Button	Function
DSL	RJ-11 port: It is used to connect to the DSL uplink access network.
Phone1–Phone2	RJ-11 port. It is used to connect to the phone through the telephone line.
LAN1–LAN4	RJ-45 port. It is used to connect the modem to computer, STBs or other network devices.
WAN	RJ-45 port. It is used to connect to the network provided by the ISP.
WPS	WLAN Protected Setup
Reset	After power on the ZXHN H268A, hold on this button for more than 5 seconds to reset the current settings to the factory default setting, and then the system automatically restarts.
WLAN	WLAN switch. Turn on or turn off the WLAN.
Power	Power supply port. It is connected to the power adapter.

2.2.2 Hardware Connection

Figure 2-4 shows the devices that are connected to interfaces of the ZXHN H268A

Figure 2-4 Cable Connection



After the devices are connected to the ZXHN H268A device, press the power button. When the corresponding indicators on the front panel are On, you can enjoy various services provided by the service provider.

Note:

The wireless network scope is affected by the number of walls, wall thickness, wall locations, wall materials, ceilings, and other objects. Meanwhile, the material types and background RF noise also affect the wireless network.

To maximize the wireless network scope, comply with the following methods:

1. Reduce the number of walls and ceilings between the ZXHN H268A and other network devices.

   Each wall or ceiling reduces the wireless network scope by 1 to 30 meters. Properly place the ZXHN H268A to reduce the number of walls and ceilings.

2. Comply with the straight line principle between network devices.

   At 45 degree angle, a wall with the thickness being half a meter is as thick as one meter. To receive more signals, devices need to be placed to enable the signals to be transmitted directly through walls or ceilings.

3. The wireless network scope is also affected by building materials.

   The scope is affected by solid metal doors or aluminum studs. Try to place accessing points, wireless routers, and computers, and then signals can be transmitted through dry walls or open channels, for example, FRP products, metal products, insulated walls, filing cabinet, bricks, and concrete weaken the wireless signals.

4. Make sure that the ZXHN H268A with the WiFi function keeps far away from the following devices:

   Keep at least two meters far away from electrical devices or components that generate RF noise. Signals are greatly weakened or even completely disappeared by a 2.4 GHz wireless mobile or X-10, for example, a microwave oven, home security system, blue tooth device, or icebox.

Note:

Even through the 2.4 GHz wireless mobile is not used, the signals generated by the fixed phone also interfere with the wireless network.

Chapter 3
Preparatory Work

This manual uses the Windows operating system as an example for describing how to log in to open the ZXHN H268A.

Context

To log in to open the ZXHN H268A on a computer, you need to set the IP address of the computer to ensure that the IP address of the computer and the maintenance IP address of the ZXHN H268A are in the same network segment.

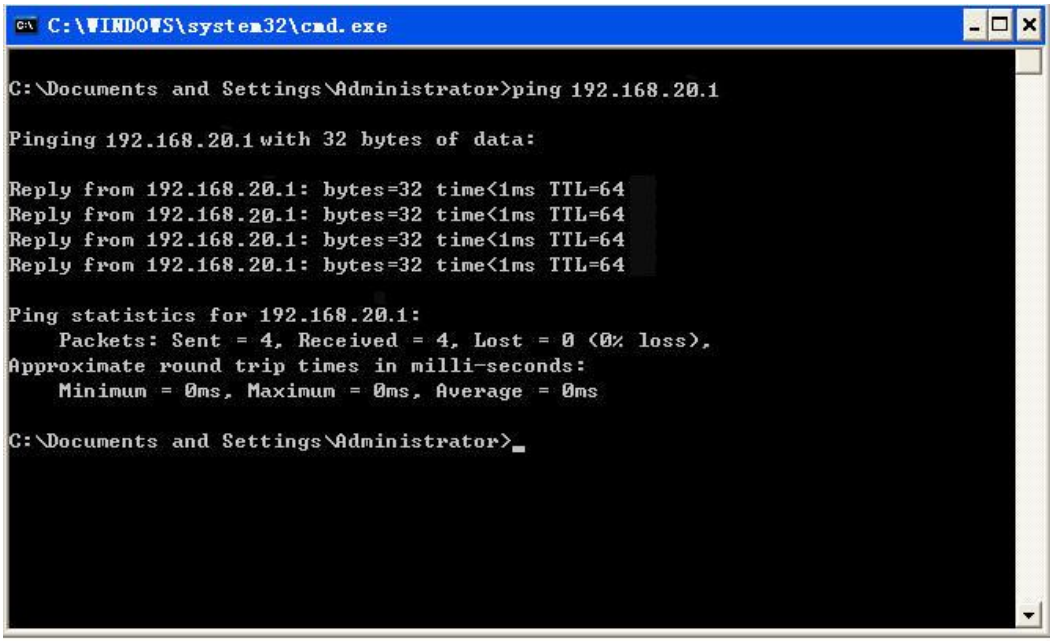
The default maintenance information of the ZXHN H268A is as follows:

- IP address: 192.168.20.1
- Subnet mask: 255.255.255.0
- Gateway: 192.168.20.1

Steps

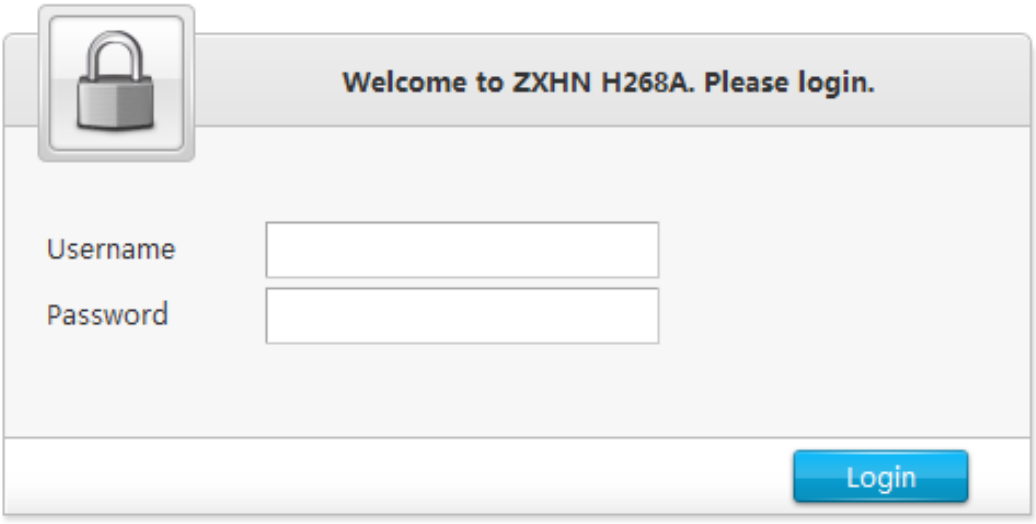
1. Use an Ethernet cable to connect a local computer to open the LAN interface of the ZXHN H268A.
2. Use an telephone line to connect the ZXHN H268A with the VDSL cable or splitter.
3. On the local computer, double-click **Local Area Connection** and click **Properties**. The **Local Area Connection Properties** dialog box is displayed.
4. Double-click **Internet Protocol (TCP/IP)**. The **Internet Protocol (TCP/IP) Properties** dialog box is displayed. Set the IP address to `192.168.20.200`, subnet mask to `255.255.255.0`, and default gateway to `192.168.20.1`.
5. Click **OK**.
6. After the IP address of the computer is set, you can run the **Ping** command to ping the IP address 192.168.20.1. If the ping operation is successful, it indicates that the TCP/IP configuration is correct and the computer is properly connected to open the ZXHN H268A, as shown in Figure 3-1.

Figure 3-1 Ping Page



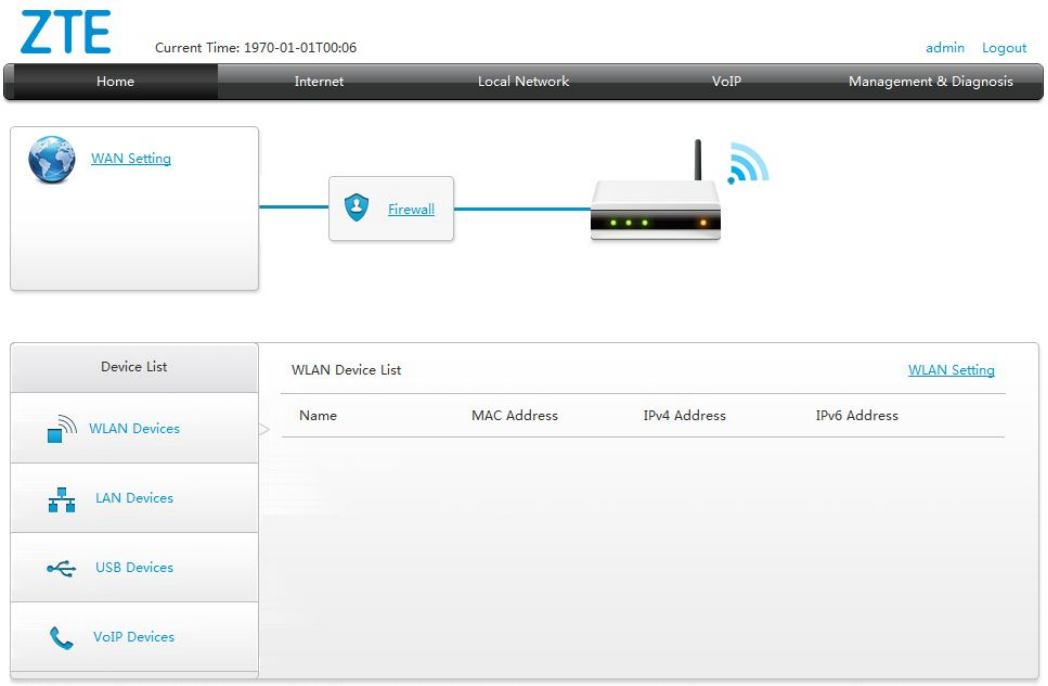
7. Open Internet Explorer, and enter `http://192.168.20.1` in the address field. Press the **Enter** key. The login page is displayed, as shown in Figure 3-2.

Figure 3-2 Login Page



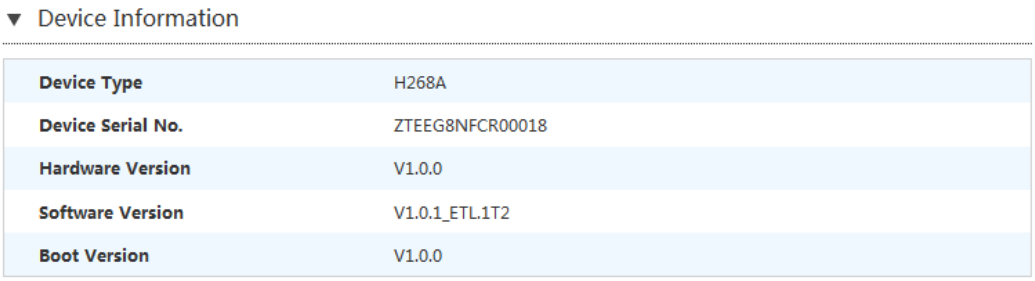
8. Enter your username and password ((There are two accounts, including username "**admin**"/password "**admin**" or username "**user**"/password "**user**". "**admin**" has full rights and "**user**" has limited rights.)) and click **Login**. The home page is displayed, as shown in Figure 3-3.

Figure 3-3 Home Page



9. Check the device Information. select **Management & Diagnosis > Status**. The page indicates whether the hardware version and software version are correct, as shown in Figure 3-4. Click **Refresh** to get the latest information.

Figure 3-4 Device Information Page



– End of Steps –

Chapter 4
Configure the Internet

Table of Contents

4.1 Configure the WAN

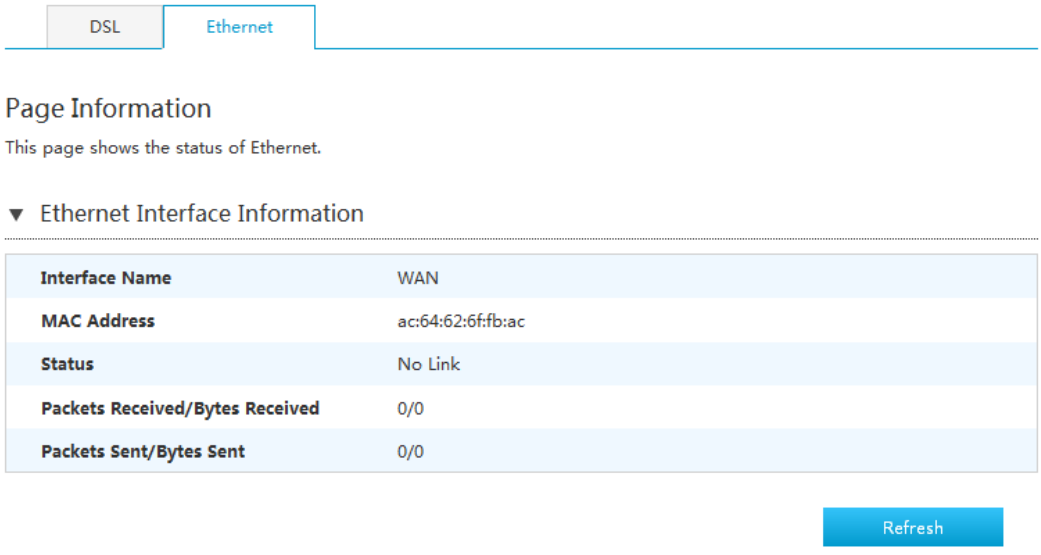
4.1.1 Check the Internet Status

The section describes the status of Internet. The relevant information of Internet status is shown as below.

Steps

1. On the main page of the ZXHN H268A, select **Internet > Status** to open the **Status** page, as shown in Figure 4-1.

Figure 4-1 Status



To	Do this
Display the DSL link information and DSL connection status	Select **Internet > Status > DSL**.
Display the Ethernet interface information and connection status	Select **Internet > Status > Ethernet**.

2. Click **Refresh** to refresh the information.

– End of Steps –

4.1.2 Configure the DSL Connection

This procedure describes how to configure a broadband connection (WAN connection) on the network side, so that the subscribers can access the external network.

The ZXHN H268A device supports two xDSL transfer modes: ATM and PTM.

This procedure takes **ATM** for example, and configure the four modes of using this DSL transfer mode.

PTM transfer mode configuration process refers to ATM transfer mode configuration process.

Configuration Process

- PPPoE (IPv4) configuration process
  1. Click **Create New Item** to open the page of creating new DSL connection.
  2. Enter the name of the WAN connection in **Connection Name** .
  3. Set the DSL transfer mode to be **ATM**.
  4. Configure the **VPI/VCI**.

     The **VPI/VCI** provided by carriers must be set.
  5. Set the **Type** to be **Routing**.
  6. Set the **Link Type** to be **PPP**.
  7. Set the **PPPoE Transfer Type** to be **PPPoE**.
  8. Configure the **Username** and **Password**.

     The username and password are provided by carriers.
  9. Set the **IP Version** to be **IPv4**.
  10. Click **Apply** to apply the changes.

      While the default settings to remaining parameters should perform well in most cases, some reconfigurations might be required to get the best performance according to open the carriers.
  11. Check the configuration.

      The IP address getting from carries can verify that the WAN Connection based on IPv4 was completed successfully.
- DHCP (IPv4) configuration process

1. Click **Create New Item** to open the page of creating new DSL connection.
2. Enter the name of the WAN connection in **Connection Name** .
3. Set the DSL transfer mode to be **ATM**.
4. Configure the **VPI/VCI**.

   The **VPI/VCI** provided by carriers must be set.

5. Set the **Type** to be **Routing**.
6. Set the **Link Type** to be **IP**.
7. Set the **IP Version** to be **IPv4**.
8. Set the **IP Type** to be **DHCP**.
9. Click **Apply** to apply the changes.

   While the default settings to remaining parameters should perform well in most cases, some reconfigurations might be required to get the best performance.

10. Check the configuration.

    The IP address getting from carries can verify that the WAN Connection based on IPv4 was completed successfully.

- Static (IPv4) configuration process

1. Click **Create New Item** to open the page of creating new DSL connection.
2. Enter the name of the WAN connection in **Connection Name** .
3. Set the DSL transfer mode to be **ATM**.
4. Configure the **VPI/VCI**.

   The **VPI/VCI** provided by carriers must be set.

5. Set the **Type** to be **Routing**.
6. Set the **Link Type** to be **IP**.
7. Set the **IP Version** to be **IPv4**.
8. Set the **IP Type** to be **Static**.
9. Configure the IPv4 relevant parameters, including **IP Address**, **Subnet Mask**, **Gateway** and **DNS1** . **DNS2** and **DNS3** are optional.
10. Click **Apply** to apply the changes.

    While the default settings to remaining parameters should perform well in most cases, some reconfigurations might be required to get the best performance.

11. Check the configuration.

    While the default settings to remaining parameters should perform well in most cases, some reconfigurations might be required to get the best performance.

- Bridge configuration process

1. Click **Create New Item** to open the page of creating new DSL connection.
2. Enter the name of the WAN connection in **Connection Name** .
3. Set the DSL transfer mode to be **ATM**.
4. Configure the **VPI/VCI**.

The **VPI/VCI** provided by carriers must be set.

5. Click **Apply** to apply the changes.

Note:

IPv6 configuration process refers to IPv4 configuration process.

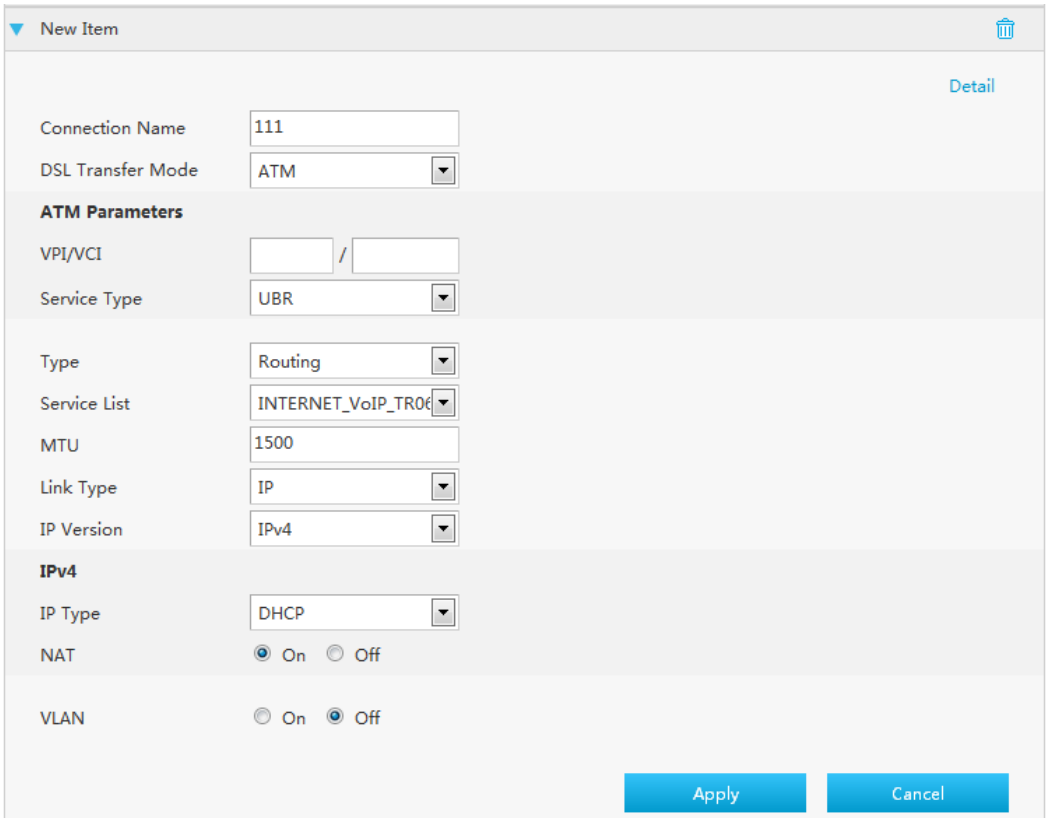
Example

This example describes how to configure DHCP (IPv4) connection.

Steps

1. On the home page of the ZXHN H268A device, select **Internet > WAN > DSL** to open the **DSL Connection** page.
2. Click **Create New Item** to open the page of creating new DSL connection.
3. Create a new connection name, for example ‘111’.
4. Select **ATM** from the **DSL Transfer Mode** drop-down list.
5. Configure the **VPI/VCI**.
6. Select **Routing** from the **Type** drop-down list.
7. Select **IP** from the **Link Type** drop-down list.
8. Select **IPv4** from the **IP Version** drop-down list.
9. Select **DHCP** from the **IP Type** drop-down list. The DSL connection page is displayed, as shown in Figure 4-2.

Figure 4-2 DHCP (IPv4) connection Page



10. Click **Apply** button to apply the changes.
11. Select **Internet > Status > DSL > DSL Connection Status** to open the **DSL Connection Status** page. Click **Refresh** to get the latest information. The IP address getting from carries can verify that the WAN connection based on IP was completed successfully. Table 4-1 describes the new item parameters.

Table 4-1 New Item Parameters

Parameter	Description
Connection Name	Name the connection.
DSL Transfer Mode	There are two DSL transfer modes: ATM and PTM.
VPI/VCI	Enter the VPI/VCI values provided by the ISP. VPI Range: 0 - 255 VCI Range: 0 - 65535
Service Type	The options are: CBR, VBR-nrt, VBR-rt and UBR.
PCR	If **Service Type** is selected to be CBR, VBR-nrt or VBR-rt, PCR needs to be configured. Range: 1 – 2000
SCR	Sustainable Cell Rate, range :10000 – 19999 If **Service Type** is selected to be VBR-nrt or VBR-rt, SCR needs to be configured.

Parameter	Description
MBS	Maximum Burst Size, range = 1 – 20001 If **Service Type** is selected to be VBR-nrt or VBR-rt, MBS needs to be configured.
Type	The connection type includes **Routing** and **Bridge Connection**. In this case, **Route** is selected.
Service List	The default options: INTERNET_VOIP_TR069. This parameter must be consistent with service configuration. For example, if **INTERNET_VoIP_TR069** is selected, it indicates that the WAN connection supports the Internet access service , remote management and the voice service.
MTU	If **Link Type** is set to be IP, MTU range is 576 – 1500, default: 1500. If **Link Type** is set to be PPP, MTU range is 128 –1492. Default: 1492.
Link Type	There are two link types: PPP and IP.
PPP	
PPP Transfer Type	There are two PPP transfer types: PPPoE. PPPoA. The default value is PPPoE.
Username	Username of the PPPoE account. The username must be the same as that set on the peer server for authentication.
Password	Password of the PPPoE account. The password must be the same as that set on the peer server for authentication.
IP Version	IP version that the device supports. Normally, it is set to be **IPv4**. ● **IPv4**: The device supports IPv4 addresses only. ● **IPv6**: The device supports IPv6 addresses only. ● **IPv4/IPv6**: The device supports both IPv4 and IPv6 addresses.
IPv4	
IP Type	Options: ● DHCP: The DHCP server automatically allocates a dynamic IP address to open the device. ● Static: You need to specify a static IP address for the device.
IP Address	We need to specify the IPv4 address for the WAN connection when IP Type is **Static**.
Subnet Mask	We need to specify the subnet mask of the WAN connection when IP Type is **Static**.

Parameter	Description
Gateway	The net-hop IP address to open the destination network
DNS1/DNS2/DNS3	IPv4 address of the DNS server for static connections. You can set up to three IPv4 addresses for the server. These IPv4 addresses are provided by the ISP.
NAT	By default, the **On** button is selected.
IPv6	
IPv6 Info Acquire Mode	Specifies how to acquire IPv6 information for the WAN connection. It is valid only when the WAN connection supports IPv6. The options are: ● Manual : You need to set the GUA (global address), PD, and DNS acquisition modes. ● Auto : The global address, gateway, and DNS acquisition modes are automatically configured.
Request PD	By default, the **On** button is selected.
Unnumbered Mode	By default, the **On** button is not selected. If it is selected, Specifies how to acquire the global IPv6 address.
GUA Allowed From	Specifies how to acquire the global IPv6 address. It is valid only when the IPv6 Info Get Mode parameter is set to be **Manual Mode**. Options: ● SLAAC: The device generates a global address in accordance with the RA packets from the upper-layer server. ● DHCPv6: The device acquires a global address through DHCPv6. If no option is selected, it indicates that no address acquisition mode is configured. ● PD: You need to set a static IPv6 address.
GUA	Mode of obtaining global address.
PD	Prefix Delegation.
DNS1–DNS3	IPv6 address of the DNS server for static connections. You can set up to three IPv6 addresses for the server. These IPv6 addresses are provided by the ISP.
VLAN	Specifies whether to carry a VLAN tag in the packets sent over the WAN connection. By default, **On** button is not selected. If it is selected, a VLAN tag is carried in the packets sent over the WAN connection, and the VLAN ID must be set.

Parameter	Description
VLAN ID	Identifies a VLAN. Range: 0 – 4094. To ensure normal service operation, the **VLAN ID** must be the same as that set in upper-layer configuration.

– End of Steps –

Related Task

Select **Internet > WAN > DSL > DSL Modulation Parameters**. You can configure the DSL modulation types and enhance capability.

4.1.3 Configure the Ethernet Connection

Ethernet configuration process refers to 4.1.2 Configure the DSL Connection.

4.2 QoS

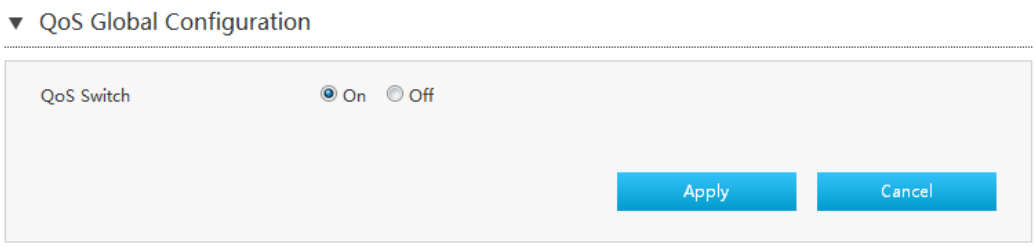
4.2.1 Configure the QoS Global Parameters

The procedure provides the function of QoS switch and other global parameters configuration. Packets that match no classification rules will be processed according to open the default policy showed in The procedure.

Steps

1. On the main page of the ZXHN H268A, select **Internet > QoS > QoS Global Configuration** to open the **QoS Global Configuration** page, as shown in Figure 4-3.

Figure 4-3 QoS Global Configuration



2. Select **Off** to enable the QoS function. By default, this function is enabled. Then click **Apply** button to apply the changes.

– End of Steps –

4.2.2 Configure the QoS Classification

The procedure provides the parameters of QoS classification configuration features.

Steps

1. On the main page of the ZXHN H268A, select **Internet > QoS > Classification** to open the **Classification** page.
2. Click **Create New Item** to create new QoS classification, as shown in Figure 4-4.

Figure 4-4 QoS Classification

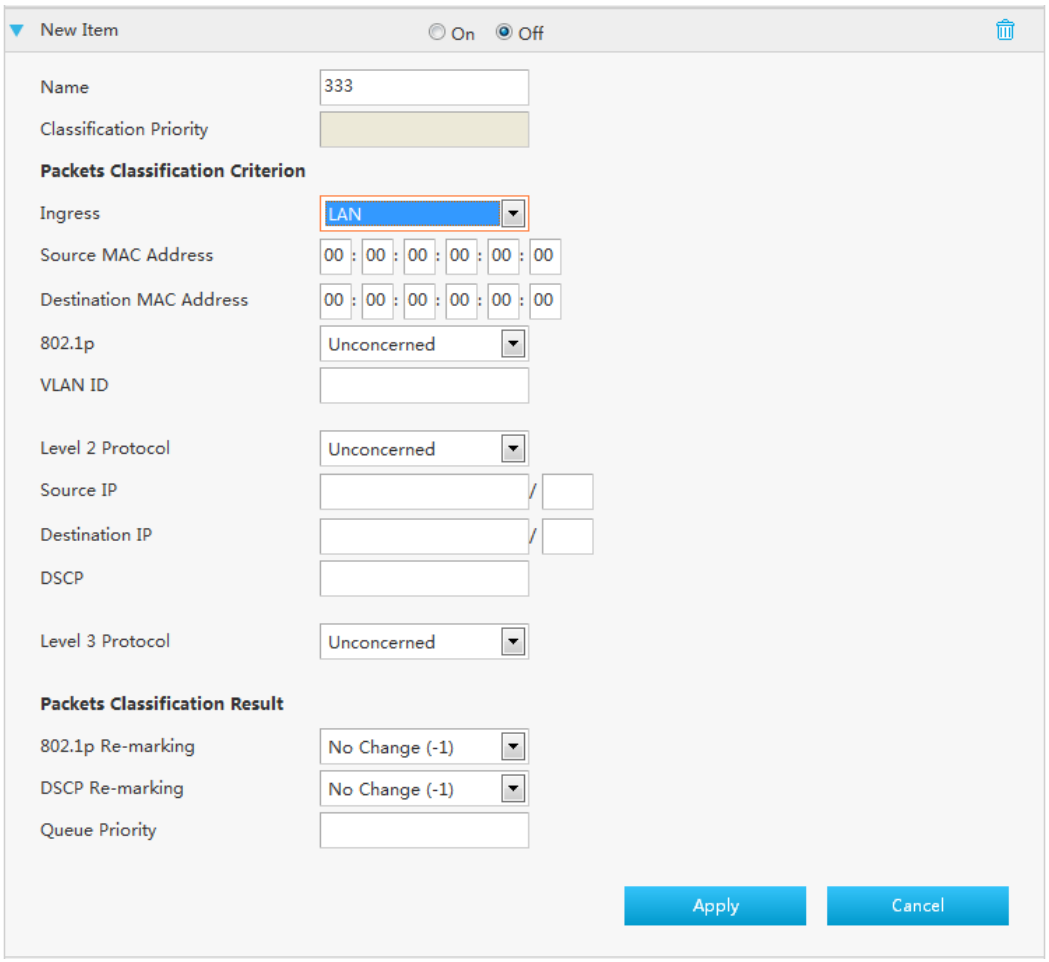


Table 4-2 lists the QoS classification configuration parameters.

Table 4-2 QoS Classification Configuration parameters

Parameter	Description
Name	The name of QoS rule.
Classification Priority	The priority of QoS rule.
Packets Classification Criterion	

Parameter	Description
Ingress	Specify the data traffic direction. The Ingress option and Egress option cannot be the same. ● If the Ingress is LAN, the Egress should be a WAN connection. The data traffic direction is upstream. ● If the Ingress is SSID, the Egress should be a WAN connection. The data traffic direction is upstream.
Source MAC Address	Source host MAC address.
Destination MAC Address	Destination host MAC address.
802.1p	Specify the 802.1p value to modify the service priority.
VLAN ID	Identifies a VLAN. Range: 0–4095. To ensure normal service operation, the VLAN ID must be the same as that set in upper-layer MDU/DSLAM configuration.
Level 2 Protocol	The level 2 protocol includes: Unconcerned , IPv4, IPv6, ARP and PPPoE.
IPv4	
Source IP Address	Source host IPv4 address.
Destination IP Address	Destination host IPv4 address.
IPv6	
Source IPv6 Address	Source host IPv6 address.
Destination IPv6 Address	Destination host IPv6 address.
DSCP	DSCP value.
Level 3 Protocol	The Level 3 protocol includes: TCP, UDP, ICMP.
Packets Classification Result	
802.1p Re-marking	802.1P identifier value. Range: 0–7.
DSCP Re-marking	DSCP identifier. Range: 0–63.
Queue Priority	The priority of queue. Range: 1–8.

3. Click **Apply** button to apply the changes.

– End of Steps –

4.3 Configure the Security

4.3.1 Configure the Firewall Level

This procedure describes how to configure the firewall to enhance device security and avoid illegal access from external networks.

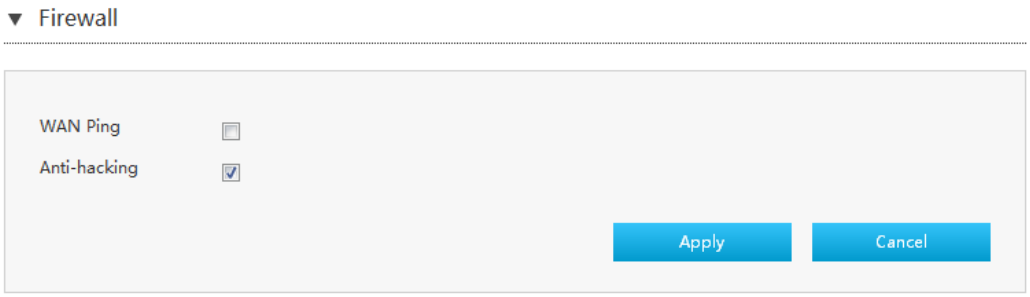
Context

The device only supports Firewall based on IPv4.

Steps

1. On the main page of the ZXHN H268A, select **Internet > Security > Firewall** to open the **Firewall** page, as shown in Figure 4-5.

Figure 4-5 Firewall



2. Set the parameters. For a description of the parameters, refer to Table 4-3.

Table 4-3 Firewall Parameter Descriptions

Parameter	Description
WAN Ping	To enable WAN Ping protection and WAN host can neither directly ping.
Anti-Hacking	To enable anti-hacking protection and prevent device shutdown due to Internet attacks, select this check box. This feature can prevent ping flood, ping to death, and SYN flood attacks.

3. Click **Apply** button to apply the changes.

– End of Steps –

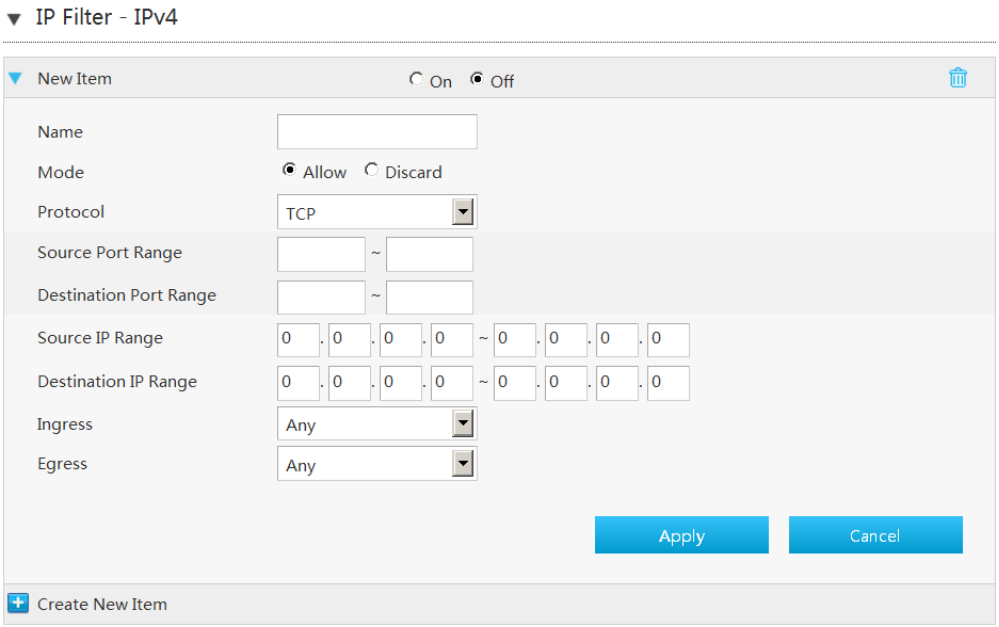
4.3.2 Configure the Filter Criteria

The procedure describes how to configure filter criteria.

Steps

- Configure IPv4 filter.
  1. On the main page of the ZXHN H268A device, select **Internet > Security > Filter Criteria**. Click **IP Filter - IPv4** to open the **IP Filter - IPv4** page, see Figure 4-6.

Figure 4-6 IPv4 Filter



2. Configure the IPv4 filter parameters. Table 4-4 lists the IPv4 filter parameters.

Table 4-4 Description of the IPv4 Filter Parameters

Parameter	Description
IPv4 Filter Switch	Select **On** to enable the IPv4 Filter. Select **Off** to disable the IPv4 Filter.
Name	Name of the IPv4 filter item. The name must be specified.
Mode	Specify to discard or permit the data packages.
Protocol	Protocol name, including TCP, UDP, TCP and UDP, ICMP, Any. Select the protocol that needs to filter packets. By default, it is TCP.
Source Port Range/ Destination Port Range	Source/Destination source Port. Range: 1 – 65535.
Source IP Range / Destination IP Range	Source/Destination destination IP address.
Ingress	Specify the data traffic direction. The ingress option and egress option cannot be the same. → If the ingress is LAN, the egress should be a WAN connection. The data traffic direction is upstream. → If the ingress is a WAN connection, the egress should be the LAN. The data traffic direction is downstream.

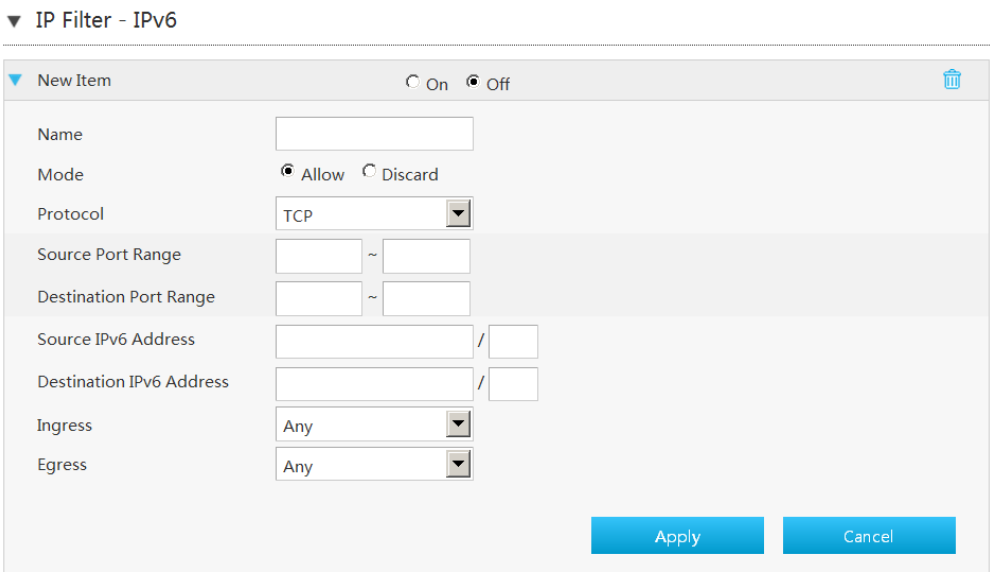
Parameter	Description
Egress	Specify the data traffic direction. The ingress option and egress option cannot be the same. → If the ingress is LAN, the egress should be a WAN connection. The data traffic direction is upstream. → If the ingress is a WAN connection, the egress should be the LAN. The data traffic direction is downstream.

3. Click **Apply** button to apply the changes.

- Configure IPv6 filter.

1. Click **IP Filter – IPv6** to open **IP Filter – IPv6** page, see Figure 4-7.

Figure 4-7 IPv6 Filter



2. Configure the IPv6 filter parameters. Table 4-5 lists the IPv6 filter parameters.

Table 4-5 Description of the IPv6 Filter Parameters

Parameter	Description
IPv6 Filter Switch	Select **On** to enable the IPv6 filter. Select **Off** to disable the IPv6 filter.
Name	Name of the IPv6 filter item. The name must be specified.
Mode	Specify to discard or permit the data packages.
Protocol	Protocol name, including TCP, UDP, TCP and UDP, ICMPv6, Any. Select the protocol that needs to filter packets. By default, it is **TCP**.

Parameter	Description
Source Port Range/ Destination Port Range	Source/Destination source Port. Range: 1 – 65535.
Source IPv6 Range/ Destination IPv6 Range	Source/Destination destination IP address.
Ingress	Specify the data traffic direction. The ingress option and egress option cannot be the same. → If the ingress is LAN, the egress should be a WAN connection. The data traffic direction is upstream. → If the ingress is a WAN connection, the egress should be the LAN. The data traffic direction is downstream.
Egress	Specify the data traffic direction. The ingress option and egress option cannot be the same. → If the ingress is LAN, the egress should be a WAN connection. The data traffic direction is upstream. → If the ingress is a WAN connection, the egress should be the LAN. The data traffic direction is downstream.

3. Click **Apply** button to apply the changes.

– End of Steps –

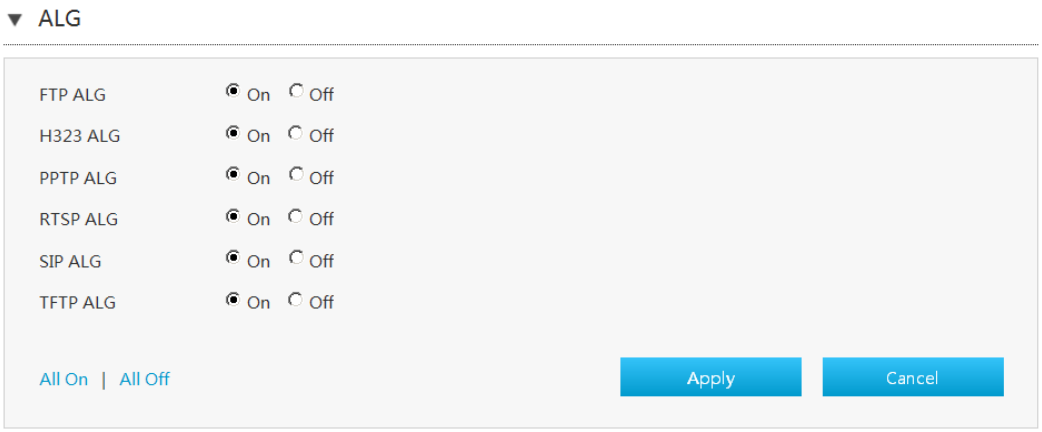
4.3.3 Configure the ALG

The section describes how to configure ALG, so that ZXHN H268A can translate private IP addresses in layer-4 packets into public IP addresses to enhance security.

Steps

1. On the main page of the ZXHN H268A, select **Internet > Security > ALG** to open the **ALG** page, as shown in Figure 4-8.

Figure 4-8 ALG



2. Select the ALG services.
3. Click **Apply** button to apply the changes.

Note:

- Click **All On** to select all ALG services.
- Click **All Off** to cancel all ALG services.

– End of Steps –

4.3.4 Configure the DMZ

The section describes how to configure DMZ. The CPE translates the destination IP address and port number from an outside-network address (network side) to an inside-network address (user side) so that an inside-network server can be accessed.

Steps

1. On the main page of the ZXHN H268A, select **Internet > Security > DMZ** to open the **DMZ** page, as shown in Figure 4-9.

Figure 4-9 DMZ

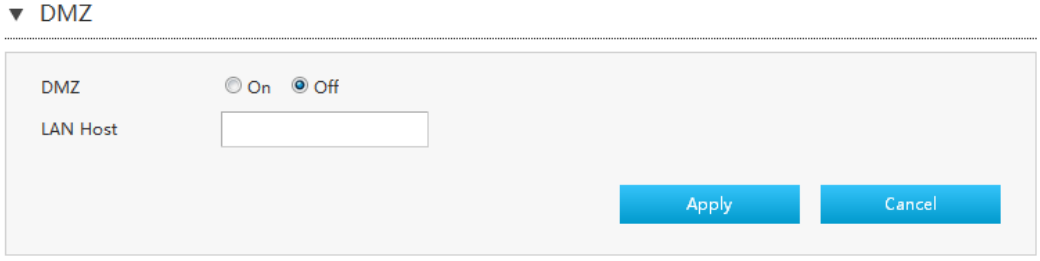


Table 4-6 lists the DMZ parameters.

Table 4-6 DMZ Parameters

Parameter	Description
DMZ	Enable or disable the DMZ host function.
LAN Host	The IPv4 address/MAC address of the computer or wireless devices at the LAN side.

2. Click **Apply** button to apply the changes.

– End of Steps –

4.3.5 Configure the Port Forwarding

This procedure introduces how to configure Port Forwarding so that a computer from the external network can access the LAN-side server through the WAN connection. Port Forwarding provides the parameters of Port Forwarding configuration features.

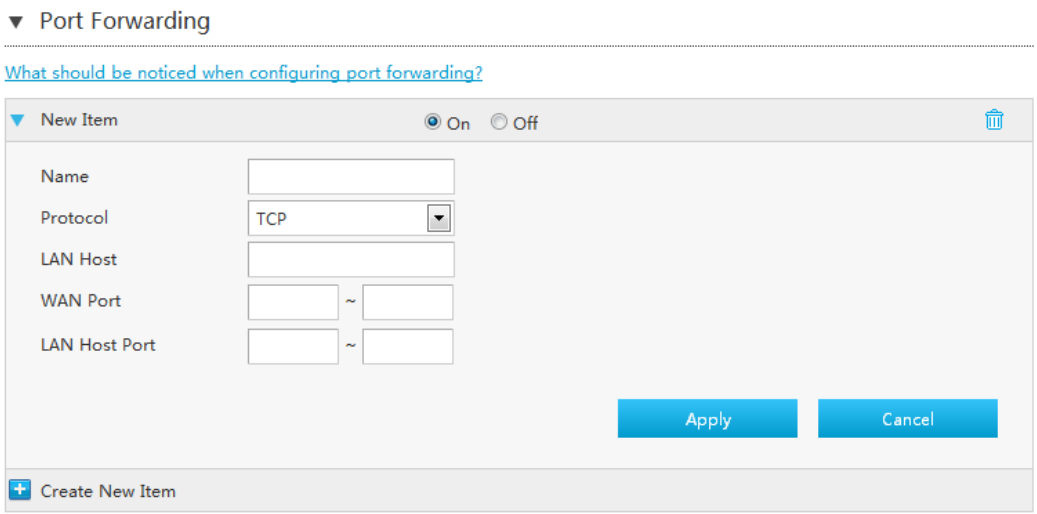
If you have local servers for different services and you want to make them publicly accessible, you need to specify the port forwarding policy. With NAT applied, it translates the internal IP addresses of these servers to a single IP address that is unique on the Internet.

to open the Internet users, all virtual servers on your LAN have the same IP address. This IP Address is allocated by your ISP. This address should be static, rather than dynamic, to make it easier for Internet users to connect to your servers. However, you can use dynamic DNS feature to allow users to connect to your virtual servers by using a URL, instead of an IP address.

Steps

1. On the main page of the ZXHN H268A, select **Internet > Security > Port Forwarding** to open the **Port Forwarding** page, as shown in Figure 4-10.

Figure 4-10 Port Forwarding



2. Configure the port forwarding parameters.

   Table 4-7 lists the port forwarding settings parameters.

   Table 4-7 Port Forwarding parameters

Parameter	Description
Port Forwarding Switch	Enable or disable the Port Forwarding function.
Name	Virtual host name, which cannot be null.
Protocol	Protocol name, including TCP and UDP. The default protocol is TCP.
LAN Host	IPv4 address or MAC address of the LAN side host.
WAN Port	Port segment of the WAN-side hosts. Range: 1~65535.
LAN Host Port	Port number range of the LAN-side host. Range: 1~65535.

3. Click **Apply** button to apply the changes.

Note:

- This function allows users to access the virtual hosts of LAN side from WAN side.
- By using port forwarding, the accessing to hosts between assigned IP and port from WAN side is forwarded to one host of LAN side.

– End of Steps –

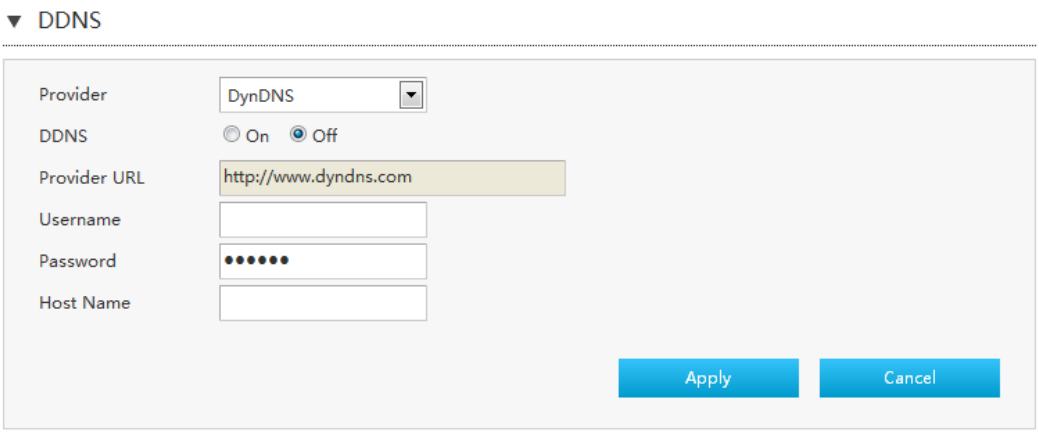
4.4 Configure the DDNS

The section describes how to configure DDNS. **DDNS** provides the parameters of DDNS configuration function.

Steps

1. On the main page of the ZXHN H268A, select **Internet > DDNS** to open the **DDNS** page, as shown in Figure 4-11.

Figure 4-11 DDNS



2. Configure the DDNS parameters.

   Table 4-8 lists the DDNS parameters.

Table 4-8 DDNS parameters

Parameter	Description
Provider	The type of provider.
DDNS	Click **On** to enable the DDNS function. Click **Off** to disable the DDNS function.
Provider URL	The URL of provider. If the dyndns HTTP is used, the URL is `http://www.dyndns.com`.
Username	DDNS server user name.
Password	DDNS server password.
Host Name	Host name correponding to open the user. It is valid only if **Provider URL** is set to DynDns.

3. Click **Apply** button to apply the changes.

– End of Steps –

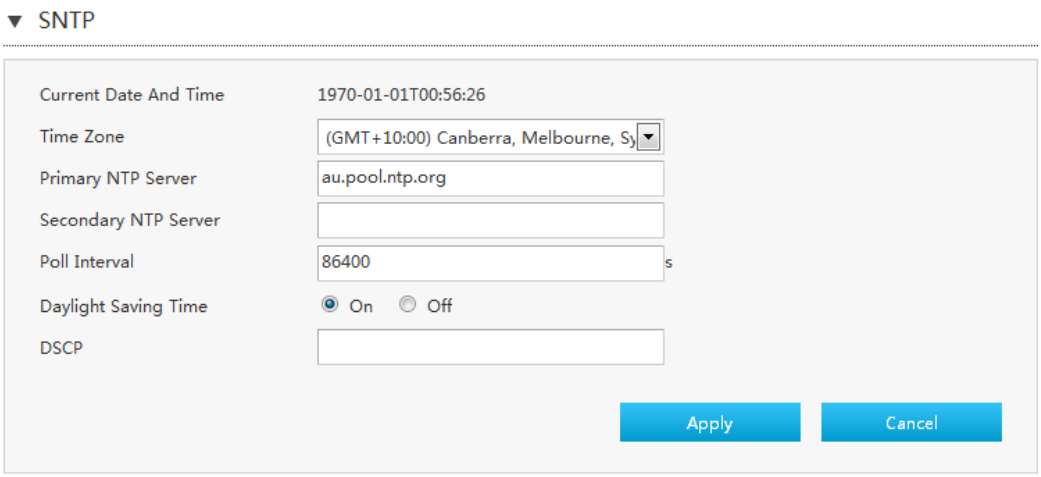
4.5 Configure the SNTP

The section describes how to configure SNTP. **SNTP** provides the parameters of SNTP configuration features.

Steps

1. On the main page of the ZXHN H268A, select **Internet > SNTP** to open the **SNTP** page, as shown in Figure 4-12.

Figure 4-12 SNTP



2. Configure the SNTP parameters.

   Table 4-9 lists the SNTP parameters.

   Table 4-9 SNTP parameters

Parameter	Description
Time Zone	Time zone.
Primary/Secondary NTP Server	IP address of the primary/secondary/third/fourth/fifth NTP server.
Poll Interval	Interval of time synchronization. Unit: second.
Daylight Saving Time	Enable or disable the save daylight time function.
DSCP	Range: 0 - 63.

3. Click **Apply** button to apply the changes.

   – End of Steps –

4.6 Configure the Mulitcast

4.6.1 Configure the IGMP

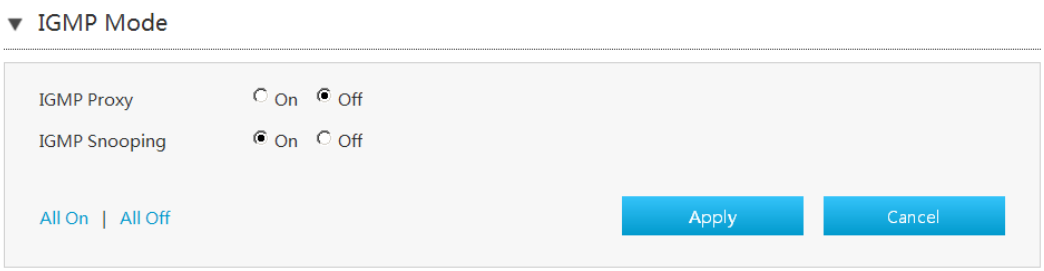
The section describes how to configure IGMP. **IGMP** provides the parameters of IGMP configuration features.

Steps

IGMP Mode

1. On the main page of the ZXHN H268A, select **Internet > Multicast > IGMP** to open the **IGMP Mode** page, as shown in Figure 4-13.

Figure 4-13 IGMP Mode



2. Click on to enable the function or click off to disable the function.

Note:

- Click **All On** to select all IGMP functions.
- Click **All Off** to cancel all IGMP functions.

3. Click **Apply** button to apply the changes.

– End of Steps –

4.6.2 Configure the MLD

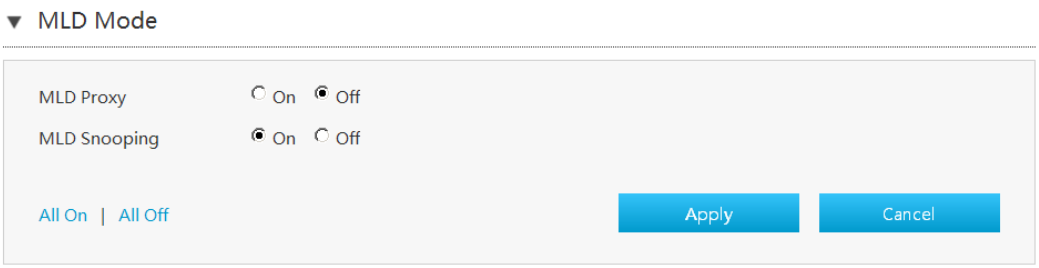
The section describes how to configure MLD. **MLD** provides the parameters of MLD configuration features.

Steps

MLD Mode

1. On the main page of the ZXHN H268A, select **Internet > Multicast > MLD** to open the **MLD Mode** page, as shown in Figure 4-14.

Figure 4-14 MLD Mode



2. Enable or disable MLD function.

Note:

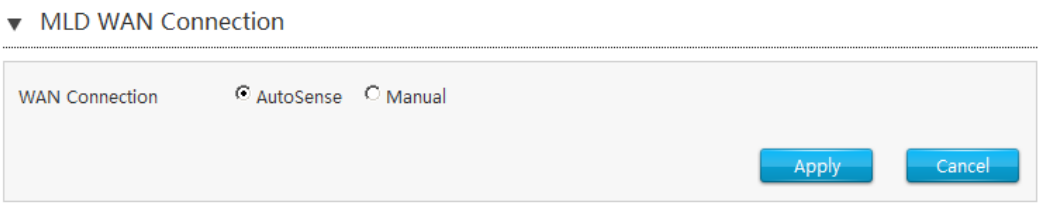
- Click **All On** to select all MLD functions.
- Click **All Off** to cancel all MLD functions.

3. Click **Apply** button to apply the changes.

MLD WAN Connection

4. Click ▶ MLD WAN Connection to open **MLD WAN Connection** page, as shown in Figure 4-15.

Figure 4-15 MLD WAN Connection



5. If **Manual** is selected, please select a **WAN Connection**.
6. Click **Apply** button to apply the changes.

– End of Steps –

Chapter 5
Configure the Local Network

Table of Contents

5.1 Configure the WLAN

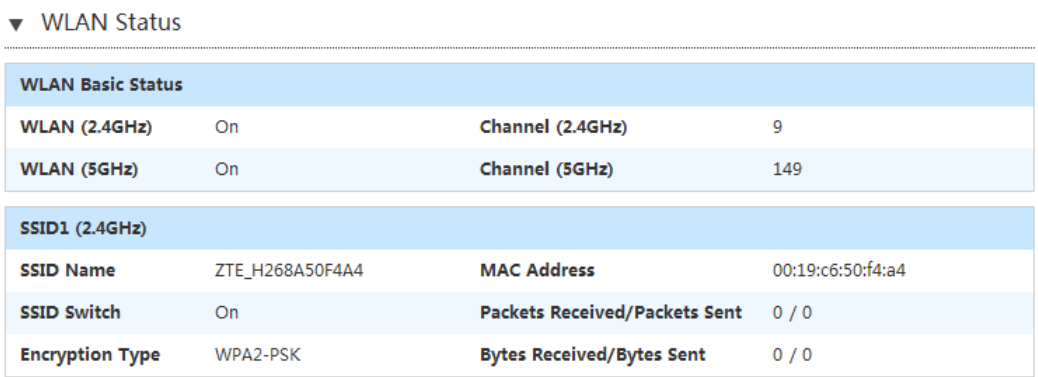
5.1.1 Check the WLAN Status

The section describes the status of WLAN. The relevant information of status is shown as below.

Steps

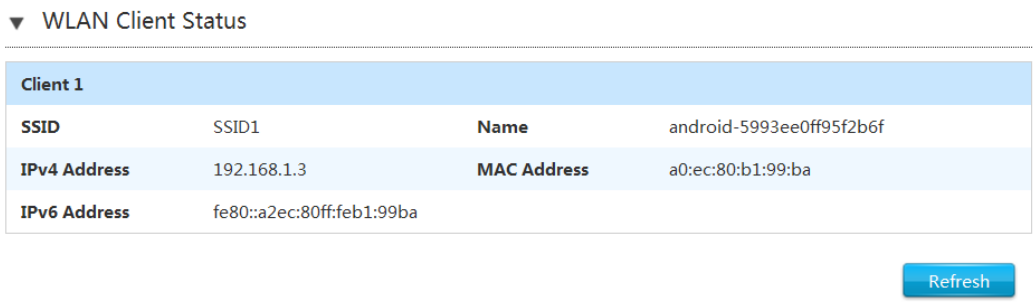
1. On the main page of the ZXHN H268A, select **Local Network > Status**. Click **WLAN Status** to open **WLAN Status** page, as shown in Figure 5-1.

Figure 5-1 WLAN Status



2. Click **Refresh** to get the latest information of WLAN(2.4GHz/5GHz) status, including **WLAN Basic Status**, **SSID Name**, **SSID Switch**, **Encryption Type**, **MAC Address**,**Packets Received/Packets Sent** and **Bytes Received/Bytes Sent**.
3. Click ▶ WLAN Client Status to open **WLAN Client Status** page, as shown in Figure 5-2.

Figure 5-2 WLAN Client Status



4. Click **Refresh** to get the latest information of WLAN client status.

– End of Steps –

5.1.2 Configure the WLAN Basic Settings

The section describes how to configure WLAN basic settings. **WLAN Basic Settings** provides the parameters of WLAN basic settings configuration features.

Steps

WLAN On/Off Configuration

1. On the main page of the ZXHN H268A, select **Local Network > WLAN > WLAN Basic** to open the **WLAN On/Off Configuration** page, as shown in Figure 5-3.

Figure 5-3 WLAN On/Off Configuration

2. Table 5-1 lists the WLAN on/off configuration parameters.

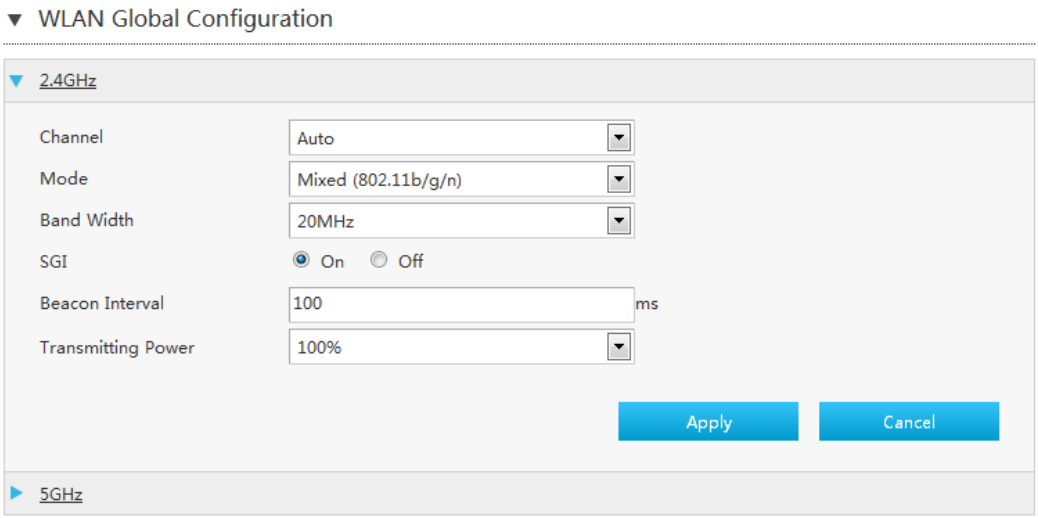
Table 5-1 WLAN On/Off Configuration parameters

Parameter	Description
WLAN (2.4GHz)	Click **Off** to enable the 2.4GHz wireless. By default, 2.4GHz wireless is enabled.
WLAN (5GHz)	Click **Off** to enable the 5GHz wireless. By default, 5GHz wireless is enabled.

WLAN Global Configurations

3. Click ▶ WLAN Global Configuration to **WLAN Global Configuration** page, as shown in Figure 5-4.

Figure 5-4 WLAN Global Configurations



4. Configure the WLAN global configuration parameters.

   Table 5-2 lists the WLAN global configuration parameters.

Table 5-2 WLAN Global Configuration parameters

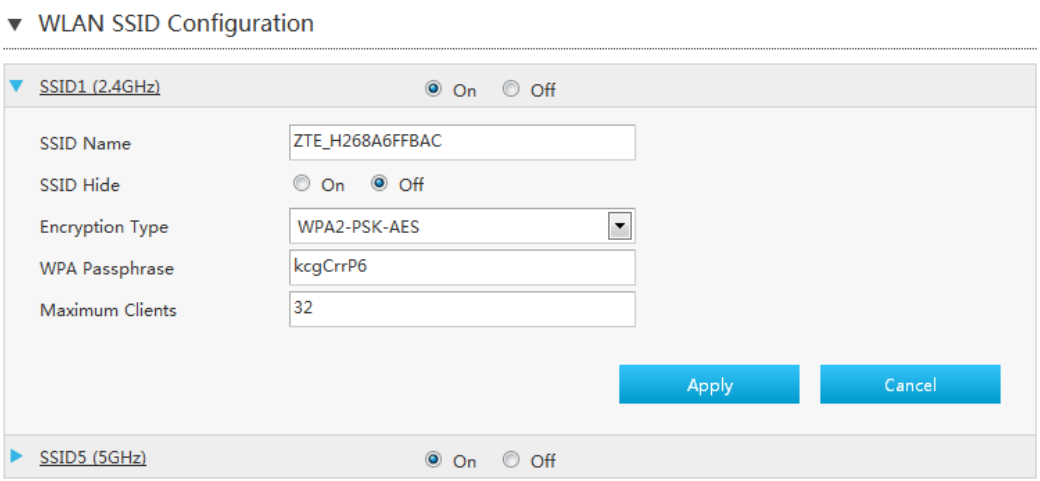
Parameter	Description
Channel	The default is **Auto**. ● 2.4GHz: Auto,1 - 13. ● 5GHz: Auto,36,40,44,48,52,56,60,64,100,104,108,112 , 149,153,157,161.
Mode	Select the wireless RF transmission mode. 2.4GHz: ● IEEE802.11b only ● IEEE802.11g only ● IEEE802.11n only ● Mixed(802.11b/g) ● Mixed(802.11g/n) ● Mixed(802.11b/g/n) 5GHz: ● IEEE802.11a only ● IEEE802.11n only ● Mixed(802.11a/n) ● Mixed(802.11a/n/ac)
Band Width	2.4GHz: Auto,20Mhz, 40Mhz. The default is 20 Mhz. 5GHz: 20Mhz, 40Mhz, 80Mhz. The default is 80 Mhz.
SGI	Enable this option to increase the traffic flow.
Beacon Interval	Time interval for the wireless device to broadcast the SSID information. Keep the default value.
Transmitting Power	Select the transmitting power as required.

5. Click **Apply** button to apply the changes.

WLAN SSID Configuration

6. Click WLAN SSID Configuration to **WLAN SSID Settings** page, as shown in Figure 5-5.

Figure 5-5 WLAN SSID Settings



7. Configure the WLAN SSID settings parameters.

Table 5-3 lists the WLAN SSID settings parameters.

Table 5-3 WLAN SSID Settings parameters

Parameter	Description
SSID Name	The name of SSID.
SSID Hide	Hide the SSID information to prevent illegal users.
Encryption Type	Select Encryption Type,The default is **WPA-PSK-AES**, Options: ● No Security ● WPA-PSK-AES ● WPA/WPA2-PSK-TKIP/AES
WPA Passphrase	If **Encryption Type** is set to be WPA-PSK-AES or WPA/WPA2-PSK-TKIP/AES, **WPA Passphrase** needs to be set. Range: 8 - 63 characters.
Maximum Clients	Range: 1 - 32.

Note:

The **WLAN Basic Settings** configuration options vary with the **Encryption type** value.

8. Click **Apply** button to apply the changes.

– End of Steps –

5.1.3 Configure the WLAN Advanced Parameters

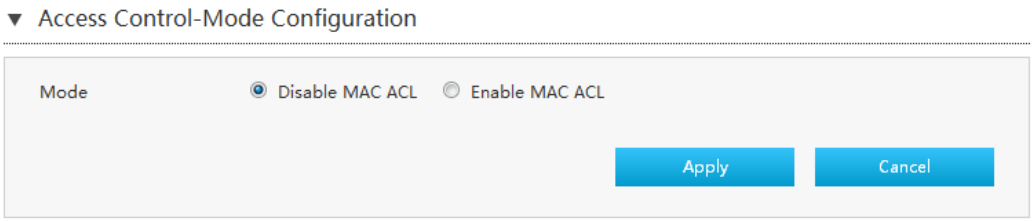
The section describes how to configure WLAN advanced. **WLAN Advanced** provides the parameters of WLAN advanced configuration features.

Steps

Access Control-Mode Settings

1. On the main page of the ZXHN H268A, select **Local Network > WLAN > WLAN Advanced** to open the **Access Control-Mode Settings** page, as shown in Figure 5-6.

Figure 5-6 WLAN Advanced

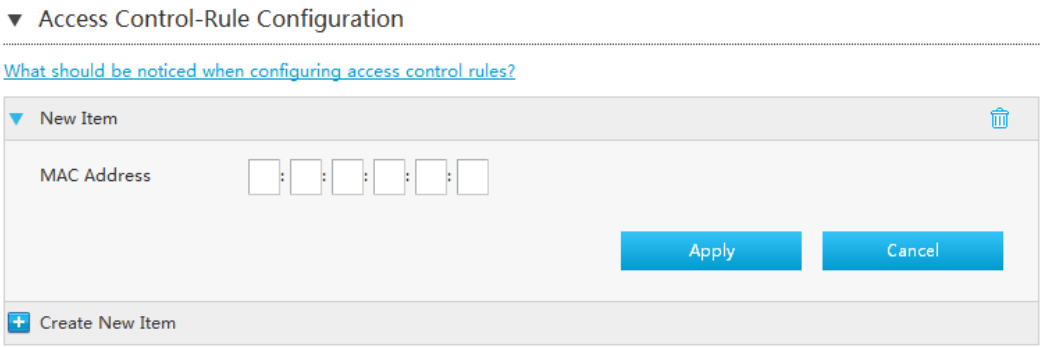


2. Select the access control-mode.Click **Apply** button to apply the changes.

Access Control-Rule Settings

3. Configure the access control-rule setting parameters.
4. Click ▶ Access Control-Rule Settings to open the page of access control-rule settings configuration, as shown in Figure 5-7.

Figure 5-7 Access Control-Rule Settings



5. Configure the access control-rule settings parameters.

Table 5-4 lists the access control-rule settings parameters.

Table 5-4 Access Control-Rule Settings parameters

Parameter	Description
MAC Address	The MAC address of the wireless device.

6. Click **Apply** button to apply the changes.

– End of Steps –

5.2 Configure the LAN

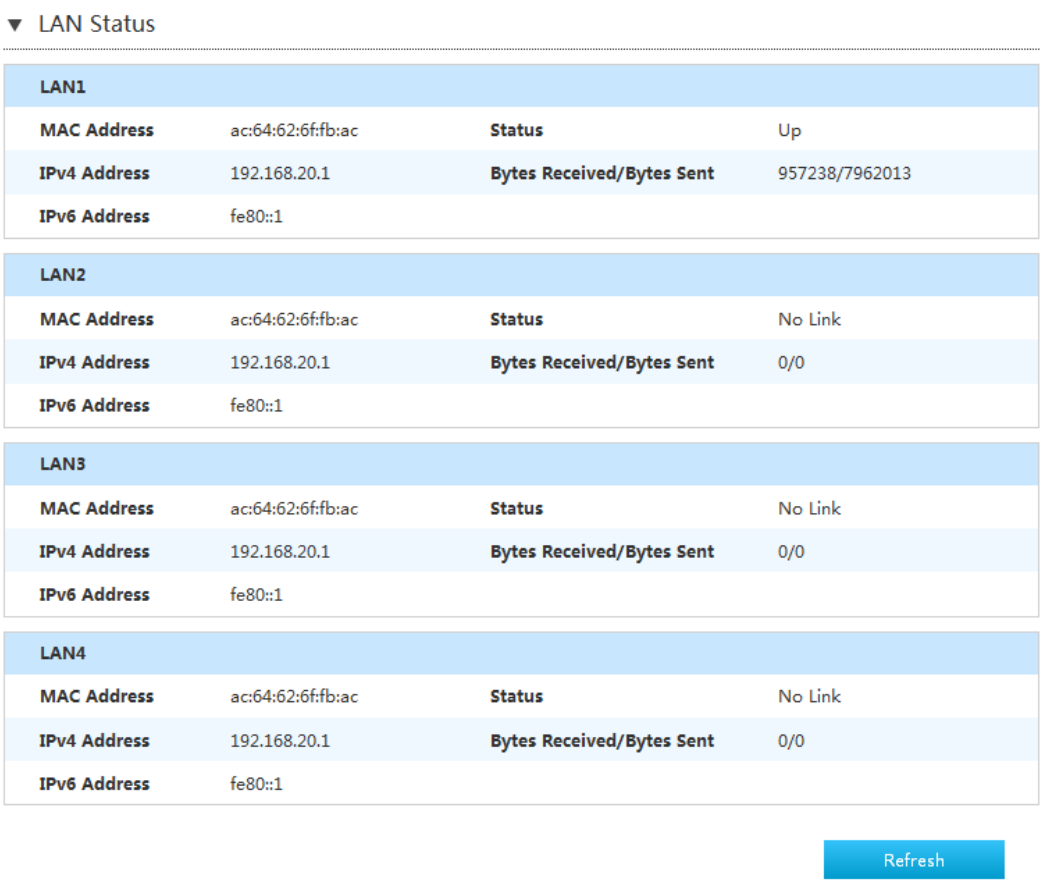
5.2.1 Check the LAN Status

The section describes the status of LAN. The relevant information of status is shown as below.

Steps

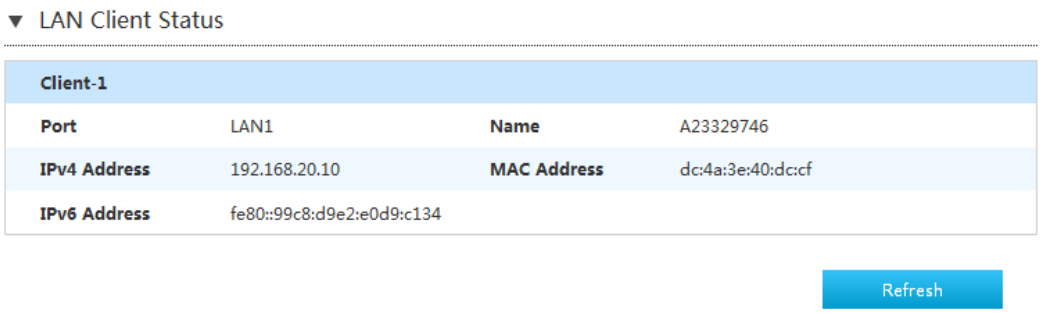
1. On the main page of the ZXHN H268A, select **Local Network > Status** to open the **LAN Status** page, as shown in Figure 5-8.

Figure 5-8 LAN Status



2. Click **Refresh** to get the latest information of LAN status, including **MAC Address**, **IPv4 Address**, **IPv6 Address**, **Status** and **Bytes Received/Bytes Sent**.
3. Click **LAN Client Status** to open the LAN client status page, as shown in Figure 5-9.

Figure 5-9 LAN Client Status



4. Click **Refresh** to get the latest information of LAN client status, including **Port**, **IPv4 Address**, **IPv6 Address**, **Name** and **MAC Address**.

– End of Steps –

5.2.2 Configure the LAN(IPv4)

The section describes how to configure LAN(IPv4). **LAN(IPv4)** provides the parameters of LAN(IPv4) configuration features.

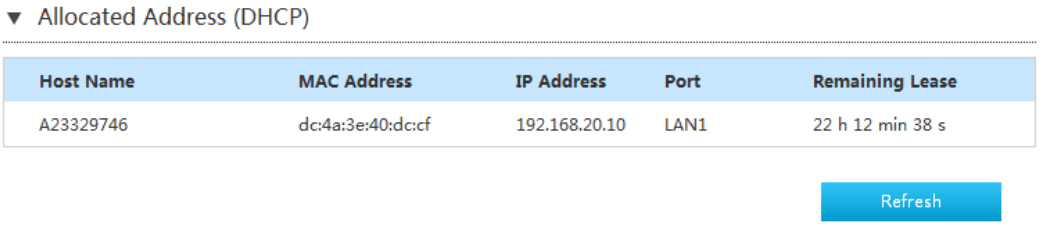
The relevant information of Internet status includes **Allocated Address**, **DHCP Server** and **DHCP Binding** .

Steps

Allocated Address

1. On the main page of the ZXHN H268A, select **Local Network > LAN > IPv4** to open the **Allocated Address** page.
2. Click **Refresh** to refresh the informations, as shown in Figure 5-10.

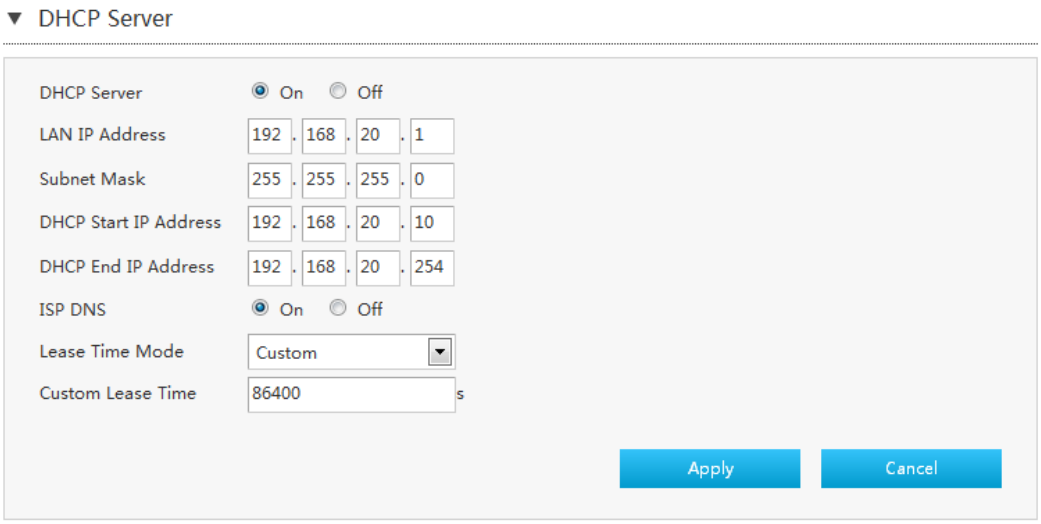
Figure 5-10 Allocated Address



DHCP Server

3. Click **DHCP Server** to open the **DHCP Server** page, as shown in Figure 5-11.

Figure 5-11 DHCP Server



4. Configure the DHCP server parameters.

   Table 5-5 lists the DHCP server parameters.

Table 5-5 DHCP Server Parameters

Parameter	Description
DHCP Server	Select **On** to let the device work as a DHCP server and assign IP addresses to open the client PCs or wireless devices.
LAN IP Address	The IPv4 address of LAN.
Subnet Mask	Subnet mask of the device.
DHCP Start IP Address	The start IP address of the DHCP address pool.
DHCP End IP Address	The end IP address of the DHCP address pool.
IspDNS	Select the check box to let the Assign IspDNS work.
Primary DNS	IP address of the DNS server, provided by ISP.
Secondary DNS	IP address of the DNS server2, provided by the ISP.
Lease Time Mode	The mode of Lease Time.
Custom Lease Time	The time during which the client PCs use the IP address assigned by the DHCP server. After the lease time expires, the private IP address will be available for assigning to other network devices.

Note:

The **DHCP Server** configuration options vary with the **Lease Time Mode** value.

5. Click **Apply** button to apply the changes.

DHCP Binding

6. Click **DHCP Binding** to open the **DHCP Binding** page, as shown in Figure 5-12.

Figure 5-12 DHCP Binding

7. Configure the DHCP binding parameters.

   Table 5-6 lists the DHCP binding parameters.

Table 5-6 DHCP Binding Parameters

Parameter	Description
Name	The name of the DHCP binding.
MAC Address	The MAC address of the DHCP binding.
IP Address	IP address of the DHCP binding.

8. Click **Apply** button to apply the changes.

– End of Steps –

5.2.3 Configure the LAN (IPv6)

The section describes how to configure LAN (IPv6).

The relevant information of Internet status includes **Allocated Address**, **DHCP Server**, **StaticPrefix** and **RA Service**.

Prerequisite

Before configuring the prefix delegation, make sure that the prefix delegation is enabled for the specified IPv6 WAN connection.

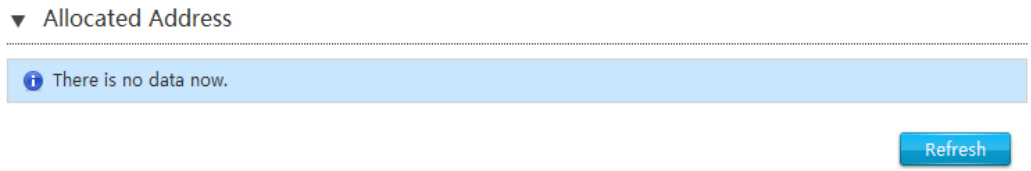
Steps

Allocated Address

1. On the main page of the ZXHN H268A, select **Local Network > LAN > IPv6** to open the **Allocated Address** page.

2. Click **Refresh** to refresh the informations, as shown in Figure 5-13.

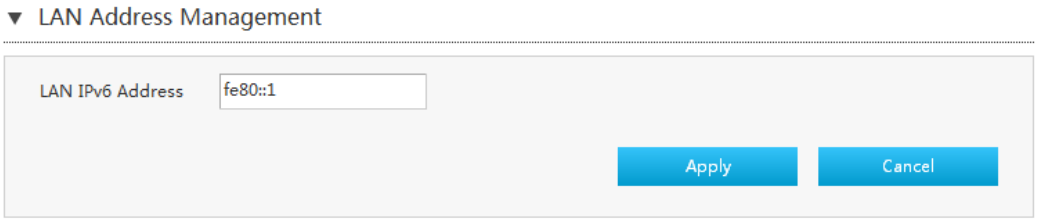
Figure 5-13 Allocated Address



LAN Address Management

3. Click **LAN Address Management** to open the **LAN Address Management** page, as shown in Figure 5-14.

Figure 5-14 LAN Address Management Server Page



4. Configure the LAN Address parameters.

   Table 5-7 lists the static routing parameters.

Table 5-7 Parameter Descriptions for the LAN Address

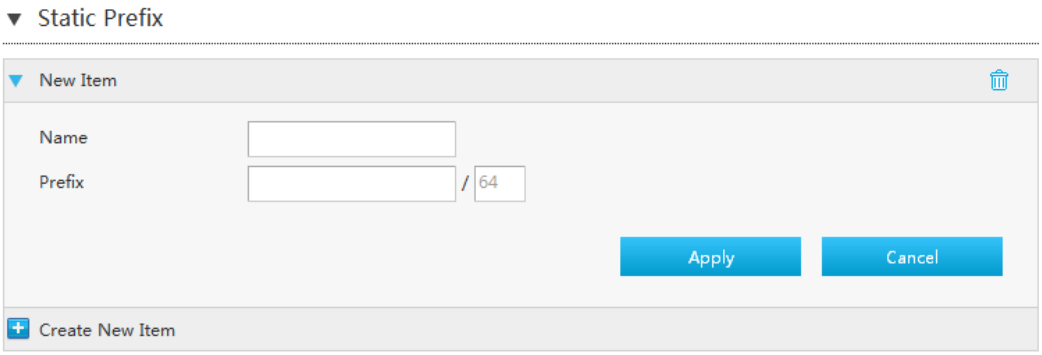
Parameter	Description
LAN IPv6 Address	The IPv6 address of LAN.

5. Click **Apply** button to apply the changes.

Static Prefix

6. Click **Static Prefix** to open the **Static Prefix** page, as shown in Figure 5-15.

Figure 5-15 Static Prefix Page

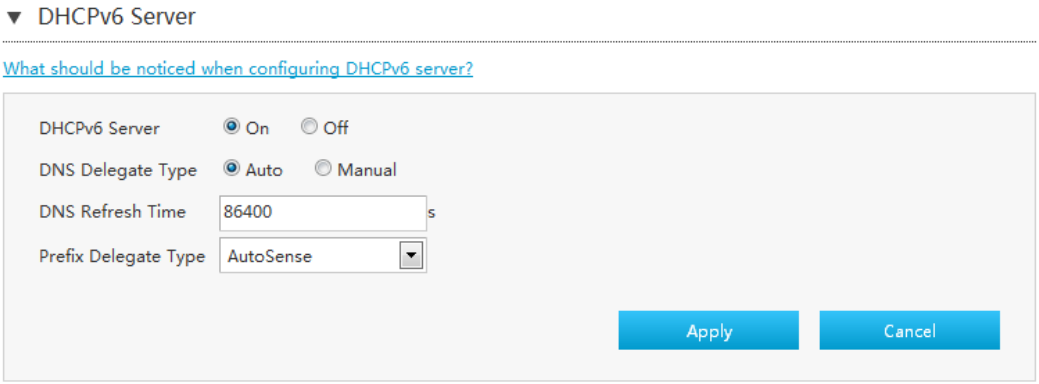


7. Click **Apply** button to apply the changes.

DHCPv6 Server

8. Click **DHCPv6 Server** to open the **DHCPv6 Server** page, as shown in Figure 5-16.

Figure 5-16 DHCPv6 Server Page



9. Configure the DHCPv6 server parameters.

   Table 5-7 lists the static routing parameters.

Table 5-8 Parameter Descriptions for the DHCPv6 Server

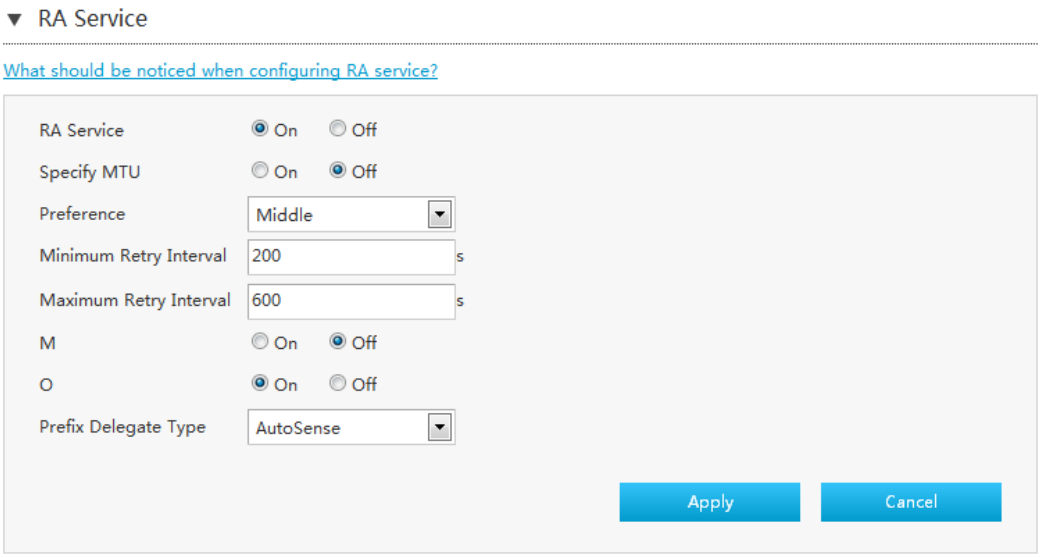
Parameter	Description
DHCPv6 Server	Select **On** to let the device work as a DHCP server and assign IP addresses to open the client PCs or wireless devices.
DNS Delegate Type	DNS delegation type ● Auto To automatically select the DNS. ● Manual To manually select the DNS. When this option is selected, you need to configure the IP address of the DNS server.
DNS Refresh Time	The time during which the client PCs use the IP addresses assigned by the DHCP server. After the lease time expires, the private IP address will be available for assigning to other network devices.
Prefix Delegate Type	Prefix delegation type ● AutoSense One prefix selected automatically from all the available prefixes will be delegated. ● Manual One or more prefixes selected manually from all the static prefixes configured before will be delegated. ● Disabled No prefix will be delegated.

10. Click **Apply** button to apply the changes.

RA Service

11. Click **RA Service** to open the **RA Service** page, as shown in Figure 5-17.

Figure 5-17 RA Service Page



12. Configure the RA service parameters.

Table 5-9 lists the RA service parameters.

Table 5-9 Parameter Descriptions for the RA Service

Parameter	Description
RA Service	Enable or disable the RA service.
Specify MTU	MTU configuration mode. ● On The MTU is specified by the user. ● Off The MTU is specified by the system.
Preference	The preference of RA packets, value range: high, middle, low.
Min Retry Interval	The minimum time allowed between sending unsolicited multicast Router Advertisements from the interface. (The value must not be greater than 0.75 * (Maximum Retry Interval)).
Max Retry Interval	maximum time allowed between sending unsolicited multicast Router Advertisements from the interface.
M	Managed flag. Select this check box to enable the connected devices to obtain the IPv6 address through DHCP IPv6.
O	Other configure flag. Select this check box to enable the connected devices to obtain DNS address through DHCP IPv6.

Parameter	Description
Prefix Delegate Type	Prefix delegation type ● AutoSense All the available prefixes will be delegated. ● Manual One or more prefixes selected manually from all the static prefixes configured before will be delegated.

13. Click **Apply** button to apply the changes.

– End of Steps –

5.3 Configure the Route

5.3.1 Configure the Routing(IPv4)

The section describes how to configure routing(IPv4).

The gateway needs to be configured for the static mode interface or IPoA mode interface during static routing configuration.

The gateway does not need to be configured for the PPPoE mode interface during static routing configuration.

The relevant information of Internet status includes **Routing Table** and **Static Routing** .

Prerequisite

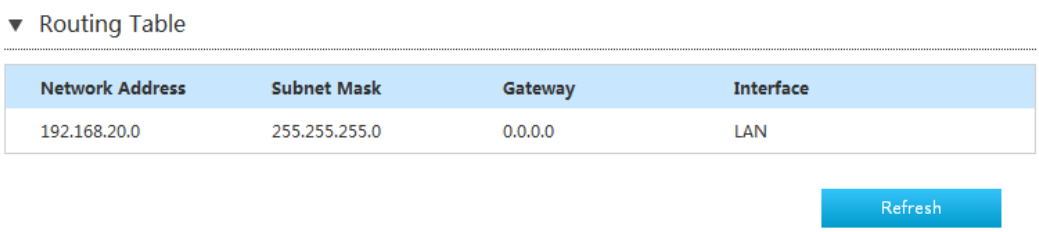
Before configuring static routing, make sure that the IPv4 WAN connection is created.

Steps

Routing Table

1. On the main page of the ZXHN H268A, select **Local Network > Routing > IPv4** to open the **Routing Table** page, as shown in Figure 5-18.

Figure 5-18 Routing Table

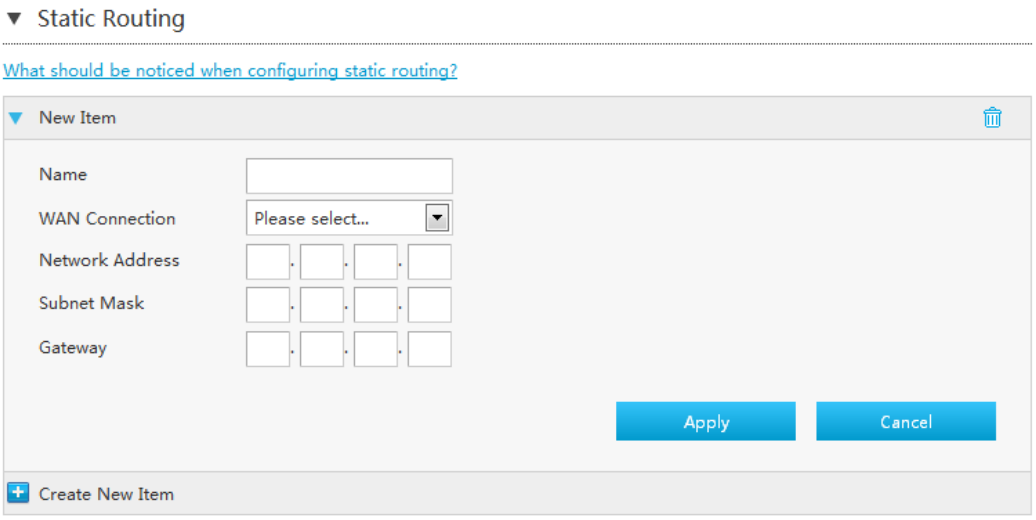


2. Click **Refresh** to refresh the informations.

Static Routing

3. Click **Static Routing** to open the **Static Routing** page, as shown in Figure 5-19.

Figure 5-19 Static Routing



4. Configure the static routing parameters.

   Table 5-10 lists the static routing parameters.

Table 5-10 Static Routing parameters

Parameter	Description
Name	The name of static routing entry.
WAN Connection	WAN connection for static routing. If WAN interfaces and gateway are both configured, please ensure that the gateway can be reached through the WAN interface.
Network Address	IP address of the destination network. If network address and subnet mask are both 0.0.0.0, this configuration will be a default routing, which is effective for any destination address.
Subnet Mask	Subnet mask of the destination network.
Gateway	Gateway of the network segment which the network interface belongs to.

5. Click **Apply** button to apply the changes.

– End of Steps –

5.3.2 Configure the Routing(IPv6)

The section describes how to configure routing(IPv6).

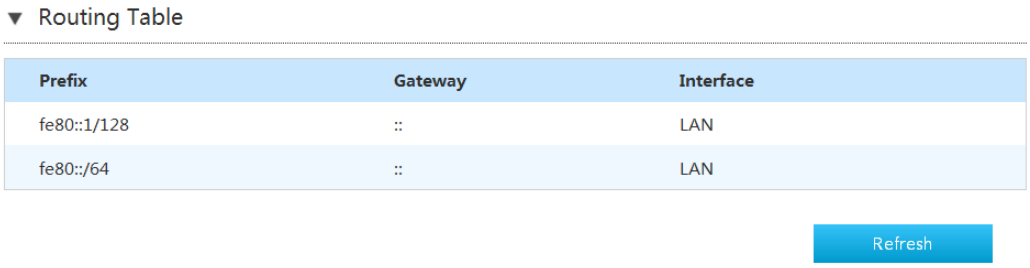
The relevant information of Internet status includes **Routing Table** and **Static Routing**.

Steps

Routing Table

1. On the main page of the ZXHN H268A, select **Local Network > Routing > IPv6** to open the **Routing Table** page, as shown in Figure 5-20.

Figure 5-20 Routing Table

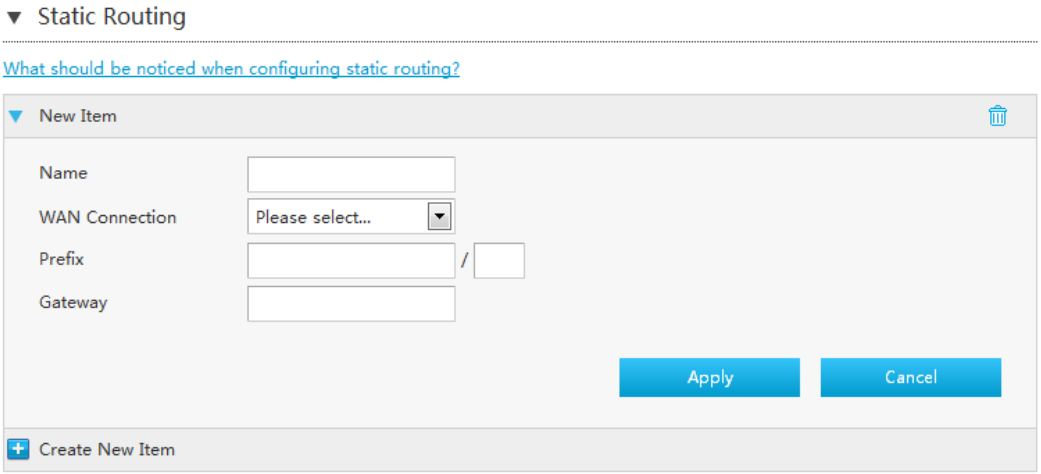


2. Click **Refresh** to refresh the informations.

Static Routing

3. Click**Static Routing** to open the **Static Routing** page, as shown in Figure 5-21.

Figure 5-21 Static Routing



4. Configure the static routing parameters.

Table 5-11 lists the static routing parameters.

Table 5-11 Static Routing parameters

Parameter	Description
Name	The name of static routing entry.
WAN Connection	WAN connection for static routing
Prefix	The prefix is consistent with the network segment of the IPv6 interface. If prefix is ::/0, this configuration will be a default routing, which is effective for any destination address.
Gateway	Gateway of the network segment which the network interface belongs to.

5. Click **Apply** button to apply the changes.

– End of Steps –

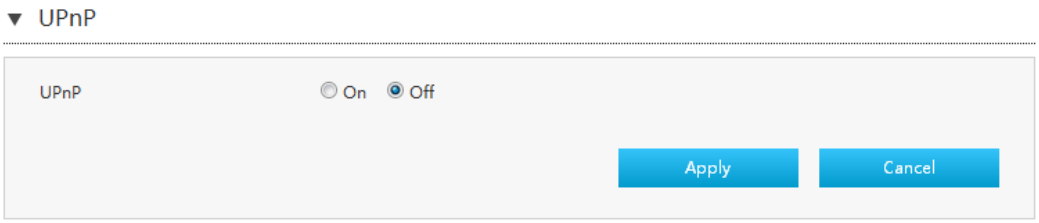
5.4 Configure the UPnP

The procedure provides the parameters of UPnP configuration features.

Steps

1. On the main page of the ZXHN H268A, select **Local Network > UPnP** to open the **UPnP** page, as shown in Figure 5-22.

Figure 5-22 UPnP



2. Click **On** to enable the UPnP function or click **Off** to disable the UPnP function, and then click **Apply** button to apply the changes.

– End of Steps –

5.5 Configure the DNS

The section describes how to configure DNS. **DNS** provides the parameters of DNS configuration features.

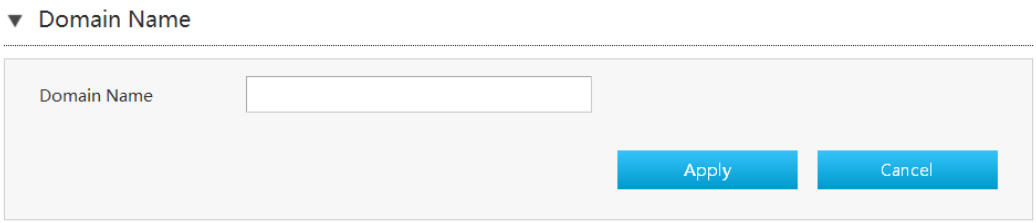
The relevant information of Internet status includes **Domain name** and **Host Name** .

Steps

Domain name

1. On the main page of the ZXHN H268A, select **Local Network > DNS** to open the **Domain name** page, as shown in Figure 5-23.

Figure 5-23 Domain name



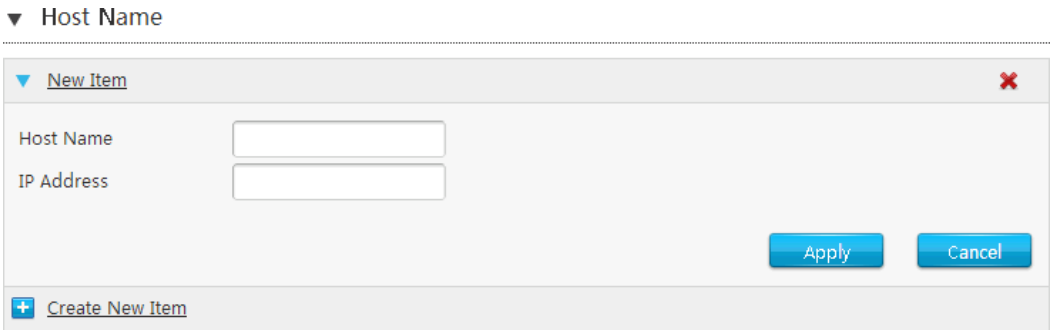
2. Type the domain name in the text box.

3. Click **Apply** button to apply the changes.

Host Name

4. Click **Host name** to open the **Host Name** page, as shown in Figure 5-24.

Figure 5-24 Host Name



5. Type the host name in the **Host Name** text box and the IP address in the **IP Address** text box.
6. Click **Apply** button to apply the changes.

– End of Steps –

Chapter 6
Configure the VoIP

Table of Contents

6.1 Check the Status of VoIP

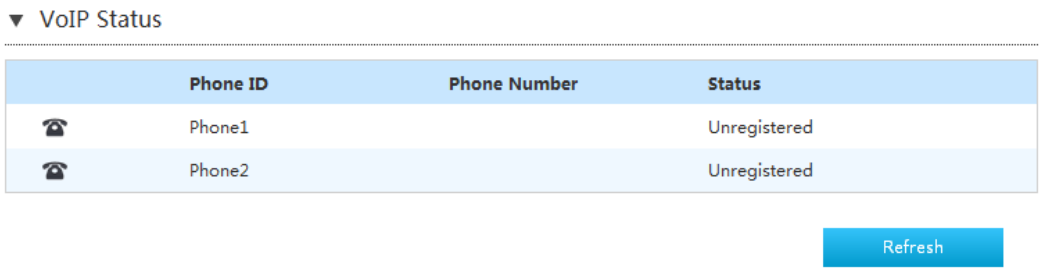
This procedure shows the relevant information of VoIP status.

Steps

Check the status of VoIP

1. Select **VoIP > Status**. The **Status** page is displayed, as shown in Figure 6-1.

Figure 6-1 VoIP Status Page



2. Click **Refresh** to refresh the information.

Check the call log

3. Click the **Call Log**, and then click the **Refresh** to refresh the information.

– End of Steps –

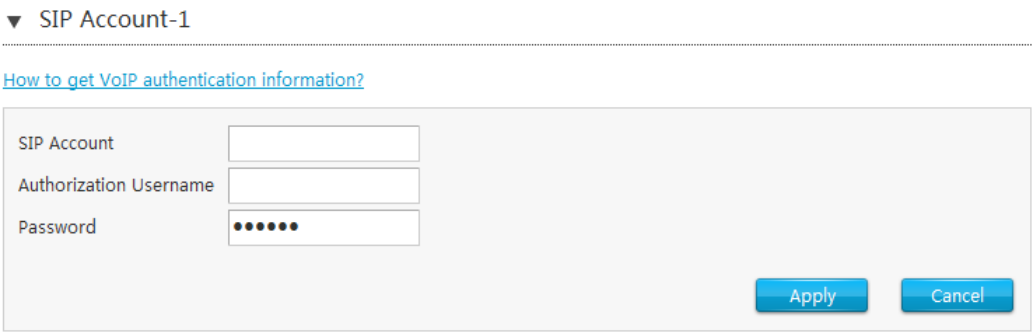
6.2 Configure the SIP Accounts

This procedure describes how to configure basic parameters of the VoIP service, including sip account, authorization username, password.

Steps

1. Select **VoIP > Basic**. The **SIP Accounts** page is displayed, see Figure 6-2.

Figure 6-2 SIP Accounts Page



2. Set the parameters. For a description of the parameters, refer to Table 6-1.

Table 6-1 Parameter Descriptions for the SIP Accounts

Parameter	Description
SIP Account	Registered name of a SIP subscriber. Normally, it is the phone number of the subscriber.
Password	Password for VoIP service authentication by the SoftSwitch system, which must be the same as that configured in the SoftSwitch system.
Authorization Username	Username for authentication by the SoftSwitch system, which must be the same as that configured in the SoftSwitch system.

3. Click **Apply** button to apply the changes.

– End of Steps –

6.3 Configure the Advanced Parameters of VoIP

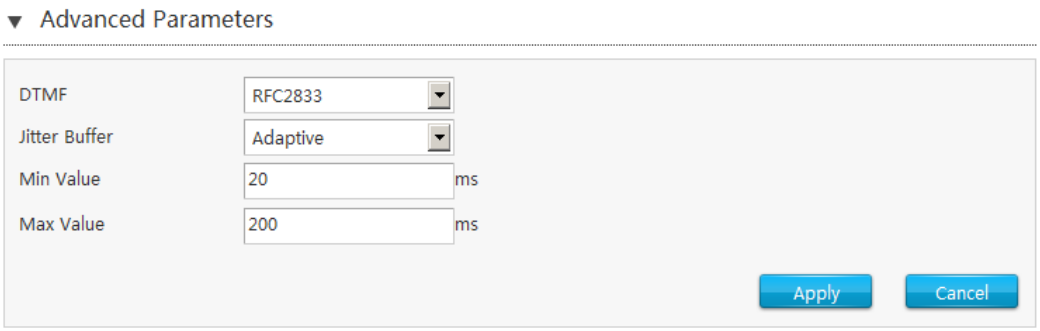
This procedure describes how to configure advanced parameters of the VoIP service, including echo cancellation, jitter buffer, and DTMF.

Steps

Advanced Parameters

1. Select **VoIP > Advanced > Advanced Parameters**. The advanced parameters page is displayed, as shown in Figure 6-3.

Figure 6-3 Advanced Parameters Page



2. Set the advanced parameters. For a description of the parameters, refer to Table 6-2.

Table 6-2 Advanced Parameter Descriptions

Parameter	Description
DTMF	DTMF mode. Options: ● **RFC2833**: DTMF digits are carried by RTP streams. ● **DTMF in Voice**: DTMF digits are not processed. ● **SIP Info**:SIP protocol information.
Jitter Buffer	The variation in packet delay is called jitter. Jitter buffer refers to intentional delay of packets. Options: ● **Fixed**: A fixed buffer time must be specified. ● **Adaptive**: A jitter range must be specified.
Min Value	Minimum value of the jitter range, default: 20 ms.
Max Value	Maximum value of the jitter range, default: 200 ms.

3. Click **Apply**.

Echo Cancellation

4. Select **VoIP > Advanced > Echo Cancellation**. The **Echo Cancellation** page is displayed, as shown in Figure 6-4.

Figure 6-4 Echo Cancellation Page

5. Set the echo cancellation parameters. For a description of the parameters, refer to Table 6-3.

Table 6-3 Echo Cancellation Parameter Descriptions

Parameter	Description
Echo Cancellation	Whether to disable the echo cancellation feature. Select **On** to enable the function. Select **Off** to disable the function.

6. Click **Apply** button to apply the changes.

– End of Steps –

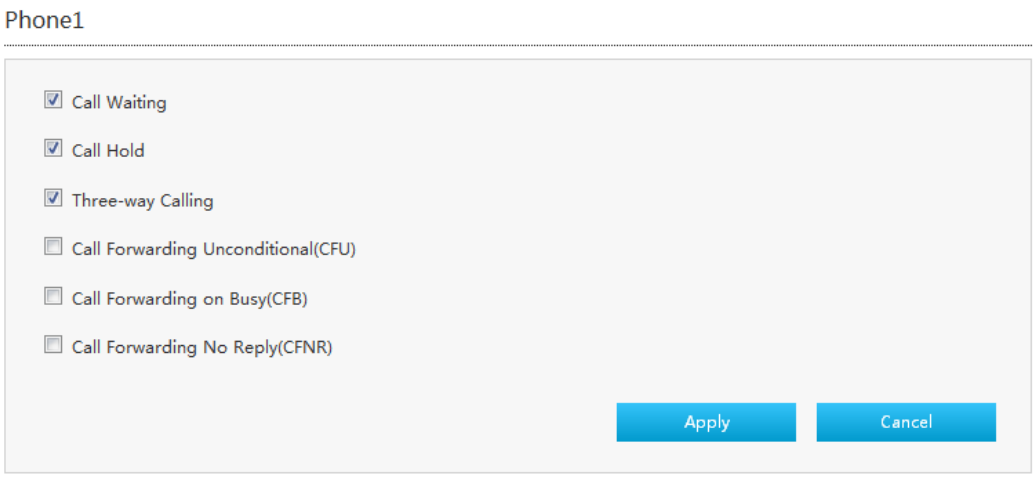
6.4 Configure the VoIP Service

This procedure describes how to configure the VoIP Service.

Steps

1. Select **VoIP > VoIP Service**. The **VoIP Service** page is displayed, as shown in Figure 6-5.

Figure 6-5 VoIP Service Page



2. Select the VoIP service of Phone1 or Phone2 ,then click **Apply**.

– End of Steps –

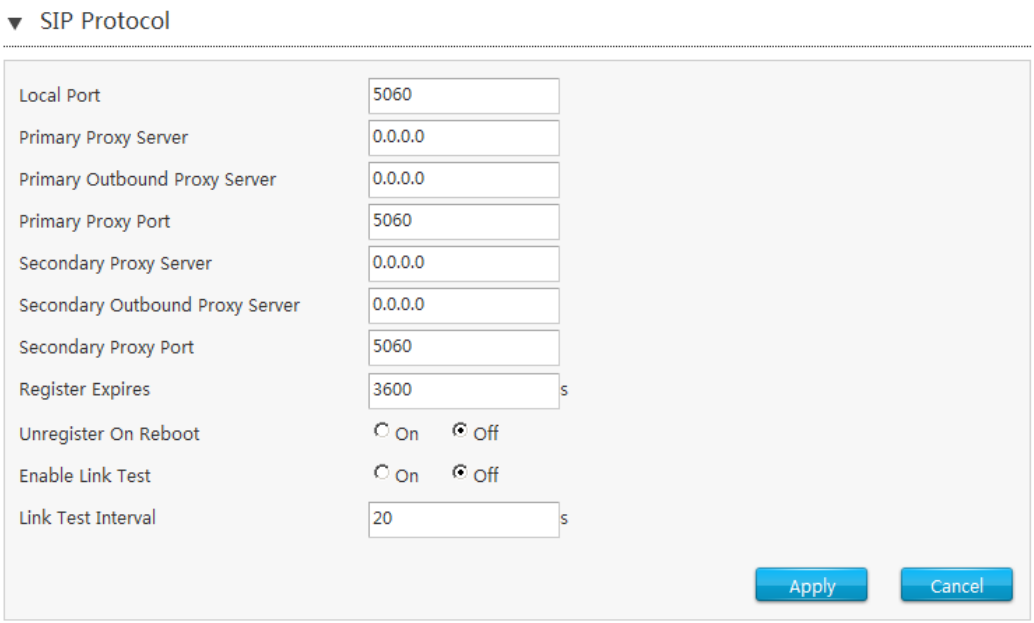
6.5 Configure the SIP Protocol

This procedure describes how to configure the SIP Protocol.

Steps

1. Select **VoIP > SIP Protocol**. The **SIP Protocol** page is displayed, as shown in Figure 6-6.

Figure 6-6 SIP Protocol Page



2. Set the parameters. For a description of the parameters, refer to Table 6-4.

Table 6-4 Parameter Descriptions for the SIP Protocol

Parameter	Description
Local Port	Local port that the SIP protocol uses, default: 5060.
Primary Proxy Server	IP address of the active SIP proxy server that the ISP provides, which must be the same as that configured on the SIP server.
Primary Outbound Proxy Server	IP address of the active outbound proxy server that the ISP provides, which must be the same as that configured on the SIP server.
Primary Proxy Port	Port number that the ISP provides for communication between the active server and VoIP terminals, which must be the same as that configured on the SIP server, default: 5060.
Secondary Proxy Server	IP address of the standby SIP proxy server that the ISP provides, which must be the same as that configured on the SIP server.
Secondary Outbound Proxy Server	IP address of the standby outbound proxy server that the ISP provides, which must be the same as that configured on the SIP server.
Secondary Proxy Port	Port number that the ISP provides for communication between the standby server and VoIP terminals, which must be the same as that configured on the SIP server, default: 5060.
Register Expires	Registered lifecycle, unit: seconds, default: 3600.
Unregister On Reboot	Whether to deregister VoIP terminals after the server is restarted.
Enable Link Test	Whether to enable link tests.
Link Test Interval	Interval of link tests, default: 20 seconds.

3. Click **Apply**.

– End of Steps –

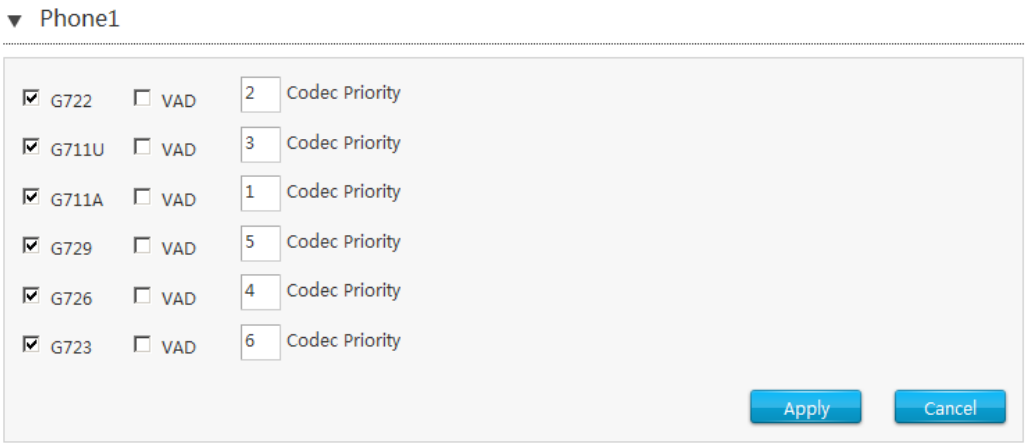
6.6 Configure the Media

This procedure describes how to configure the media codec type.

Steps

1. Select **Application > VoIP > Media**. The **Media** page is displayed, see Figure 6-7.

Figure 6-7 Media Page



2. Configure the media parameters. For a description of the parameters, refer to Table 6-5.

Table 6-5 Media Parameter Descriptions

Parameter	Description
G722 VAD,G711U VAD, G711A VAD, G729 VAD, G726 VAD, G723 VAD,	Select a codec, which must be the same as that configured in the SS system.
Codec Priority	You can modify priority through this parameter. A lower number indicates a higher priority.

3. Click **Apply**.

– End of Steps –

6.7 Configure the Fax

The ZXHN H268A supports the T30 and T38-based fax feature. By default, the T38 protocol is used.

Steps

1. Select **VoIP > Fax**. The **Fax** page is displayed, as shown in Figure 6-8.

Figure 6-8 Fax Page

2. Set the parameters. For a description of the parameters, refer to Table 6-6.

Table 6-6 Parameter Descriptions for the Fax

Parameter	Description
Enable T38 Protocol	Whether to enable the T38 protocol. If this check box is not selected, the T30 protocol is used.

3. Click **Apply**.

– End of Steps –

Chapter 7
Management&Diagnosis

Table of Contents

7.1 Account Management

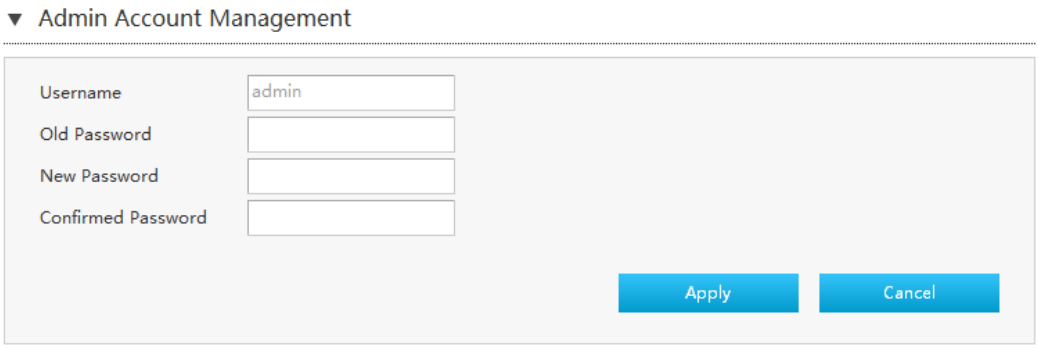
This procedure introduces how to manage the user accounts and rights.

Steps

Admin Account Management

1. On the main page of the ZXHN H268A, select **Management & Diagnosis > Account Management** to open the **Admin Account Management** page, as shown in Figure 7-1.

Figure 7-1 Admin Account Management



2. Configure the telecomadmin account management parameters.

   Table 7-1 lists the telecomadmin account management parameters.

Table 7-1 Admin Account Management parameters

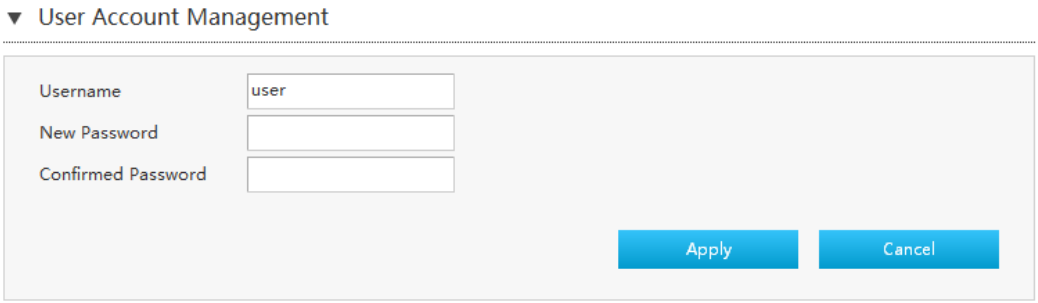
Parameter	Description
Username	The user name for the administrator privilege. The default user name of the administrator privilege is `admin`, which cannot be modified.
Old Password	The default passwords for the Administrator is admin.
New Password	Specify the new password.
Confirmed Password	Confirm the new password.

3. Click **Apply** button to apply the changes.

User Account Management

4. On the main page of the ZXHN H268A, select **Management & Diagnosis > Account Management** to open the **User Account Management** page, as shown in Figure 7-2.

Figure 7-2 User Account Management



5. Configure the user account management parameters.

   Table 7-2 lists the administrator account management parameters.

Table 7-2 User Account Management parameters

Parameter	Description
Username	The user name for the user privilege. The default user name of the user privilege is `user`, which can be modified.
New Password	Specify the new password.
Confirmed Password	Confirm the new password.

6. Click **Apply** button to apply the changes.

– End of Steps –

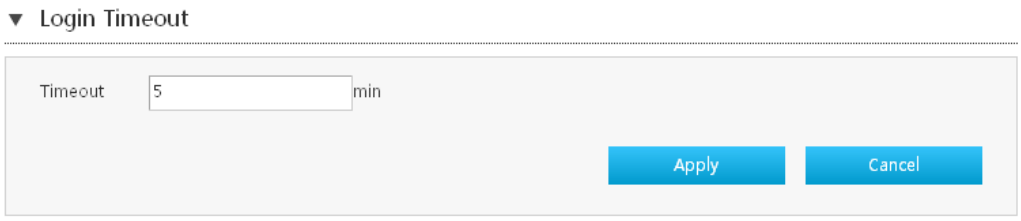
7.2 Login Timeout

This procedure introduces how to configure the login timeout.

Steps

1. On the main page of the ZXHN H268A, select **Management & Diagnosis > Login Timeout** to open the **Login Timeout** page, as shown in Figure 7-3.

Figure 7-3 Login Timeout



2. Specify the time in the **Timeout** text box.
3. Click **Apply** button to apply the changes.

Note:

The timeout configuration takes effect after you re-log in to open the system.

– End of Steps –

7.3 System Management

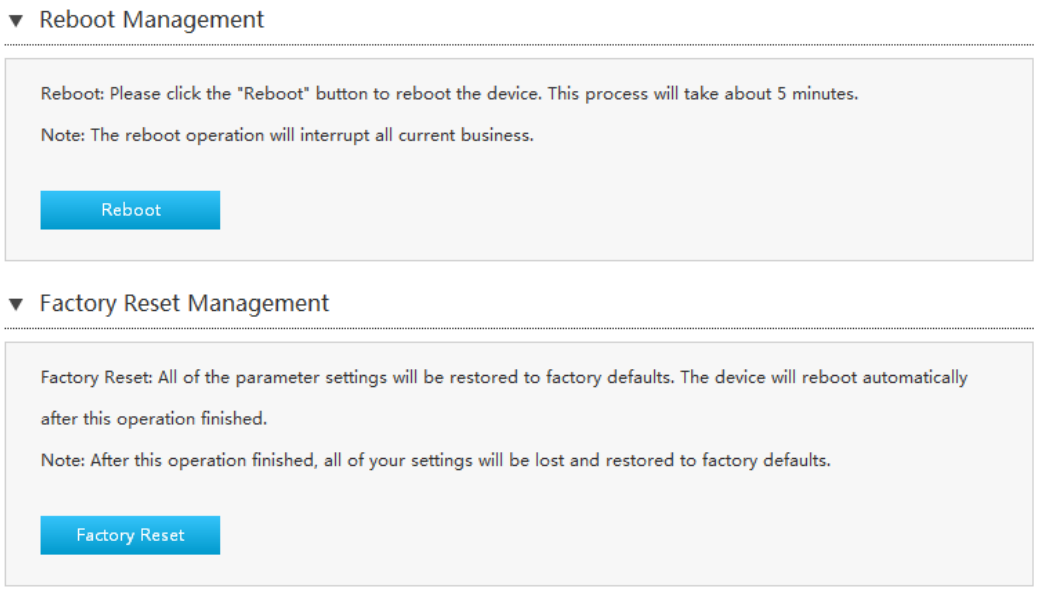
7.3.1 Configure the Device Management

This procedure introduces how to reboot the device or restore the factory default settings.

Steps

1. On the main page of the ZXHN H268A, select **Management & Diagnosis > System Management > Device Management** to open the **Device Management** page, as shown in Figure 7-4.

Figure 7-4 Device Management



2. On The procedure, you can perform the following operations:
   - Click **Reboot** to reboot the ZXHN H268A device.
   - Click **Factory Reset** to restore the factory default settings.

– End of Steps –

7.3.2 Upgrade Firmware

This procedure introduces how to upgrade firmware.

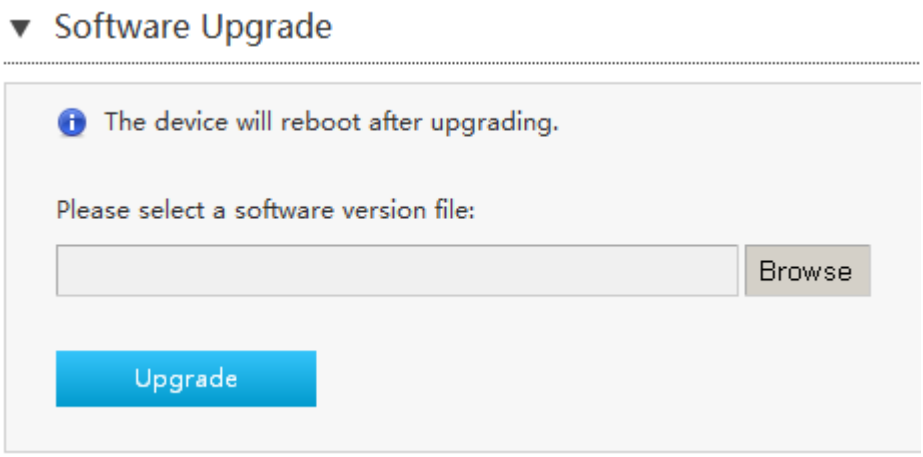
Prerequisite

Before upgrading software, make sure that the upgrade file is ready.

Steps

1. On the main page of the ZXHN H268A, select **Management & Diagnosis > System Management > Software Upgrade** to open the **Software Upgrade** page, as shown in Figure 7-5.

Figure 7-5 Software Upgrade



2. Click **Browse** to select the upgrade version file.
3. Click **Upgrade**.

Note:

The system prompts the upgrade progress. During the upgrade process, do not cut off the power supply. Otherwise, the device may be damaged.

Generally, the software is upgraded by the ZTE CORPORATION engineers. If the user wants to upgrade the Software, contact the local office of ZTE CORPORATION to obtain the latest Software version.

– End of Steps –

7.3.3 Manage the User Configuration

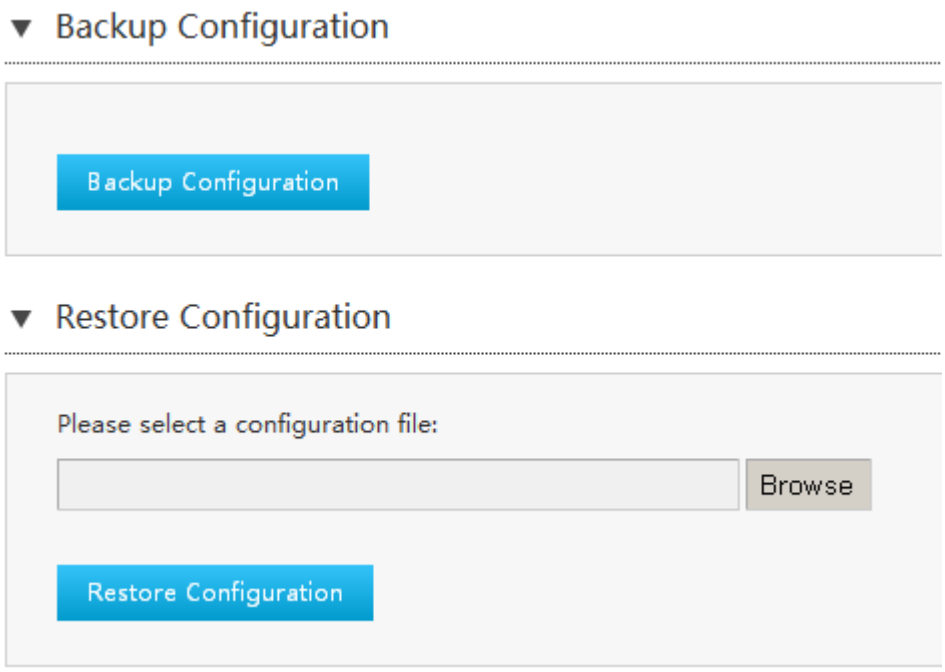
This procedure introduces how to import or export the user configuration file.

User configuration refers to open the customized configuration based on the factory defaults. The user can configure the device settings based on his own requirements, and the configuration can be backed up.

Steps

1. On the main page of the ZXHN H268A, select **Management & Diagnosis > System Management > Config Management** to open the **Configuration Management** page, as shown in Figure 7-6.

Figure 7-6 Configuration Management



2. On The procedure, you can perform the following operations:
   - Click **Backup Configuration** to export the user configuration file.
   - Click **Browse** to select the user configuration file, and then click **Restore Configuration** to restore the device to open the user configuration.

Note:

After the user configuration file is imported, the system will restart.

– End of Steps –

7.4 Configure the Mirror

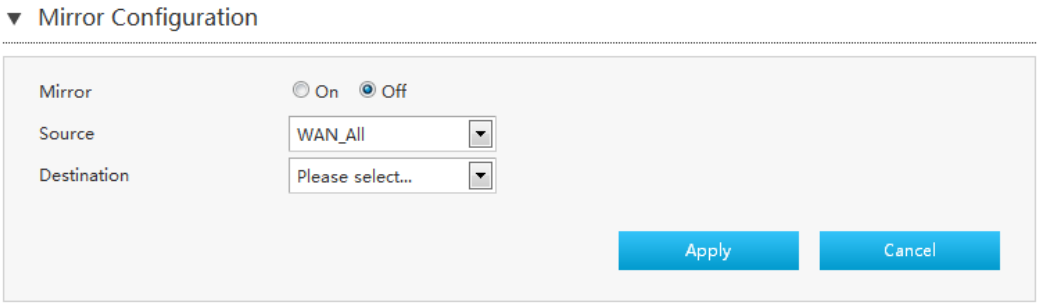
This procedure introduces how to perform the mirror configuration.

If the mirror configuration is performed, the packets at the WAN side will be copied to open the specified LAN interface, and it can be used for the network analysis and troubleshooting.

Steps

1. On the main page of the ZXHN H268A, select **Management & Diagnosis > Mirror Configuration** to open the **Mirror Configuration** page, as shown in Figure 7-7.

Figure 7-7 Mirror Configuration



2. Configure the mirror parameters.

   Table 7-3 lists the mirror configuration parameters.

Table 7-3 Mirror Configuration Parameters

Parameter	Description
Mirror	Enable or disable the mirror function.
Source	Network-side WAN interface.
Destination	User-side LAN interface.

3. Click **Apply** button to apply the changes.

– End of Steps –

7.5 Configure the TR-069

The section describes how to configure the TR-069. **TR-069** provides the parameters of the TR-069 configuration features.

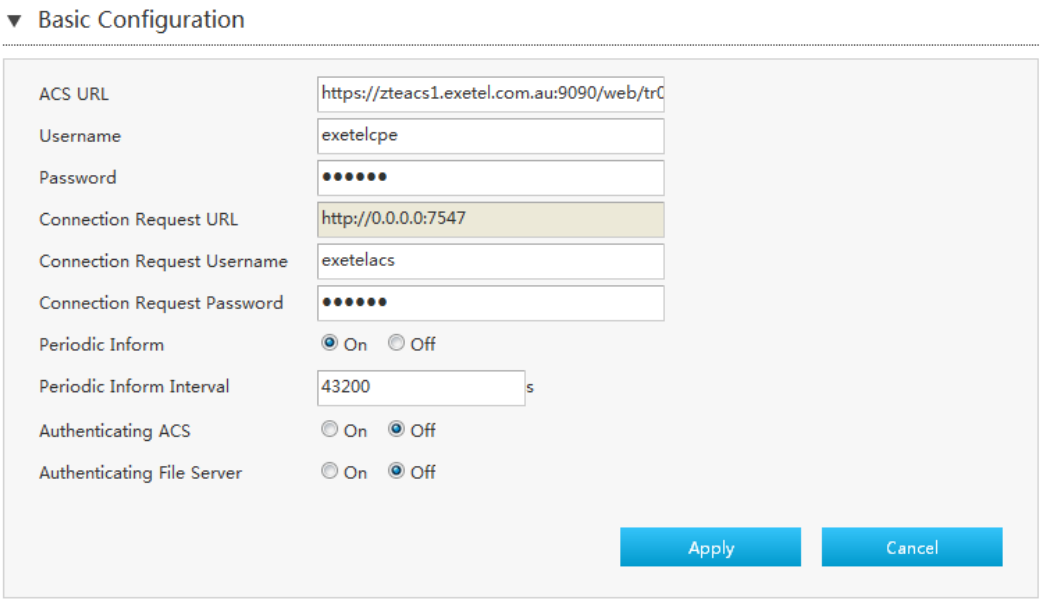
The relevant **TR-069** includes **Basic Configuration** , **Certificate Management**.

Steps

Basic Configuration

1. On the main page of the ZXHN H268A, select **Management & Diagnosis > TR-069** to open the **Basic Configuration** page, as shown in Figure 7-8.

Figure 7-8 Basic Configuration



2. Configure the basic TR-069 parameters.

   Table 7-4 lists the TR-069 basic parameters.

Table 7-4 TR-069 basic parameters

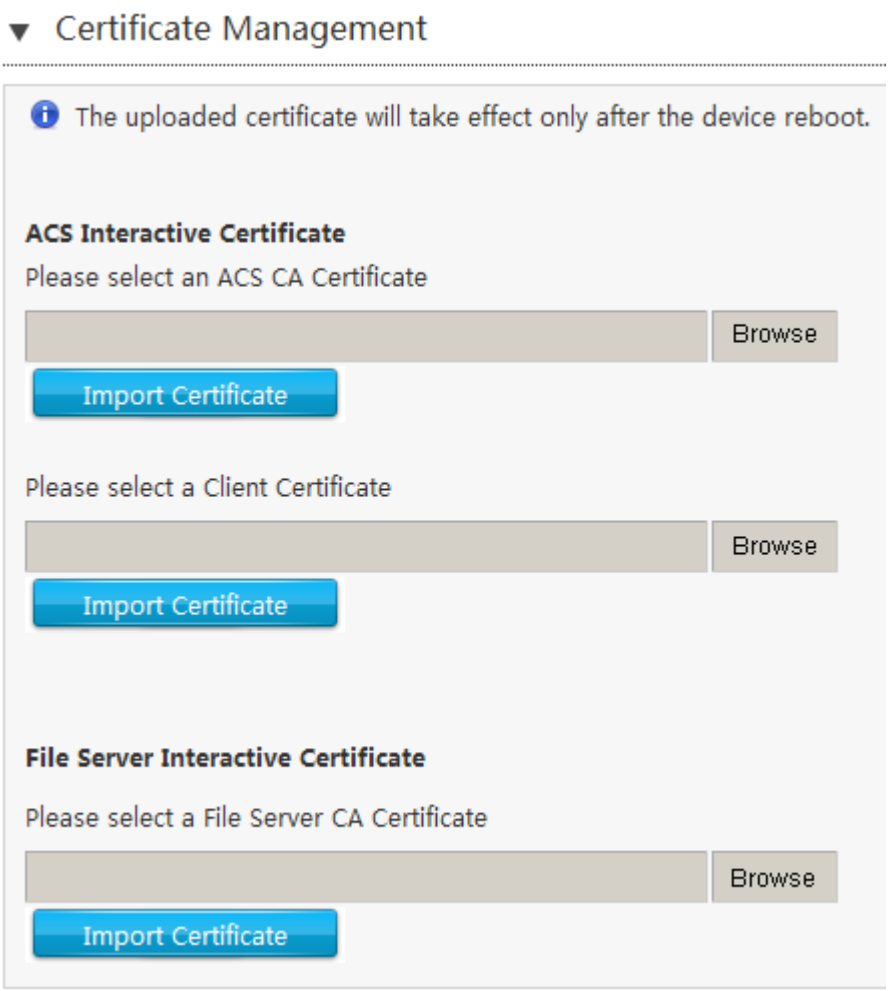
Parameter	Description
ACS URL	The URL of the automatic configuration server that manages the device.
Username/Password	User name and password for the ZXHN H268A device to log in to open the automatic configuration server.
Connection Request URL	Connection request URL, which is automatically generated by the system.
Connection Request Username/Connection Request Password	User name and password for the TR-069 connection authentication that the automatic configuration server provides when it logs in to open the ZXHN H268A device.
Periodic Inform	Enable the periodic inform function.
Periodic Inform Interval	Periodic inform interval of the device (unit: second).
Authenticating ACS	Enable the TR-069 authenticating ACS.
Authenticating File Server	Enable the TR-069 authenticating file server.

3. Click **Apply** button to apply the changes.

Certificate Management

4. Click **Certificate Management** to open **Certificate Management** page, as shown in Figure 7-9.

Figure 7-9 Certificate Management



5. On The procedure, you can perform the following operations:
   a. Click **Browse** to select an ACS CA certificate, and click **Import Certificate.**.
   b. Click **Browse** to select a client certificate, and click **Import Certificate.**.
   c. Click **Browse** to select a file server CA certificate, and click **Import Certificate.**.

Note:

The CA certificate is provided by the ISP to open the terminal user. It is imported from the local.

– End of Steps –

7.6 Diagnosis

The section describes how to diagnosis. **Diagnosis** provides the parameters of the diagnosis configuration features.

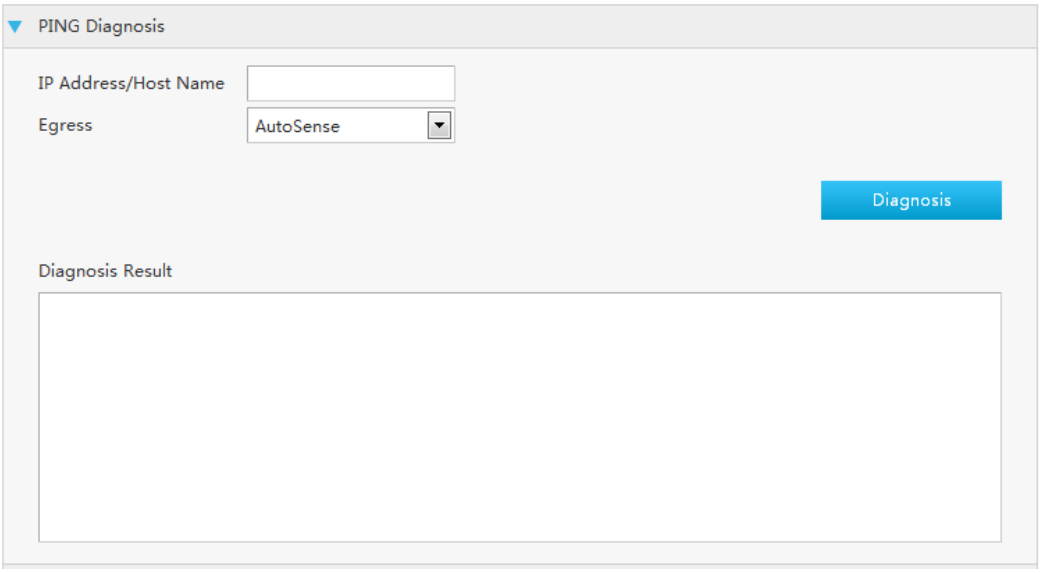
The relevant **Diagnosis** includes **Ping Diagnosis**, **Trace Route Diagnosis** and **DSL Line Diagnosis**.

Steps

Ping Diagnosis

1. On the main page of the ZXHN H268A, select **Management & Diagnosis > Diagnosis** to open the **Ping Diagnosis** page, as shown in Figure 7-10.

Figure 7-10 Ping Diagnosis

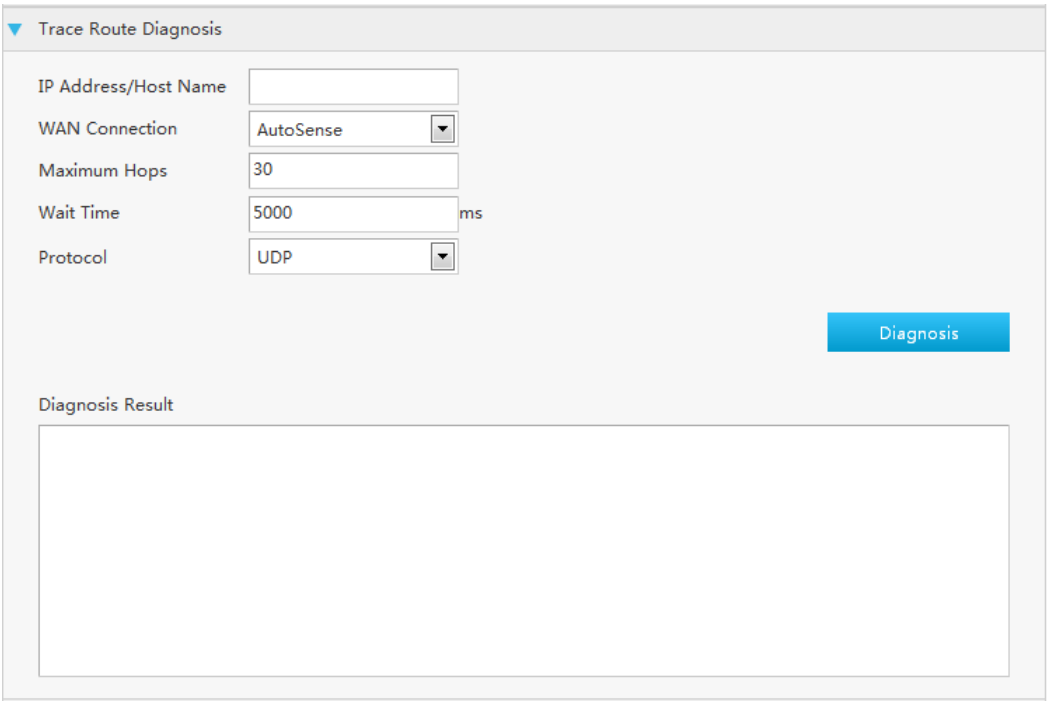


2. Type the host IP address or host name in the **IP Address/Host Name** text box, select the WAN/LAN connection from the **Egress** drop-down list.
3. Click **Diagnosis** to diagnose the connection, and the system will display the following diagnosis results.

Trace Route Diagnosis

4. On the main page of the ZXHN H268A, select **Management & Diagnosis > Diagnosis** to open the **Trace Route Diagnosis** page, as shown in Figure 7-11.

Figure 7-11 Trace Route Diagnosis

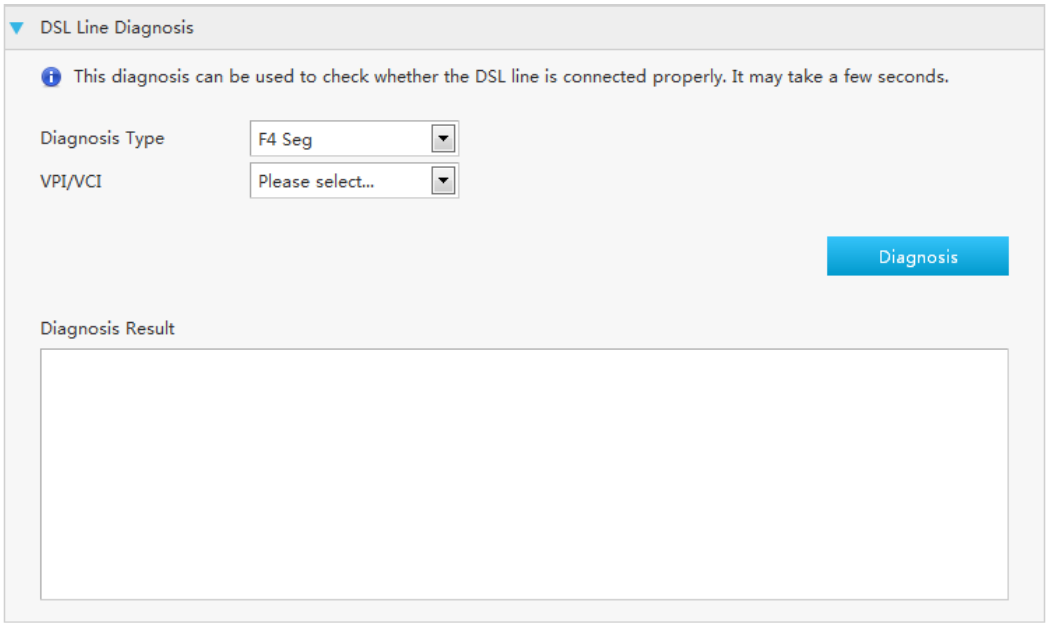


5. Type the IP address or host name in the **IP Address/Host Name** text box, select one **WAN connection**, specify the **Maximum Hops**, **Wait time**, and **Protocol**.
6. After the configuration, click **Diagnosis**.

DSL Line Diagnosis

7. On the main page of the ZXHN H268A, select **Management & Diagnosis > Diagnosis** to open the **DSL Line Diagnosis** page, as shown in Figure 7-12.

Figure 7-12 DSL Line Diagnosis



8. Select the **Diagnosis Type** and **VPI/VCI**.
9. Click **Diagnosis** to diagnose the connection.

– End of Steps –

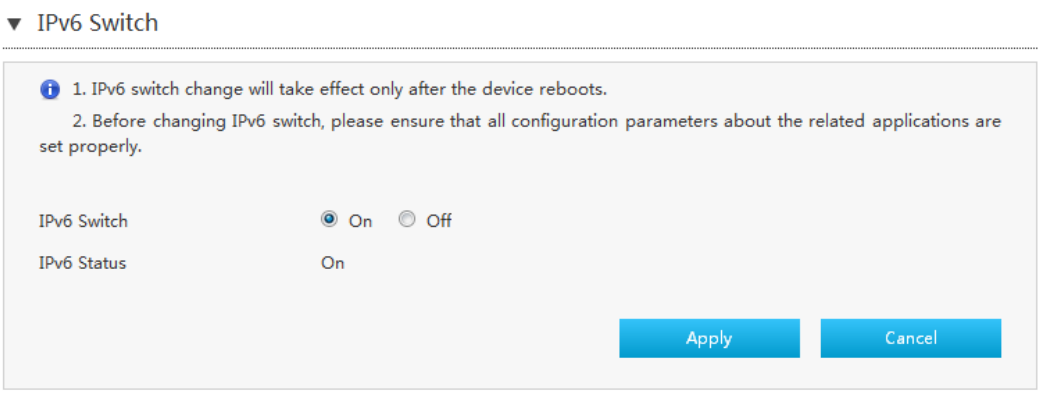
7.7 Configure the IPv6 Switch

The procedure provides IPv6 switch function.

Steps

1. On the main page of the ZXHN H268A, select **Management & Diagnosis > IPv6 Switch** to open the **IPv6 Switch** page, as shown in Figure 7-13.

Figure 7-13 IPv6 Switch



2. Click **On** to enable **IPv6** function.
3. Click **Apply** button to apply the changes.

– End of Steps –

Appendix A
Troubleshooting

- **All indicators are Off when the ZXHN H268A equipment is powered On.**

  First make sure that you have inserted the power adapter of the ZXHN H268A into a working power socket and that the ZXHN H268A has been powered On (the switch button is pressed down). If the indicators are still Off after confirmation of the above items, may be the hardware is damaged. You may contact local operator for maintenance. Never dismantle the equipment by yourself.

- **Sometimes, the DSL users cannot access to the Internet normally**

  First check whether the ZXHN H268A is in the normal state (Check the indicators according to this user manual). If yes, the computer or application network may be faulty. This is unrelated with DSL. If the ZXHN H268A is abnormal, check the status of indicators one by one to remove the fault.

  It is suggested to check the following items before seeking help from operator:
  1. The DSL telephone cable connectors are proper.
  2. The DSL is away from the power cable and large-power electronic devices.
  3. No telephone extensions and fax machines are connected between the DSL incoming line and splitter.
  4. The splitter has been installed correctly.
  5. The ZXHN H268A has good heat dissipation ratio.

- **What are reasons for DSL synchronization failure (also referred as link down or link establishment failure)?**

  If the DSL suddenly fails to be synchronized (link down) during application, usually the Link indicator on the ZXHN H268A will not be On. It is suggested to check the following steps one by one:
  1. First check the quality of incoming cables and incoming cable connectors.
  2. Install the ZXHN H268A correctly based on the user guidance. Minimize the number of taps.
  3. Check whether the telephone cables and DSL are in good connection or whether the telephone cables are normal.
  4. Try to disconnect the splitter and directly connect the ZXHN H268A to the incoming user cable end. Ensure the problem is not due to improper installation or incoming user line quality. If the DSL can be synchronized again, it means that installation of the incoming user side is improper. Please reinstall it according to the user guide.
  5. If the DSL still fails to be synchronized when the ZXHN H268A is connected to the incoming user cable end, contact the operators to check whether it is due to external line failure or ZXHN H268A failure.

6. If the splitter problem is determined, call the operator for maintenance or replacement.
7. If the problem is due to the end office equipment failure, call the operator to confirm it.
8. Too long connection cable between the splitter and ZXHN H268A may cause poor anti-interference performance and synchronization difficulty. Therefore, the connection cable should not be too long.

Figures

Table

Glossary

ALG
- Application Level Gateway

ATM
- Asynchronous Transfer Mode

CA
- Certification Authority

DDNS
- Dynamic Domain Name Server

DHCP
- Dynamic Host Configuration Protocol

DMZ
- Demilitarized Zone

DNS
- Domain Name System

DSCP
- Differentiated Services Code Point

DSL
- Digital Subscriber Line

DTMF
- Dual-Tone Multi-Frequency

ICMP
- Internet Control Message Protocol

IGMP
- Internet Group Management Protocol

IPoA
- IP over ATM

IPv4
- Internet Protocol version 4

IPv6
- Internet Protocol Version 6

ISP
- Internet Service Provider

MLD
- Multicast Listener Discovery

MTU
- Maximum Transfer Unit

NAT
- Network Address Translation

PPPoE
- Point to Point Protocol over Ethernet

PTM
- Packet Transfer Mode

QoS
- Quality of Service

RA
- Router Advertisement

SGI
- Short Guard Interval

SNTP
- Simple Network Time Protocol

TCP
- Transmission Control Protocol

UDP
- User Datagram Protocol

UPnP
- Universal Plug and Play

URL
- Uniform Resource Locator

VCI
- Virtual Channel Identifier

VoIP
- Voice over Internet Protocol

VPI
- Virtual Path Identifier

WPA
- Wi-Fi Protected Access