LvSwitch IPPBX8000
User Manual

Version

Product Version：1.6.0.1

Document Version：A

Contents

1 Product Overview

Summary

This chapter describes LvSwitch IPPBX in detail. It describes the appearance, indicator status, interface attributes, and performance of the main board.

1.1 Product Introduction

- Lv switches 8000 is for large and medium-sized enterprises users, to provide a set of voice, data, security integration of the overall solution of the unified communication server products.The product integrates analog/digital /IP hybrid PBX, router, L3 switch, firewall, VPN, web-based local management interface and remote management interface based on SNMP/TR069.
- LvSwitch IPPBX products using softswitch core technology to support local access to analog phones and IP phone users, it can remote access IP phone or IAD analog users through IP bearer network to achieve a mixed networking of analog phone and IP phone; through simulation Trunking and broadband SIP trunking, LvSwitch IPPBX products link to PSTN or private network voice switching equipment to improve the efficiency of enterprise deployment and communications, and help enterprises to enhance their value.

1.2 Hardware Features

Table 1- 1 LvSwitch IPPBX8000 Hardware

Item	Description
slot	Standard slots:19 from left to right is 1-19
SSW single board	System switch board,slot:3
	1 WAN,3 LAN RJ45,RATE:10/100/1000Mbps
	1 console,RJ45,115200bps
	1usb 2.0
MRU single board	Media source board,slot:4

	6 EXP port,RJ45,115200bps,128-512 voip
MEXP single board	Host users extension board solt:5
	2 Maintain port ,RJ45
	1 Console,RJ45,115200 bps
	1Usb2.0
E1/T1 single board	Digital trunk board,slot:6,7
	4 or 8 E1/T1port,RJ45,120ohm,full configuration:max 16
FXS single board	Analog user board,slot 6-17
	32FXS,8RJ45 full configuration:384 FXS
FXO single board	Analog trunk board slot:6-17
	32FXO,8 RJ45,MAX configuration:384 FXO
PWR single board	Power board,slot:18,19
	Support double powers
AC working power	100V AC-240VAC 50/60HZ
Chasis	<5U metal material
power	300W
Dimension	443*420*188 mm

weight	≦30KG
FXS/FXO CAPACITY	Max 12*32=384
E1/T1	Max 2*8=16
DSP source	Max 4*128 channels

1.3 Hardware Frame

1.3.1 LVSWITCH IPPBX8000 Outward

LVSWITCHES IP PBX8000 , 4.3u height, with vertical switch board structure, support hot switch, single switch capacity 384FXS or 384FXO, Max 16E1.

(1) Outlook

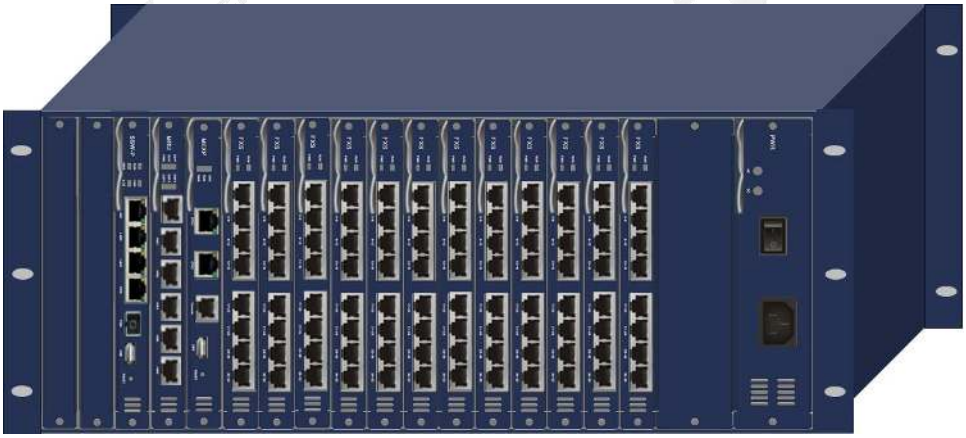


Figure 1-1 IP PBX 8000 panel diagram

1.3.2 Major single board description

1.3.2.1 SSW system exchange board

(1) Outlook

Figure 1-2 SSW system exchange board

(2) Interface

Table 1-2 IPPBX8000 system exchange board interface

Terms	Description
Wan	1PCS
LAN	2 PCS
Console	1 PCS
USB	1 PCS

(3) Console

Table1- 3 Console interface Attributes Table

Attributes	**Description**
Connection Type	RJ45
Port Standard	RS232
Baud Rate	9600bps~115200bps；default 115200bps
Support Service	Connect to the character terminal, Connect to the local PC serial port, and run the terminal emulator command interface on the PC.

（4） Ethernet Interface

The LvSwitch IPPBX provides 3*10M / 100M / 1000M GE Ethernet electrical interfaces (1 WAN port and 2 LAN ports, Gigabit Ethernet ports).

Table 1- 4 Gigabit Ethernet interface Attributes

Attributes	**Description**
Connection Type	RJ45
Interface Type	MD/MDIX adaptive
Support Frame Format	Ethernet_II Ethernet_SNAP
Word mode	10M/100M/1000M adaptive

1.3.2.2 Media resource board

（1）Outward

Figure1- 3 LvSwitch IPPBX MRU board

（2）Interface

Table 1- 5 LvSwitch IPPBX MRU board interface

Item	Attributes
HW	6

（3）HW interface

Table1- 6 HW interface Table

Attributes	**Description**
Connect type	RJ45,10pin

（4）DSP indicators

The IP pbx 8000 MRU media resource board supports up to 4 DSPS, DSP1~DSP4, corresponding to 4 DSP initialization states respectively. If the initialization is successful, the corresponding indicator light will always be on; if the initialization fails or the corresponding indicator light is not installed, it will be off.

1.3.2.3 MEXP Host extension management board

（1）Outward

Figure 1- 4 IP PBX 8000 MEXP host extension management board

（2）Specification

Table 1- 7　MEXP host extension management board

Item	Attributes
ETH	2

Console	1
USB	1

（3）Console

Table 1- 8 Console interface Attributes Table

Attributes	**Description**
Connection Type	RJ45
Port Standard	RS232
Baud Rate	9600bps~115200bps；default 115200bps
Support Service	Connect to the character terminal, Connect to the local PC serial port, and run the terminal emulator command interface on the PC.

（4）Ethernet interface

IPPBX 8000 MEXP host extension management board provides two Ethernet ports which is for version update and maintenance and management.

1.3.2.4 E1/T1 digital relay board

(1) Outlook

Figure 1-5 4E1/T1 digital relay board outlook

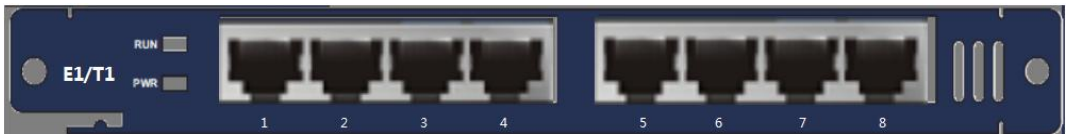


Figure 1-6 8E1/T1 digital relay board outlook

Table 1-9 E1/T1 interface

ITEMS	Property
E1	4/8 PCS

(1) E1/T1 interface

IPPBX 8000 provides two kinds of digital relay boards 4E1/T1 &8E1/T1

Table 1-10 E1/T1 interface property

Attributes	**Description**

Interface type	RJ45,120 Ω

1.3.2.5 FXO analog trunk board

(1)Outlook

Figure 1-7 FXO outlook

(2) Spec

Table 1-11 FXO specification

Items	Attributes
Interface	8 RJ45 interface,each RJ45 can be divided into 4RJ11 analog FXO line.
Line sequence	RJ45 interface line sequence: Line1.2 the way 1 FXO Line 3,4 the 2nd way FXO Line 5,6 the 3nd way FXO Line7,8 the 4th way FXO

1.3.2.6 FXS analog trunk board

(1)Outlook

Figure 1-8 FXS outlook

(2)Spec

Table 1-12 FXS specification

Items	Attributes
Interface	8 RJ45 interface,each RJ45 can be divided into 4RJ11 analog FXS line.
Line sequence	RJ45 interface line sequence:

	Line1.2 the way 1 FXS Line 3,4 the 2nd way FXS Line 5,6 the 3nd way FXS Line7,8 the 4th way FXS

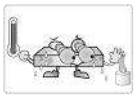
2 Device Installation

Overall

This chapter describes the preparation work and installation process before equipment installation, including the tools used in the installation process and the specific steps of equipment installation.

2.1 Safety precautions

	In case of thunderstorm,please stop using the equipment, disconnect the power supply and unplug the power cable and telephone line to avoid the equipment being damaged by lightning.		Please place the equipment on a stable working table and place it in a ventilated environment without direct sunlight.
	The equipment must be kept strictly dry during storage, transportation and use. In case of accidental liquid flow into the case, please immediately disconnect the power supply and contact the designated service point.		Please use the power source adaptor and other accessories with the equipment. Please keep the plug clean and dry to avoid electric shock or other hazards. Do not use damaged or aged power cords.
	Do not allow children to use the equipment without supervision; Do not allow children to play with equipment and swallowing.		If there are abnormal phenomena, such as smoke, abnormal sound, peculiar smell, etc., please immediately stop using and disconnect the power

	When installing the equipment, please leave a heat dissipation space above 10cm around and on the top, and keep away from heat sources or exposed fire sources, such as electric heaters and candles		Do not place any object on the device or on the power cord or plug. Please do not cover the vents of the cabinet with objects
	Before cleaning, please stop using the equipment and cut off the power supply. To clean, use a soft, dry cloth to wipe down the equipment enclosure.		Do not disassemble the equipment by yourself. In case of equipment failure, please contact the designated maintenance point.
If the equipment is used for a long time, the shell will have a certain degree of heat. Please do not worry, this is a normal phenomenon, the equipment can still work normally.			

2.2 Preparations before installation

2.2.1 Humidity/temperature requirements

In order to ensure the normal operation of equipment, the machine room needs to maintain a certain temperature and humidity.

If the relative humidity is too low, the insulation gasket will dry shrink and cause the fastening screw to become loose. In the dry climate, it is also easy to generate static electricity and harm the CMOS circuit.

If the long-term humidity in the machine room is too high, it is easy to cause poor insulation of insulating materials or even electricity leakage.It may even cause the changes in material properties ,corrosion of metal parts and other phenomena.

High temperature is more harmful, because high temperature will accelerate the aging process of insulation materials, equipment reliability is greatly reduced, seriously affecting its service life.

Work environment should satisfy the temperature range: 0 ~ 40 ℃. Relative humidity range: 5 ~ 90% (non-condensation), it is recommended to install temperature and humidity monitoring system in the machine room.

2.2.2 Cleanliness requirements

When indoor dust falling on the body ,it will cause electrostatic adsorption, making the metal connector or metal contact bad, not only will affect the life of the equipment, but also easy to cause communication failure. When indoor relative humidity is low, it is easier to produce this kind of electrostatic adsorption.

Work environment should be dustproof, the concentration of particulates in the air is less than 180 mg /m³, the printer, copier should be placed away from the router cabinet place, so as not to condense the paper, toner equipment.

In addition to dust, the room on the air containing salt, acid, sulfide also has strict requirements, because these harmful gases will accelerate the corrosion of metal and the aging process of some parts.

The limits of other hazardous substances in the machine room are: SO2 less than 0.2mg/m³,H2S less than 0.006mg/m³,NH3 less than 0.05mg/m³,Cl2 less than 0.01mg/m³.

2.2.3 Anti-static requirements of machine room/ persons

The equipment has taken a variety of measures to prevent static electricity, but if the static electricity in the environment exceeds a certain tolerance, it is still easy to damage the circuit and even the whole machine, so in the design of the room environment should also consider the anti-static. Electrostatic induction mainly comes from two aspects: one is the outdoor high-voltage transmission line, lightning and other external electric field; Second, the indoor environment, floor materials, machine structure and other internal systems.

Therefore, in order to prevent electrostatic damage, the machine room/personnel should meet the following anti-static requirements:

- When laying the anti-static floor in the machine room, it shall comply with the technical requirements stipulated by the communication industry. The surface resistance and system resistance are as follows: 1 x 1 x $10^5\Omega$ to $1*10^9\ \Omega$.
- Machine room wall and ceiling surface should be smooth, reduce dust. Materials and equipment with anti-static property and good grounding of floor are allowed.
- The worktable, chair and terminal in the machine room shall be anti - static. Mesa electrostatic leakage system resistance and surface resistance are as follows: 1 x $10^5\Omega$ to $1*10^9\ \Omega$.
- Maintain appropriate temperature and humidity condition
- Before entering the communication room with anti-static requirements, please wear anti-static clothes and anti-static shoes, and do not change clothes directly in the room. Do not touch or plug PCB components or other components and spare parts without permission or without wearing an anti-static wristband.
- The anti-static cover on the frame (or printed circuit board component), with the frame installed in a fixed position and connected with static ground wire, can be opened.
- Spare PCB components and components for maintenance must be stored on the rack or in an anti-static shielding cabinet/bag.

2.2.4 Anti-magnetic interference requirements

All kinds of interference sources, whether from outside or inside the equipment application system, all affect the equipment in the way of capacitance coupling, inductance coupling, electromagnetic radiation, common

impedance (including grounding system) coupling and conductor (power line, signal line and output line, etc.) conduction.

The machine room shall meet the following anti-interference requirements:

- It is necessary to take effective measures to prevent the interference of the power system.
- The working place of the equipment should not be Shared with the grounding device or lightning protection grounding device of the power equipment, and should be as far apart as possible;
- Far away from high-power radio transmitter, radar transmitter, high-frequency high-current equipment;
- Electromagnetic shielding shall be adopted when necessary.

2.2.5 Lightning protection requirements

Although a great deal of consideration and necessary measures have been taken in lightning protection, the equipment may still be damaged when the lightning intensity exceeds a certain range. In order to achieve better lightning protection effect, it is recommended that users:

- Ensure the protective ground of the chassis is in good contact with the ground with protective ground wire.
- Make sure that the ground point of the ac socket is in good contact with the ground.
- It can be considered that to add power arrester at the front of the power input,which can increase the power lightening resistance.
- In order to achieve better lightening protection effect, For the signal line connected to outdoor,such as ISDN line,telephone line,the users can consider adding professional lightning protection device in the input end of the signal cable.

2.2.6 Installation platform requirements

When installing on the installation table, the following conditions shall be ensured:

- Make sure that there is space for the inlet and vent of the equipment so as to facilitate the heat dissipation of the equipment chassis
- Make sure the installation table has good ventilation and cooling system..
- Make sure the mounting table is strong enough to support the weight of the equipment and its mounting accessories.
- Make sure the installation table is grounded well.

Other requirements such as shockproof, fireproof, waterproof, moistureproof, theft-proof, flooring, fireproof facilities, grounding system, etc., please strictly comply with the "China telecom data room code", "China mobile data room code", "China unicom computer room standard code".

2.3 Equipment installation flow chart

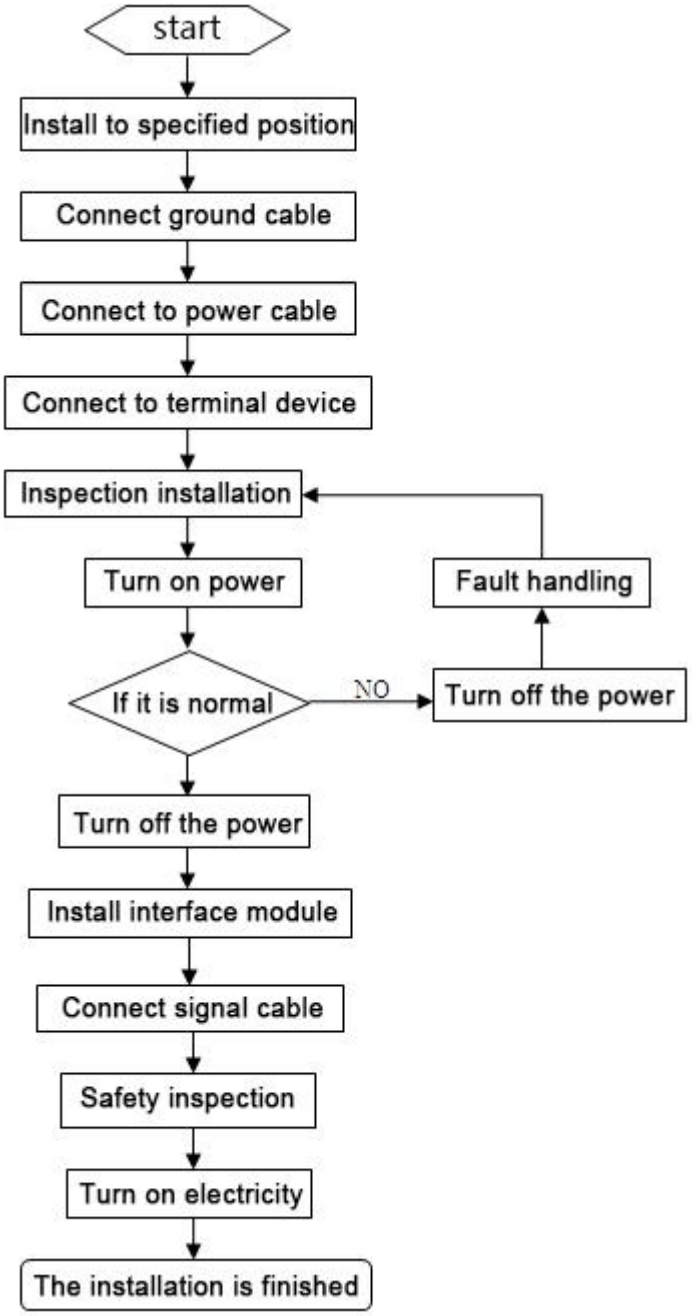


Figure 2-1 Equipment installation flow chart

2.4 Installation tools, equipment and instruments

Before equipment installation, prepare the following basic tools and instruments.

(1) Measuring tools

A tape measure Generally used for long distance measurement. It is usually used indoors to locate the rack and install the wiring rack 	Tape measure Generally used for long distance measurement. It is used to check and measure the length of the circuit before work. 

(2) Crimping tool

Cable clamp It is mainly suitable for the production of RJ-45 network wire connector and telephone wire connector. 	

(3) Essential tools

Card line gun The front card cutter is used to insert the cable into the card slot. 	Vise Mainly used for clamping and cutting all kinds of wire. 

Long nose pliers

Mainly used for clamping and cutting all kinds of wire.

Diagonal cutting pliers

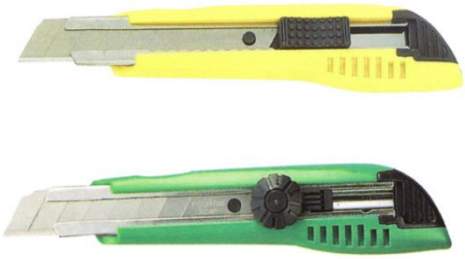
Mainly used for clamping and cutting all kinds of wire.

The screwdriver

Mainly used for all kinds of screws, screws to disassemble.

Medium knife

It is usually used when making cables and stripping them.



Sharp knife

A burr, as on the surface of a piece of metal.

2.5 Install the equipment to the specified location

After the preparation and confirmation work is completed, the equipment shall be installed. According to the installation location, it can be divided into the following two situations:

1.Install the equipment directly on the platform.

2.Install the equipment on the cabinet.

2.5.1 Install to work platform

If the customer doesn't have standard cabinet,the normal way is to place the equipment on the clean platform.Pay attentions to the following terms during the operation:

1. Ensure the smooth and good grounding of the work table.
2. Ensure that the mounting table is strong enough to bear the weight of the chassis and cables.
3. There are no other obstacles around the working table.
4. Lift the chassis to a position slightly higher than the work table, and put the chassis on the work table. At least 10cm space is left on the left and right sides of the chassis to ensure the smooth flow of heat dissipation and wind; At least 20cm of space is reserved at the back of the case to ensure the layout and wiring of power lines and user lines.
5. Don't put any heavy things on the device.

⚠Note：

When installing to the work platform, please use one protector ground cable(PGND cable)to connect the ground terminals and ground wires together.The grounding resistance is less than 5 Ω.

2.5.2 Install to cabinet

Confirm that the installation cabinet has been fixed, the installation position of the cabinet has been arranged, and there are no obstacles affecting the installation of equipment inside and around the cabinet. Check the grounding and stability of the cabinet.

1. The chassis to be installed is ready and transported to a place close to the cabinet for easy handling.
2. Lift the case and slowly transfer it to the installation cabinet.
3. Lift the chassis to a position slightly higher than the rail or slide of the cabinet, put the chassis on the rail or slide and push it into the cabinet.
4. Use the screws that meets the cabinet installation size to fix the equipment on the cabinet through fixed hangers and to keep the equipment horizontal and firm.(The screws size can not be over National standard M6, with rust treatment on the surface)

2.6 Install ground cable

2.6.1 Ground cable installation principles

1.The chassis must be well connected to the ground, so that the induction and leakage electricity can flow into the ground safely, and improve the anti-electromagnetic interference ability of the whole machine.

2.The normal connection of equipment ground wire is the primary guarantee of lightning protection and interference prevention.

2.6.2 The steps to install ground cable

There is a ground terminal behind the device. The steps of the ground wire connection are as following:

1. Screw down the nut on the ground terminal of the chassis.

2.Put one end of the grounding wire on the grounding post of the rear panel.Tighten the retaining nut.

3.Connect the other end of the ground wire to the wiring terminal.

Warning: the equipment must be well grounded (protection ground), otherwise the equipment can not be reliable lightning protection, may cause damage to the equipment and the end of the equipment!

2.7 Install power cable

2.7.1 Working with power principles:

When working with electricity,one should obey the following principles:

1.Before operation, remove jewelry such as ring, watch, bracelet, etc. Metal items may cause short circuit when they come into contact with "power" and "ground", which may lead to damage of components.

2.The wrong connection between device and power socket may cause dangerous situation.

3. Only trained and qualified personnel are allowed to operate and maintain the equipment.

It is recommended to use a single-phase three-wire power socket with a ground point.

2.7.2 The steps to install power cable

Before installing the equipment, it is necessary to confirm whether the ground point of the building's power supply system is buried, and then install the equipment after confirming the burial. It is recommended to use a single-phase three-wire power socket with a ground connector, and the ground should be reliably grounded.

Confirm the AC power input range: 100V-240V AC;50HZ-60HZ.

1. Make sure the ground cable has been installed right.
2. Cut off the AC supply power ,keep the power switch being off.

3. Plug the power cable onto the power socket.
4. Plug the other end of power cable on the socket on the device.
5. Turn on the power switch on the device.
6. Check whether the power indicator on the front panel is on or not,if it is on that states the power connection is right.

Attention:

Please keep the power plug horizontal to the power socket.

2.8 Connect the signal cable

2.8.1 Connect Ethernet port

Ethernet electrical interface generally adopts 5 types of twisted pair wires to connect Ethernet, as shown in the figure below:

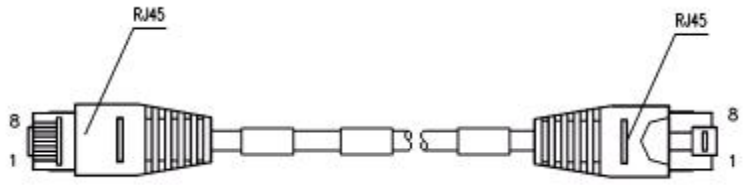


Figure 2-2 Ethernet cable

Depending on the usage, Ethernet cables can be divided into standard network cables (i.e., straight-through network cables) and cross-over network cables. There are 8 wires in the cables, which are divided into 4 pairs. Each pair is a pair of twisted-pair cables, sorted as follows:

568A/568B sort rule:

568A	White green	green	White orange	Blue	White blue	Orange	White brown	Brown
568B	White orange	Orange	White green	Blue	White blue	Green	White brown	Brown

1. Standard network cable: also known as straight-through network cable, both ends of twisted pair cable compressed by RJ45 connector are 568A or 568B standard twisted pair cables, used for connecting terminal equipment (such as PC) to HUB or LAN Switch.

2. Intersecting network cable: the twisted pair cable compressed by RJ45 connector at both ends is standard 568A at one end and standard 568B at the other end, which is used for connecting terminal equipment (such as PC) to terminal equipment. Users need to be able to make their own.

3. When connecting the device with other IP terminals, standard network cables are used. The connection steps are as follows:

4. Step1: Connect the Ethernet cable to the Ethernet interface and another end to the device

5. Step2: When the power's on please check the link indicator status. Once the link light's on shows that the connection is right.When the link indicator is off, please check the connection.

📖Please do not plug the phone line socket into any RJ45 network interface, or it will damage the device; Use CE standard Ethernet cable with RJ45 connector.

2.8.2 Connect FXS/FXO port

The FXS/FXO port is with RJ45 interface, and the 1-channel RJ45 interface corresponds to the 4-channel RJ11 interface on the side of terminal equipment. Among them, PIN1 and pin2 of RJ45 are 1-way phone, PIN3 and 4 are 1-way phones, PIN5 and 6 are 1-way phones, and PIN7 and 8 are 1-way phones.

2.8.3 Connect E1/T1 interface

The E1/T1 interface of the ippbx is RJ45 ,connect with 120 Ω balanced twisted-pair cable. The cable material of E1 wire is five kinds of network wire and super five kinds of network wire, and the two ends are pressed together with RJ45 plug. The E1 cable configured for the equipment is the crossed E1 wire, cable model E1-120ohm.

E1 line can be divided into cross line and straight line.

2.8.3.1 Intersection line

Cross wires are generally used to connect devices of the same level. When the E1 interface of the opposite end device is also the RJ45 interface, cross E1 wires of 1, 4, 2 and 5 shall be used to connect. The specific wiring relationship is shown in the following table.

Table 2-3 Cross line

A end	Cable chromatography	B end
1	White and orange	4
2	Orange	5
4	White and green	1
5	Green	2

2.8.3.2 Straight line

Straight line is generally used to connect with the superior equipment. If the E1 interface of the superior equipment is also the interface of RJ45, the straight line is adopted. The specific wiring relationship of the direct line E1 is shown in the following table:

Table 2-4 Straight line

A end	Cable chromatography	B end

1	White and orange	1
2	Orange	2
4	White and green	4
5	Green	5

When the E1 interface of the opposite device uses BNC connector,an RJ45 to BNC interface converter needs to be added.The equipment and the interface converter connects with cross wire and straight wire,while the opposite end device and the interface converter are connected by 75 euro coaxial cable.

📖note：when the E1 link fails, first try to adjust the two 75-ohm coaxial cables connected to the converter to see if E1 can be turned on.

2.9 The installation caution

In the process of installation and operation of the equipment, the following safety recommendations are put forward：

- Avoid shaking. Recommend use of standard cabinet;
- Please place the equipment far away from the damp area and away from the heat source;
- Please confirm the correct grounding of the equipment;
- Please install the anti-static wrist during the installation & maintenance of the equipment, and ensure that the anti-static wrist is in good contact with the skin;
- Please do not plug in the device's interface boards and modules.
- Please correctly connect the interface cable of the device, especially do not connect the telephone line to the serial port;
- It is recommended that users use UPS (Power Supply, uninterrupted Power Supply).

3 Device Startup and Configuration

Summary

This chapter describes the procedure for powering on the device and describes how to log in to the device management system through the Web interface.

The default IP address of the device LAN port is 192.168.100.1/255.255.255.0. Connect the LAN port of the device to the network port of the PC through a network cable, keep the IP address of the configuration PC and the LAN port IP address of the device are on the same network Paragraph, configure the device through the Web page.

3.1 Powering on the device

3.1.1 Check before power

The following checks should be performed before the device is powered on:

1. Check to make sure the power cord and ground connection is correct.
2. Check to make sure the supply voltage and equipment requirements are the same
3. Check to make sure the configure the cable connection is correct, configure the end of the PC is already open.

3.1.2 Powering on the device

1. Turn on the power switch
2. Turn on the power switch of the device

3.1.3 Inspection / operation after powering the device.

1. Check the indicator on the front panel of the device is normal or not
2. Check the Configure terminal display is normal or not
3. The device will perform normal operation after be powered on 1 ~ 2 minutes and the hardware self-test copleted, please be patient

3.2 Build WEB configuration environment

3.2.1 Configuration Preparation

Users need to confirm the following items before the configuration:

- Using Crossover or Direct Connect Ethernet cable to connect LvSwitch IPPBX network interface of LAN with the user's computer
- TCP / IP protocol installed and started
- Web browser (IE6.0 or higher) installed

- Prohibiting proxy server settings of the browser
- Data access is necessary

3.2.2 Connect LvSwitch IPPBX and the Network Administration Terminal

Before accessing the settings page, it is recommended that users set the computer to "obtain IP address automatically" and "obtain DNS server address automatically" and the IP address to be distributed by LvSwitch IPPBX.

1. Obtain IP address automatically

In the Internet Protocol (TCP / IP) Properties dialog box, click Obtain an IP address automatically and Obtain DNS server address automatically.

2. Click the OK button to save the settings.
3. The step is over.

Figure 3- 1 Connect LvSwitch IPPBX and Terminal PC

If users need to specify static IP address to the PC, users need to configure the IP address of the network management PC to be in the same network segment of LvSwitch IPPBX LAN interface. The default IP address of LvSwitch IPPBX LAN interface is 192.168.100.1, and the subnet mask is 255.255.255.0; for instant, you can set an IP address 192.168.100. X/255.255.255.0(X could be 2～254) for you PC.

3.2.3 Login WEB Management System

Run the browser on the PC and enter http://192.168.100.1 in the address bar of the browser (enter the IP address of the LAN port of the device here. The default value is 192.168.100.1) Enter the login interface as shown in Figure 3-2. Users can click "中文" or "English" to select the interface language.

Figure 3- 2 Login Page

Enter the default administrator user name "admin" and password "admin" for the first login. Fill in the verification code shown in the system and click <Login> to open the web settings page as shown in Figure2- 3.

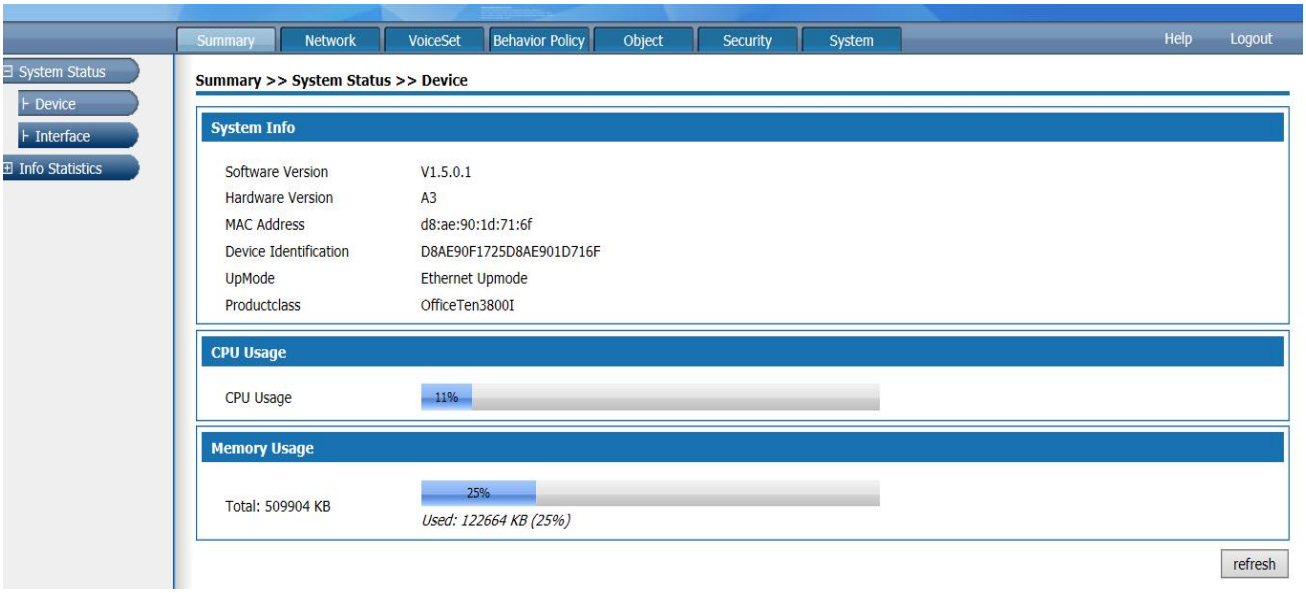


Figure3- 3 Web Setting Page

Top of the page is the function button. The left side of the page is the setting navigation bar corresponding to the function button. The right side of the page is the settings region. The following Chapters will introduce each details.

- Function module: Display the main function partition of the device. Click Function Module to pop up the navigation bar. Click “Exit”button to exit the Web Management System.
- Navigation Bar: Click Function Module. The navigation bar of the module pops up and corresponding function list is displayed. You can view, configure, manage, and maintain the device.
- Setting area: This area displays the panel view of the device or information about related functions. The running status of the device can be checked through the panel view, and the function parameters of the device can be configured here.

3.2.4 User self-service system login

Users log in the self-service system to view the basic user information and personal business processing.

Users need to maintain network interoperability with IPPBX devices and enter the following information in the browser address bar :

"Http: // device IP address /users.php"

Press the Enter key to enter the login interface as shown in Figure3-4.

Figure3- 4 User self-service system login Page

Users can click "中文" or "English" to select the interface language, enter the user name, password (user name and password refers to the management system 6.2.1.1 Add User, as shown in Figure3-5), and enter the correct verification code.

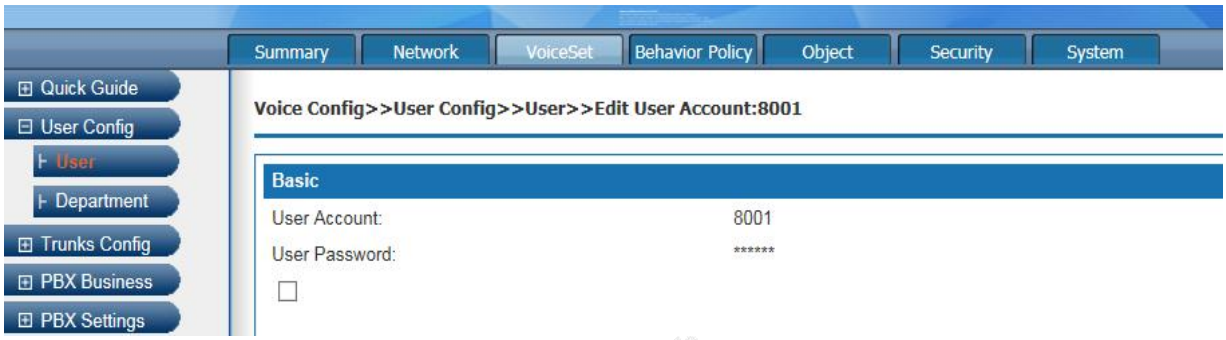


Figure3- 5 User Name and Password

Click<Login> button to enter the User self-service system, as show in Figure3-6

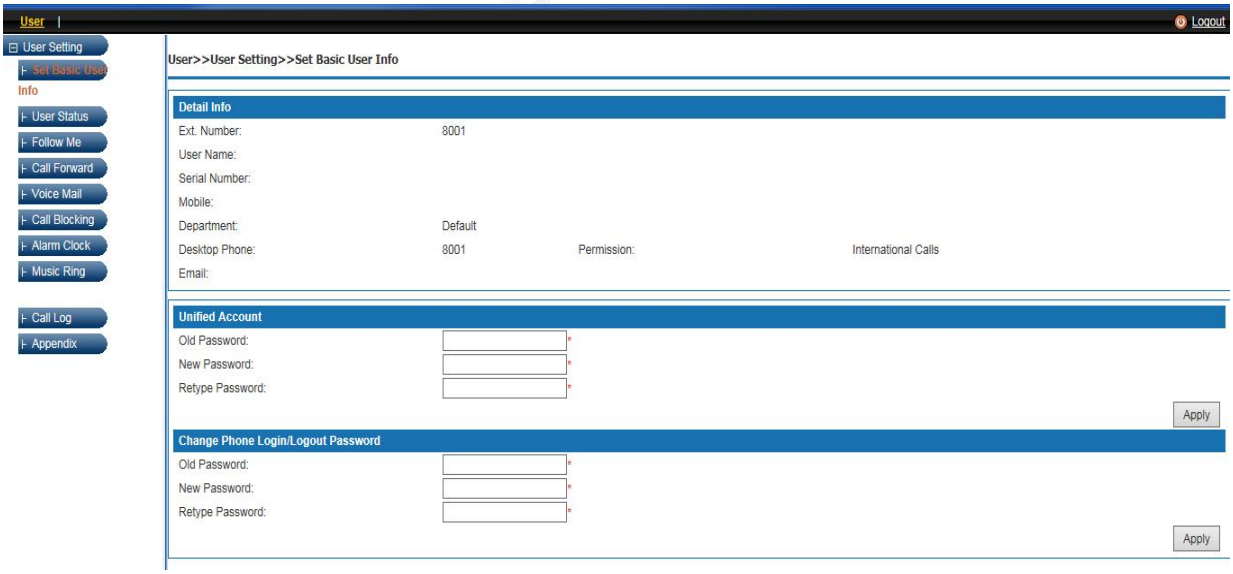


Figure3- 6 User Self-service System Page

Functions of the User Self-service System are described as follow：

Table 3- 1 Functions of the User Self-service System

Items	Description
Basic User Info	
Detail Info	Display user's user name, name, job number, mobile phone, department, landline, Email and other information.
Unified Account	Modify the user account password, the initial user password is 111111, please change the password after login. The password can be 6-20 ASSIC characters, but can not contain spaces and special characters such as ~!% ^ & *? '"/ \ | ^.
SIP Registration Password	If you are using SIP extension, the SIP extension password can be changed in Basic User info. The registration password needs to be as complex as possible. The password is required to be 8-20 English characters long and must contain both uppercase and lowercase letters and numbers. For example, LjlA08u95Q.Default value is Aa111111.
User Status	

Items	Description
Absent	The extension enable absent status,other users who dial the number of the extension will hear the absence prompt. Outbound calls are not restricted.
DND	DND Activate, other users who dial the number of this extension will hear the busy tone. Outbound calls are not restricted.
Phone Login/Logout	Phone Logout：Other users who dial the number of the extension will hear the logout prompt. Phone Login：if activate,the extension can normally answer inboundcall, and give outboundcall .
Activate Call Waiting	This feature allows a person to receive a call while he or she is already on the line with someone else.After selecting this option, if you are on a SIP call and a new call is coming in, you can choose to answer or reject the call. If you choose to receive, you can also switch back and forth between the two incoming calls. If you are a analog phone, you will hear a beep, hang up the phone and ring the bell, you can pick up
Call failure setting	When someone calls A and A is no answer, several options are provided for A : Hang up , forward to the voice mailbox or forward to the extension and transfer to IVR.
Follow Me	
Follow Me	Follow Me service enable users to bind personal extensions to other extensions as well as outside numbers (such as cell phones, destop phones, etc.). When inbound call to your personal extension number, the numbers you bind will ring according to the set ringing mode, such as ringing at the same time, ringing in sequence, ringing in memory, etc.
Call Transfer Note： When Follow Me service activated, the Call Forwarding No Answer and Call Forwarding Unconditional service are deactivated.	
Call Forwarding Unconditional	Activate this service, set call forwarding unconditional to extension B. When someone calls A, the call will automatically transfer to extension B.
Call Forwarding on Busy	Set call forwarding on busy to extension B. When someone calls B, the call will automatically transfer to extension B.
Call Forwarding No Answer	Set call forwarding no answer to extension B. When someone calls A, the call will automatically transfer to extension B.
Voice Mail	
Voice Mail Settings	Transfer call voice message to voice mail box when busy,Voice messages can be saved in system’s voice mail box or send voice message to specific email box.
Listen to voice message	（1）Dial *97 on extension to listen to local voice message （2）Dial *98 on extension to listen to voice message remotely
Black List	
Black List	This service enable user to reject calls against certain number.
Alarm Clock	

Items	Description
Alarm Clock	Users can set alarm clock with the extension .
Record File	
Generate music record	You can dial “*77” on the dial panel to record.
Music ring settings	Select music and set as Record File.Select music and set it to color ring tone. Can upload 8kHz, 16bit, mono, mp3, wav, alaw, ulaw files only
Call log	
Call log	Shows the call log of user extension
Appendix	
Appendix	Described the services of Call Forwarding Unconditional, Call Forwarding on Busy, Call Forwarding No Answer, No disturb, Absent, Phone Login/Logout,Record，Blacklist，listen to local voice message in detail.

3.2.5 Web Page Operation Button Instructions

The following buttons often appear in web setting page. The demonstration and use of these buttons are shown below：

Table3- 2 Web Page Operation Button Instructions

Items	Description
OK Apply	When finish the setting, click <OK> or <Apply> to enable settings
Save	Save the configuration data.
Cancel	Cancel the current configuration data.
Apply	Enable the settings
Cancel	Click <Cancel> button to cancel the information entered, and the page will jump to the "Display" page or the previous page of this function.
Add	Click <Add> to display the configuration interface and configure the system.
Delete	Click the <Delete> button to delete the selected configuration or other information.
Previous step	Click the <Previous Step> button to display the wizard's previous step.
Next step	Click <Next Step> button to check the validity of the configuration data. If the check is passed, save the configuration and go to the next step of the wizard.
refresh	Click <Refresh> to refresh the current page information.
Import	Click <Import> to import the format file according to the system requirements into the system.
Search/Export	Click <Export> to export the content you want.
Search	Click <Search> button, enter the keyword to search, provide precise search and fuzzy search, you can display the list of items that meet the specified conditions.

Items	Description
	Used together with the <Search> button to search for a configuration item by criteria and click the <Show All> button to display all the configuration items.
	Click the <  > icon of an item in the list box to enter the modification page of the item and modify the corresponding configuration.
	Click the icon in the list box of a <>, you can delete the item.
	Check the radio button to enable this feature or service.
	Text bar, enter text.
	Click the drop-down list will pop up a drop-down menu, move the mouse pointer to an item, left-click to select it.
	Page view function: Click below the page or browse page before and after.
	Specify the first page and last page browsing function: Click the bottom  or of the browsing interface to browse the first page and the last page.

4 Equipment Summary

Summary

The equipment Summary includes System Status and Info Statistics.

4.1 System Status

The System Status includes Device overview and the Interface status.

4.1.1 Device Overview

Select “System Status > Device” to enter the Device page as shown in Figure 4-1.

Figure4- 1 Device Overview

The Device overview shows the software version, hardware version, MAC address, Device ID, Uplink mode, Productclass,CPU usage, Memory Usage. Click < Refresh> to display the current CPU usage and memory usage.

4.1.2 Interface Status

Select “System Status > Interface” to enter the Interface page as shown in Figure 4-2.

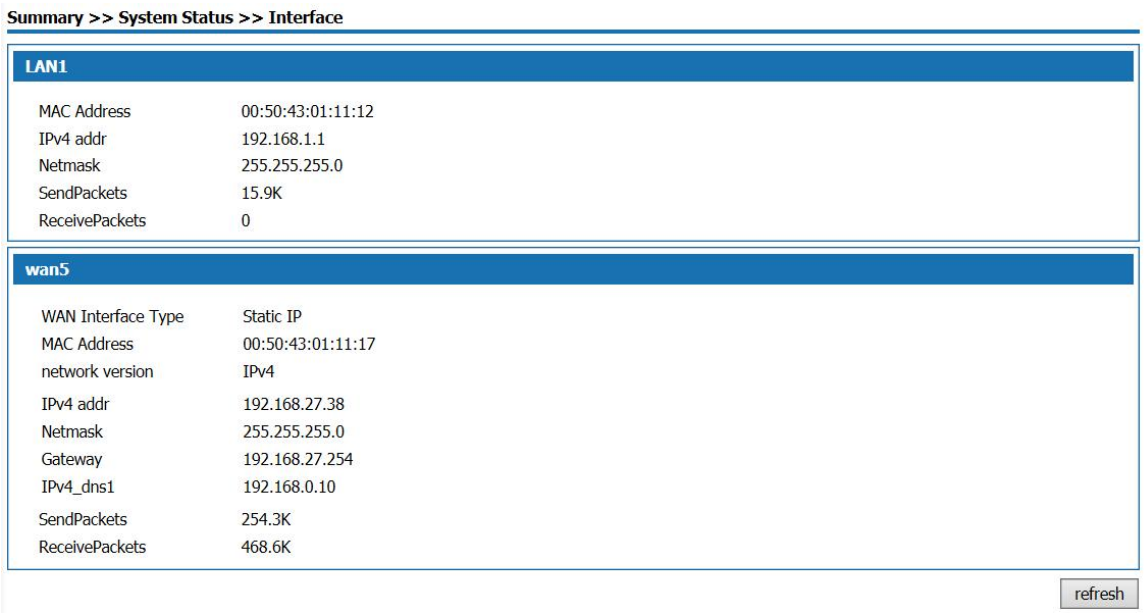


Figure4- 2 Interface Page

The interface page shows the MAC address, Ipv4 address,Netmask of the LAN port, the size of packets sent and received, the connection mode of the WAN port, protocol type, Ipv4 address, Netmask, gateway, size of packets sent and received. For PPPOE dial-up lines, manual connection and disconnection buttons are provided. Click <Refresh> to display the current interface information.

4.2 Info Statistics

Info Statistics include DHCP Client, Interface, Online User.

4.2.1 DHCP Client

Select “Infor Statistics > DHCP Client” to enter the DHCP Client page as shown in Figure 4-3

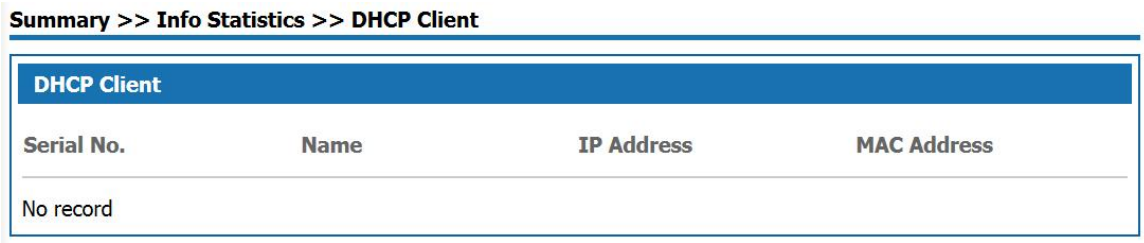


Figure4- 3 DHCP Client

DHCP Client page displays information of client which obtaining IP address through the DHCP service of this product, the information includes name, IP address and MAC address.

4.2.2 Interface

Select “Info Statistics > Interface” to enter the Interface page as shown in Figure 4-4.

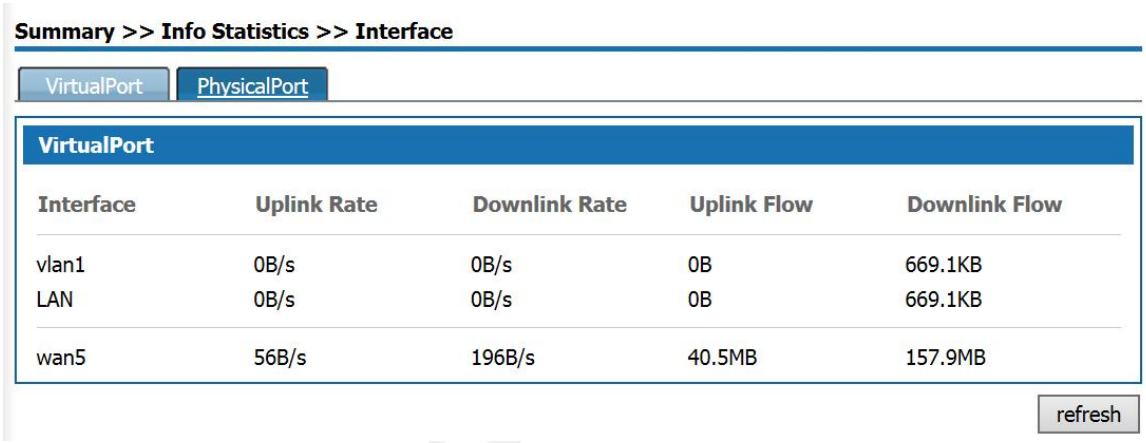


Figure4- 4 VirtualPort

The VirtualPort page shows the uplink and downlink rates and traffic of the VLAN interfaces and WAN sub-interfaces enabled. If the WAN sub-interface is not enabled, the uplink and downlink rates and traffic of the WAN interface are displayed. Click <Refresh> to display the current virtual interface information.

Click <PhysicalPort >, the page as shown in Figure4-5 will pop up.

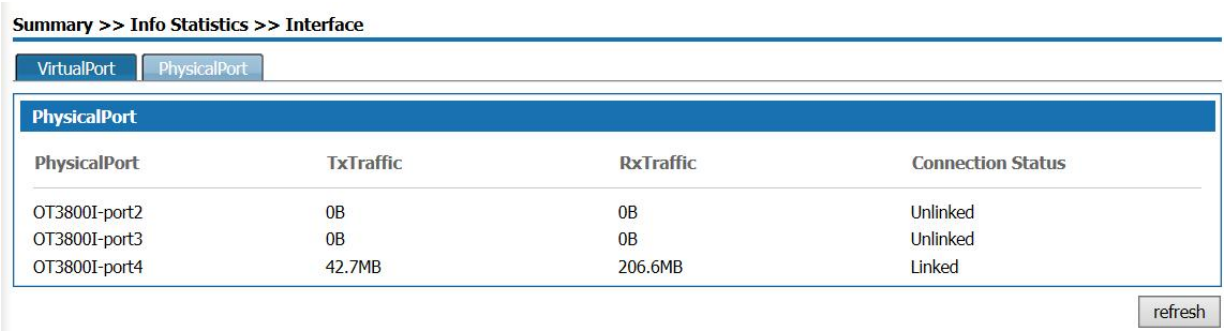


Figure4- 5 PhysicalPort page

The physicalport page shows the TxTraffic, RxTraffic, and connection status of the three physical ports of the device. Click <Refresh> to display the physical port information of the curLease Time.

4.2.3 Online User

Select “Info Statistics> Online User” and enter the “WireUser” page as shown in Figure4-6.

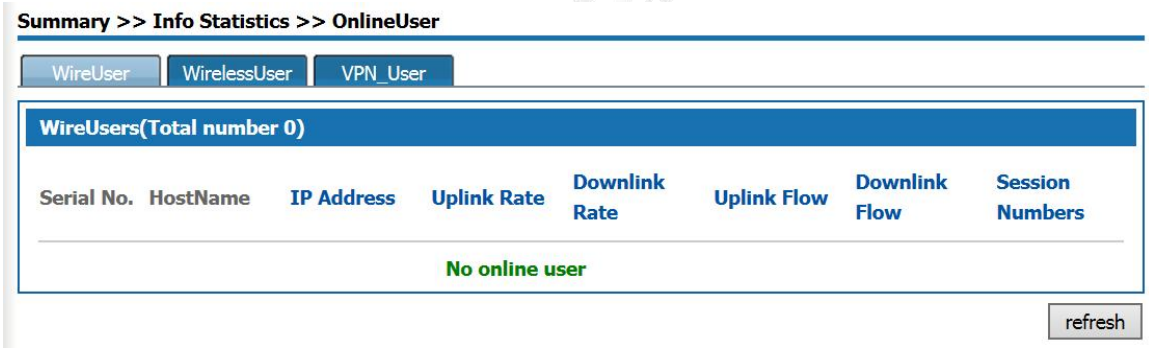


Figure4- 6 WireUser Statistics

Wireuser page visually shows Hostname, IP address, uplink and downlink rates, uplink and downlink flow, session numbers of all the wireusers. Click <Refresh> to display the current information of the Wire user.

Click <VPN User >,the page as shown in Figure4-7 is displayed.

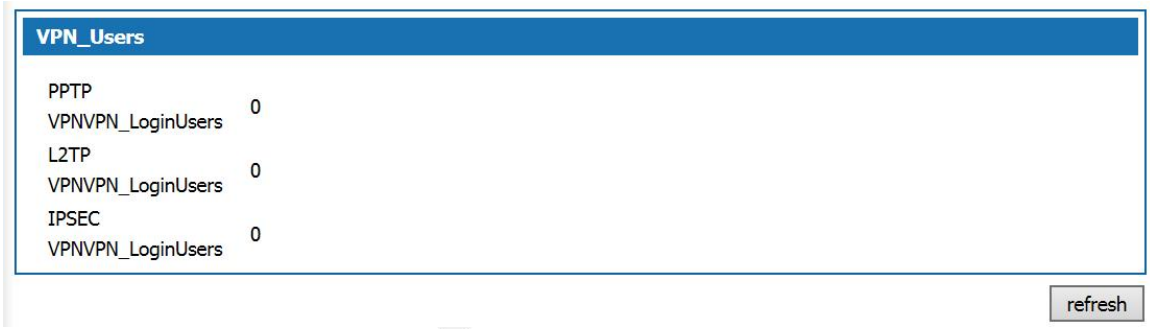


Figure4- 7 VPN User

In VPN User page, the number of the users who log in via PPTP VPN, L2TP VPN, and IPSEC VPN is desplayed. Click <Refresh> to display the information on number of VPN users logged in at the curLease Time.

5 Network

Summary

The Network module provides the basic setup configurations for LvSwitch IPPBX , including LAN Setup, WAN Setup, DHCP configuration and PortSet. Advanced Options includes Static Route, NAT, Port Mapping, DDNS, Host Name and ALG configuration. VPN configuration, includes configuration of IPsec VPN, L2TP VPN and PPTP VPN.

5.1 Basic Setup

Basic Setup includes LAN Setup, WAN Setup, DHCP.

5.1.1 LAN Setup

Select " Basic Setup >>LAN Setup", click <Basic Settings> to the page as shown below.

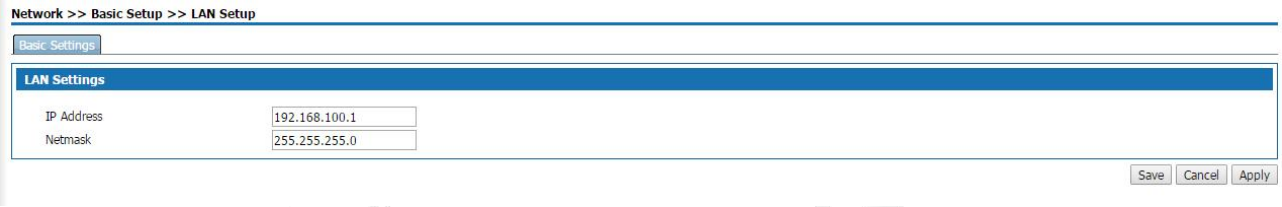


Figure5- 1 LAN Setup

Configure IP address and Netmask of the LAN port. The default “IP Address” is 192.168.100.1, and “Netmast” is 255.255.255.0

After configuring LAN IP, users need to re-login with the new IP address.

5.1.2 WAN Setup

Select " Basic Setup >>WAN Setup", click < Basic Settings > to the page as shown below.

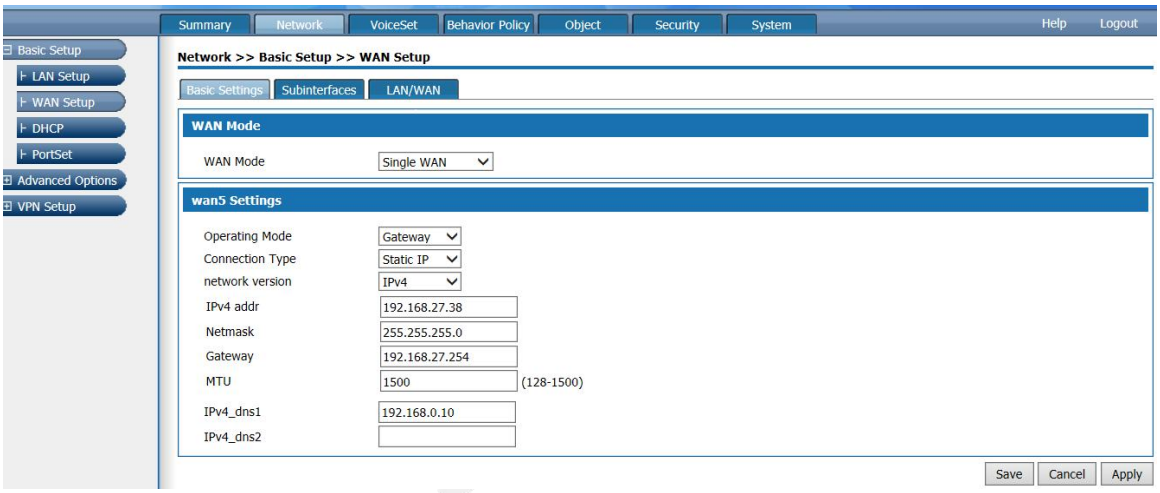


Figure5- 2 WAN Basic Settings page

WAN Mode：

Single WAN(WAN):Ethernet Uplink

Single WAN(3G): Not support yet

Dual WAN(3G): Not support yet

Operating Mode：

Gateway: This product is used as the egress routing device for enterprise networks. It is generally deployed in the internal network of an enterprise for export. It internally bears the internal user gateway of the enterprise and accesses to the operator network through various links externally.

Bridge: This product is used as a bridge with a filtering function. It is generally used when an enterprise already has an Internet gateway device for exporting. It can connect the device to the gateway of the enterprise gateway and monitor the Internet traffic of employees. Bridge mode allows easy access to the user's network without changing the user's network configuration. In bridged mode, the connection type defaults to static addresses, sets the intranet address assigned to the device from which the administrator can manage the device. 3G interface does not support bridging mode.

The address of administrator's computer and the management address set in bridge mode are required to be on the same network segment.
In bridge mode, the bridge contains a WAN port, which can added VLAN to the bridge through LAN / WAN bonding to realize network access and traffic control of the VLAN segments.
In the Routing Settings, NAT Settings, Port Mapping, IPsec Policy Settings section, the WAN interface will be Hidden in bridge mode.

Four Connection Types are PPPoE, Static IP, DHCP and IPoE.

- PPPOE dial-up to access to the WAN port address

Select "PPPOE" in the "Connection Type" drop-down box on the "Basic Settings " page as shown in Figure 4-3.

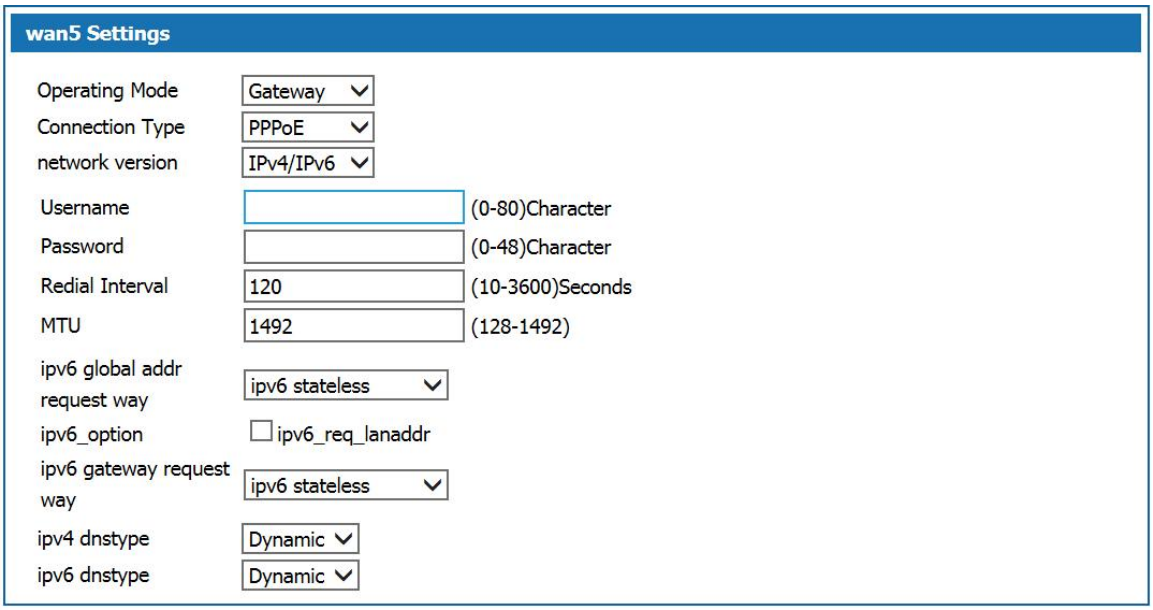


Figure5- 3 PPPOE to access IP address

Select **"IPv4"** as the protocol type and enter the user name and password of the user's broadband account in the Username and Password fields. The interval of the redial and MTU are default. The IPv4 DNS mode can be selected according to the actual network configuration, options are"Dynamically obtained DNS"or manually specify the primary and secondary DNS server address.

Select **"IPv6"** as the protocol type and enter the user name and password of the user's broadband account in the user name and password fields. The interval of the redial and MTU are default. Configure the IPv6 global address obtain way, IPv6 option, the default method of obtaining IPv6 gateway. The Ipv6 DNS mode can be selected according to the actual network configuration, options are"Dynamically obtained DNS"or manually specify the primary and secondary DNS server address.

IPv6 Configuration Item Description:

IPv6 Global Address Obtaining Method	No status Automatic configuration: Automatically generates an IPv6 address by the product based on the advertisement information of the remote router when the product first time connected to the network. Manual: Configure the IPv6 address and network prefix length in the text box below. DHCPv6: Obtain an IPv6 address through DHCPv6 with status.
IPv6 Options	Request LAN Prefix: If this option selected, the route advertisement options and DHCPv6 options in IPv6> Basic Configuration> LAN can be obtained by WAN Authorization.
IPv6 Default Gateway Obtaining Method	No status Autoconfiguration: Automatically generates an IPv6 Gateway address by the product based on the advertisement of the routing information sent by the peer end when the product first time connected to the network. Manual: Configure the IPv6 gateway address in the

	text box below.

Select IPv4 / IPv6 as the protocol type, configure IPv4 protocol and IPv6 protocol respectively. The device can access the network through both IPv4 and IPv6.

- Static IP

In the "Basic Settings" page, select "Static IP" from the drop-down list box as shown in Figure 4-4.

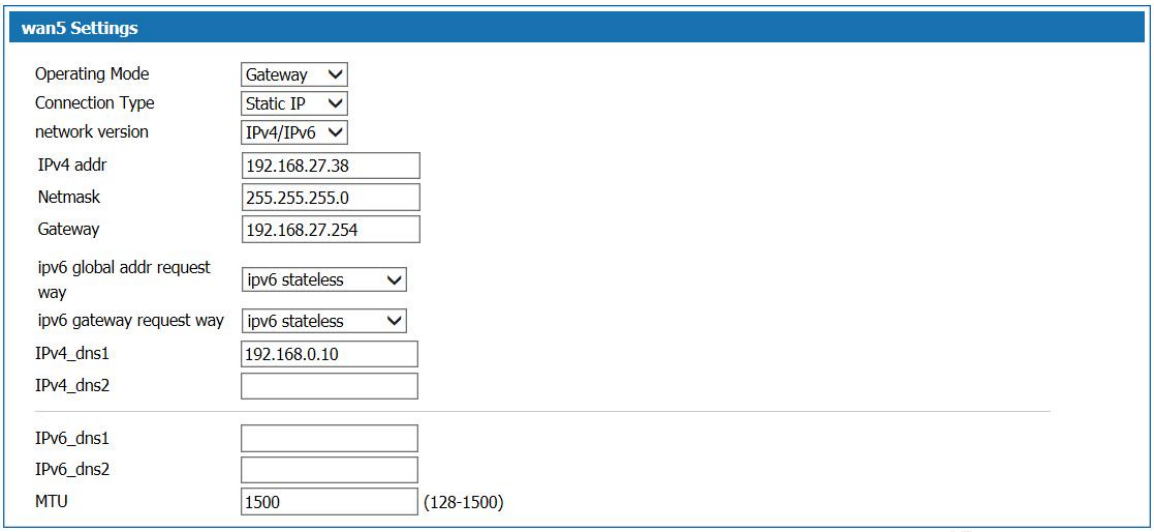


Figure5- 4 Static IP Page

Select "IPv4" as the protocol type. ISP will provide fixed WAN port IP address, subnet mask, gateway address and IPv4 DNS server address. Users should manually set these options.

Select the protocol type as IPv6 and set IPv6 global address and IPv6 default gateway access mode. Select the IPv6 DNS mode to use Dynamic DNS or manually specify the primary and secondary DNS server addresses. If the MTU is not set, There is a default value.

IPv6 Configuration Item Description:

IPv6 Global Address Obtaining Method	No status Automatic configuration: Automatically generates an IPv6 address by the product based on the advertisement information of the remote router when the product first time connected to the network. Manual: Configure the IPv6 address and network prefix length in the text box below.
IPv6 Default Gateway Obtaining Method	No status Autoconfiguration: Automatically generates an IPv6 Gateway address by the product based on the advertisement of the routing information sent by the peer end when the product first time connected to the network. Manual: Configure the IPv6 gateway address in the text box below.

Select IPv4 / IPv6 as the protocol type, configure IPv4 protocol and IPv6 protocol respectively. The device can access the network through both IPv4 and IPv6.

- DHCP way to obtain the WAN port address

Select "DHCP" in the "Connection Type" drop-down list on the "Basic Settings " page as shown in Figure4-5.

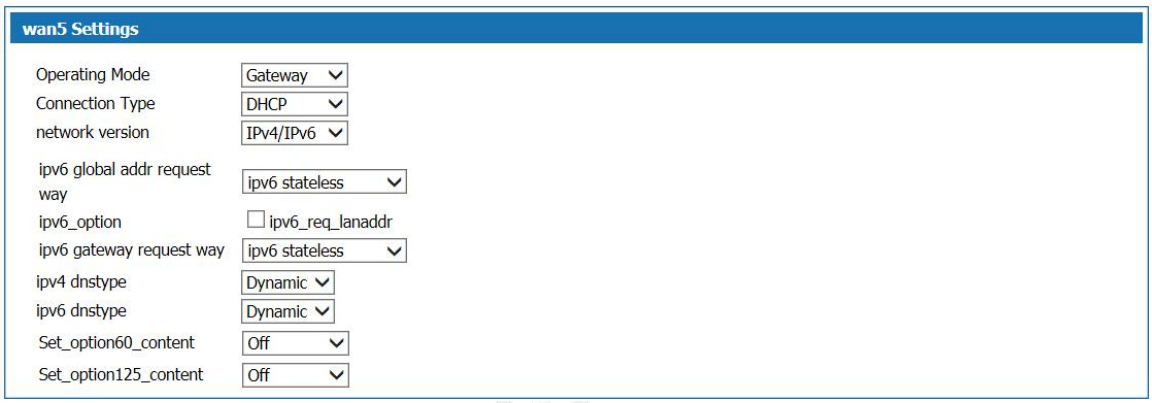


Figure5- 5 DHCP way to obtain IP

Select IPv4 as the protocol type. Select DNS using dynamic DNS. If you need to configure it manually, select Use specified DNS and enter the DNS server address provided by the ISP.

Select IPv6 as the IPv6 address and IPv6 default gateway. In IPv6 DNS mode, select Use DNS Dynamically. If you need to configure it manually, select Use Specified DNS. Then, Enter the DNS server address provided by your ISP.

IPv6 Configuration Item Description:

IPv6 Global Address Obtaining Method	No status Automatic configuration: Automatically generates an IPv6 address by the product based on the advertisement information of the remote router when the product first time connected to the network. Manual: Configure the IPv6 address and network prefix length in the text box below. DHCPv6: Obtain an IPv6 address through DHCPv6 with status.
IPv6 Options	Request LAN Prefix: If this option selected, the route advertisement options and DHCPv6 options in IPv6> Basic Configuration> LAN can be obtained by WAN Authorization.
IPv6 Default Gateway Obtaining Method	No status Autoconfiguration: Automatically generates an IPv6 Gateway address by the product based on the advertisement of the routing information sent by the peer end when the product first time connected to the network. Manual: Configure the IPv6 gateway address in the text box below.

Select IPv4 / IPv6 as the protocol type, configure IPv4 protocol and IPv6 protocol respectively. The device can access the network through both IPv4 and IPv6.

- IPoE way to obtain WAN Port Address

Select " IPoE " in the "Connection Type" drop-down list on the "Basic Settings " page as shown in Figure4-6.

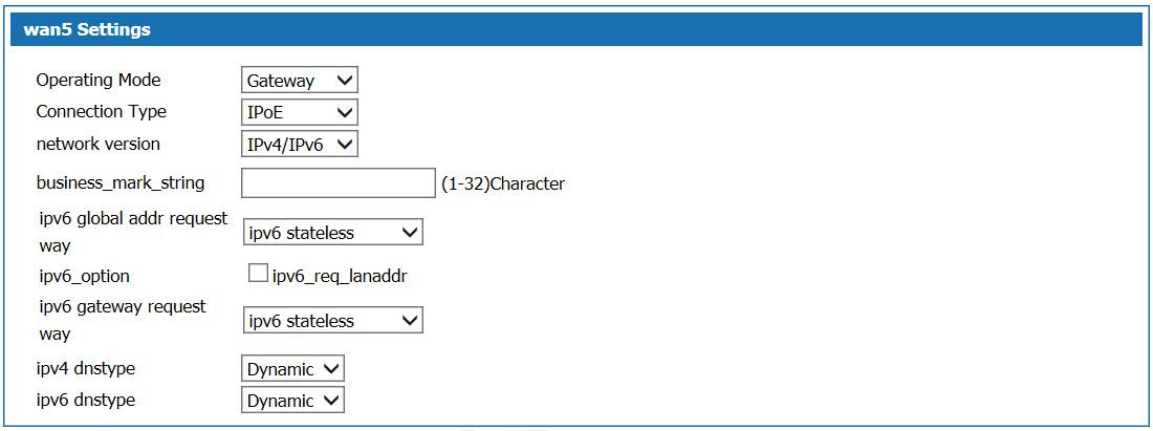


Figure5- 6 IPoE way to obtain IP Address

Select IPv4 as the protocol type. Select DNS using dynamic DNS. If you need to configure it manually, select Use specified DNS and enter the DNS server address provided by the ISP.

Select IPv6 as the IPv6 address and IPv6 default gateway. In IPv6 DNS mode, select Use DNS Dynamically. If you need to configure it manually, select Use Specified DNS. Then, Enter the DNS server address provided by your ISP.

IPv6 Configuration Item Description:

Service Identity	Negotiate with the peer routing device to exchange authentication information.
IPv6 Global Address Obtaining Method	No status Automatic configuration: Automatically generates an IPv6 address by the product based on the advertisement information of the remote router when the product first time connected to the network. Manual: Configure the IPv6 address and network prefix length in the text box below. DHCPv6: Obtain an IPv6 address through DHCPv6 with status.
IPv6 Options	Request LAN Prefix: If this option selected, the route advertisement options and DHCPv6 options in IPv6> Basic Configuration> LAN can be obtained by WAN Authorization.
IPv6 Default Gateway Obtaining Method	No status Autoconfiguration: Automatically generates an IPv6 Gateway address by the product based on the advertisement of the routing information sent by the peer end when the product first time connected to the network. Manual: Configure the IPv6 gateway address in the text box below.

Select IPv4 / IPv6 as the protocol type, configure IPv4 protocol and IPv6 protocol respectively. The device can access the network through both IPv4 and IPv6.

WAN Subinterfaces

When multiple services, such as Internet, IPTV, and VoIP services, need separate WAN ports as their own channels, multiple WAN subinterfaces should be enabled to configure LAN / WAN bonding. Select “Basic Setup> WAN Setup” and click the “Subinterfaces” tab. The page as shown in Figure 4-7 is displayed.

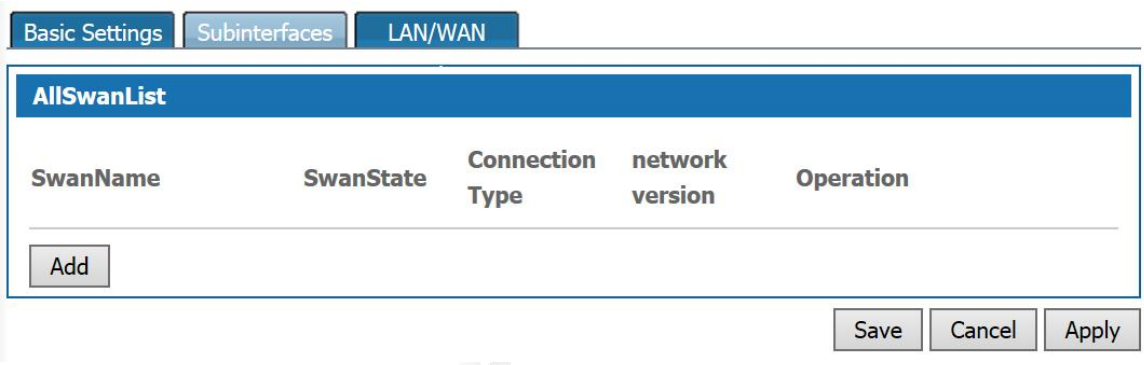


Figure5- 7 WAN Subinterfaces page

Click <Add> to pop up the page for adding a WAN sub-interface as shown in Figure 4-8.

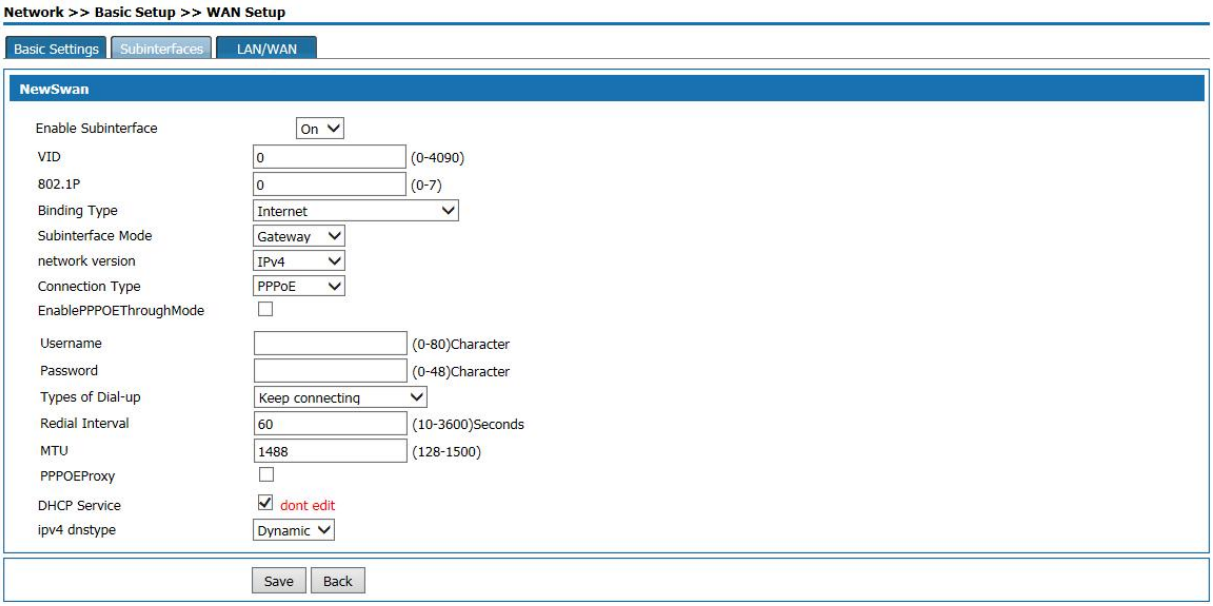


Figure5- 8 WAN Subinterfaces Configuration

WAN Subinterfaces Configuration description

Table 5- 1 Sub-interface Configuration

Item	Description
Enable Subinterface	Enable subinterface option or not
VID	Negotiate with the WAN port switch equipment in consensus
802.1P	Negotiate with the WAN port switch equipment in consensus

Item	Description
Binding Type	• Internet：The sub-interface for Internet access； • Management：This subinterface is used to manage the channel. When this type is set, the subinterface will be hidden in the LAN / WAN binding part； • IPTV：This sub-interface is for IPTV channel； • Management-Internet：This type is compatible with Internet access and management;； • Voice：This sub-interface is used for voice channel； • Management-Voice：This type is compatible with management and voice;； • Voice-Internet: This type is compatible with voice and Internet access； • Management-Voice-Internet: This type of compatible management, Internet access and voice； • Other：Other types.
Subinterface Mode	Options: Gateway, Bridge
Connection Type	Options include static IP, DHCP, PPPOE, configuration method is same with the one of WAN port.

Enable "Subinterface" mode, the WAN port "Basic Settings" will not be available.

LAN/WAN Binding

In WAN Subinterface mode or Bridge mode, the connection between VLAN network segment or LAN port and WAN side port can be achieve by adding a LAN / WAN binding.

Select “Basic Setup> WAN Setup” and click the “LAN / WAN” tab. The page shown in Figure 4-9 is displayed.

Figure5- 9 LAN/WAN Binding

VLAN binding: Select "VLAN binding" mode, and select from the drop-down box to bind the enabled VLAN with WAN subinterface.

Port binding: Select "Port binding" mode, and select from the drop-down box to bind the two internal network ports on the LAN side of the device withthe WAN subinterface.

When "Port binding" is selected,the "VLAN Settings", "Port VLAN Settings" and "VLAN Isolation" under "Basic Setup> LAN Setup".

5.1.3 DHCP Configuration

Select “Basic Setup> DHCP”. The DHCP Settings page is displayed as shown in Figure 4-10.

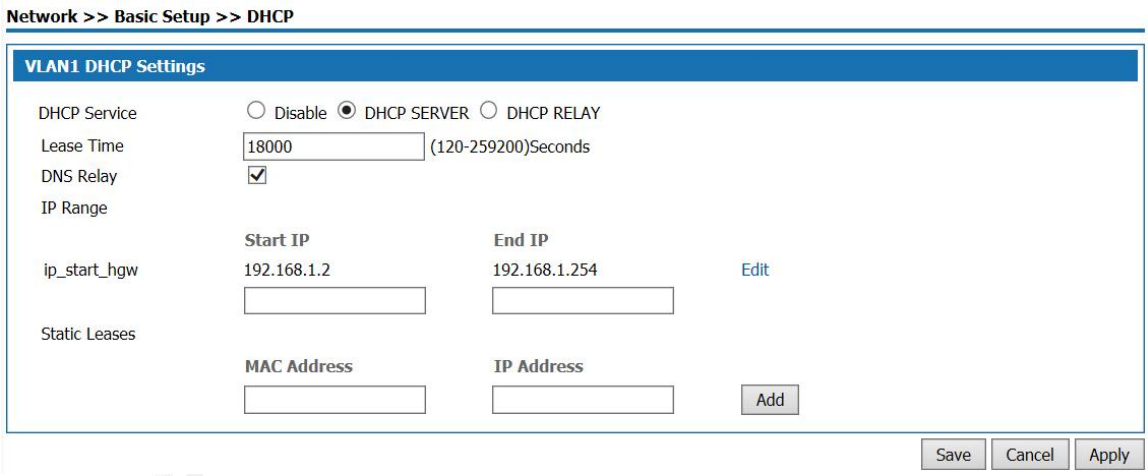


Figure5- 10 DHCP SERVER Configuration

- When DHCP service is select as ” Disabled”, the DHCP function on the LAN port is disabled.
- DHCP service is select as "DHCP SERVER", a page pop-up shown as Figure 5-10. This product acts as a DHCP (Dynamic Host Configuration Protocol) server and assigns IP addresses to computers in the LAN.

DHCP SERVER Configuration：

Table 5- 2 DHCP SERVER Configuration

Item	Description
Lease Time	Enter the lease time of the assigned IP address for computer, after the lease time, the computer must re-apply for an address (usually a computer will automatically apply). Unit: second, the default value is 18000 seconds.
IP Range	The DHCP server IP address pool configuration requires that the IP address of the LAN is on the same network segment. You can add multiple IP address pools to set the initial IP and end IP addresses of the address pool.
IP/MAC	Add MAC and IP address bindings to meet the fixed IP

Item	Description
Address Binding	needs of some machines. When the product receives a DHCP client request for an IP address, it first looks for the binding table. If the computer is in a binding table, it assigns the corresponding IP address to the computer.

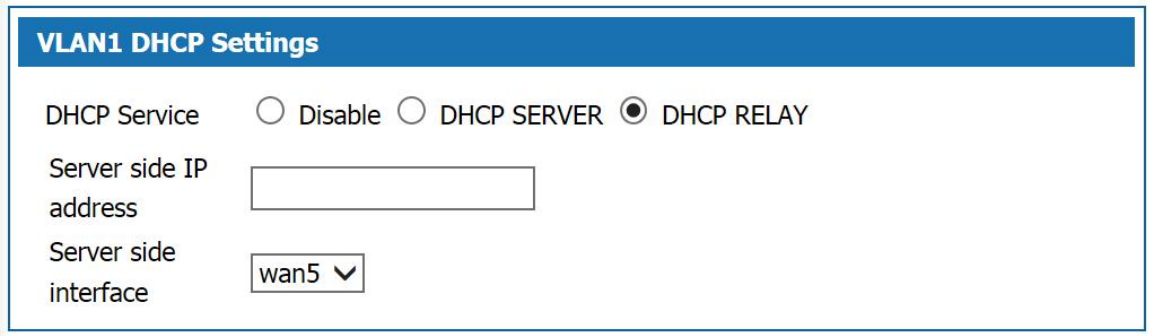


Figure5- 11 DHCP RELAY Configuration

- DHCP Service: Selecte "DHCP RELAY" to open page shown in Figure5-11. If the DHCP client and DHCP server are not on the same physical segment, the DCHP Relay Agent (Relay Agent) is required. In this case, the LAN acts as a DHCP RELAY proxy to communicate with DHCP servers on other subnets to allocate IP addresses to DHCP clients.

DHCP RELAY Configuration Description：

Table 5- 3 DHCP RELAY Configuration

Item	Description
Server side IP Address	IP address of DHCP server connected
Server side interface	The interface that connect DHCP RELAY with DHCP server

5.2 Advanced Options

Advanced Options include DDNS, Static Route, DNS relay setting,NAT, Port Mapping,UpnP, Host Name,ALG,push portal,IGMP VLAN etc function.

5.2.1 DDNS setting

Realize the resolution between fixed domain name and dynamic IP address. When the WAN port IP address changes, the product will automatically initiate an update request to the designated DDNS server, which will update the corresponding relationship between the domain name and IP. Select "advanced options >DDNS" and enter the "DDNS Settings" page as shown in figure 5-12.

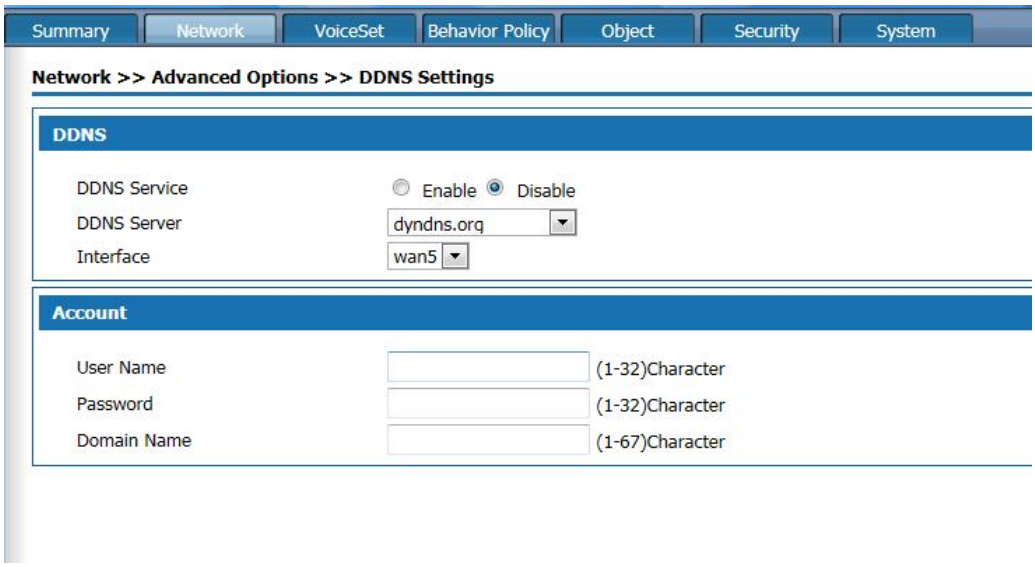


Figure 5-12 DDNS setting

DDNS setting description as below:

Table 5-4DDNS setting

Interface terms	Description
DDNS Service	To enable or disable,the default value is enable
DDNS server	Choose to provide domain name service providers,the current product only support www.3322.org.
Interface	Wan 5
User Name	The user name you get when you register the DDNS service.
Password	The password you get when you register the DDNS service.
Domain name	The domain name bound with the WAN port IP address of this product.

5.2.2 Static Route

After defining the LAN port address, WAN port address and gateway, the device will automatically generate the interface network segment route and a default routing, with these routes,basic service needs can be meet in normal circumstances. Select" Advanced Options> Static Route". The "Static Route" page is displayed as shown in Figure 5-13.

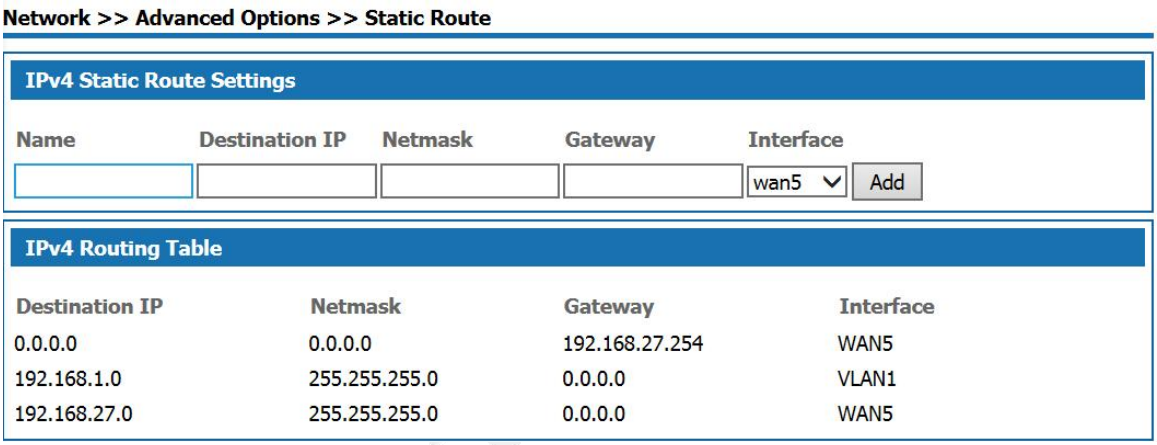


Figure5- 13 Static Route

Add route configuration description：

Table 5- 5 Add Routing

Item	Description
Name	User defined route name.
Destination IP	The destination address need to reach, it could be network address or host address.
Gateway	The IP address of the next router to pass before the data reaches the destination address.
NetMask	The destination address subnet mask to be reached.
Network Type	Select the static route out interface, including the LAN port and WAN port.

5.2.3 Dynamic route

Dynamic routing means that the router can automatically set up its own routing table and adjust it according to the actual situation. The routing information exchange between the product and the docking device is realized based on RIP routing protocol. Route: network >advanced options>dynamic route, the page pops up as following:

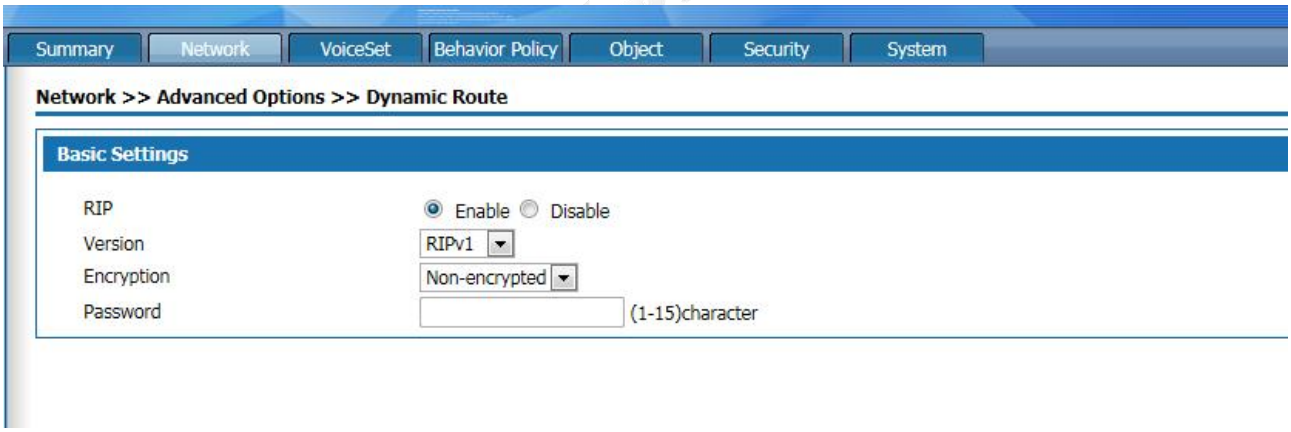


Figure 5-14 Dynamic route

Dynamic route setting description as:

Table 5-6 dynamic route setting

Interface	Instruction
RIP	Click “enable” to enable Routing Information Protocol
Version	Consistent with docking routing devices, optional "default", "RIPv1" And "RIPv2".Select "default" it automatically negotiate with the docking routing device.
Encryption	Non-encrypted and TEXT and MD5 When selecting “RIPv1” it is no need to encrypted,for selecting”RIPV2”,negotiated with the docking device whether to encrypt or not.The device supports text encryption and MD5 encryption. Set encryption in the password box below Code.

5.2.4 NAT Configuration

Network Address Translation (NAT) enables multiple computers in the LAN to access the Internet through a small number of public IP addresses and save public IP addresses. As LANs are isolated from the Internet, NAT can also provide some assurance of Security. Select “Advanced Options> NAT”, and enter the NAT Configuration page as shown in Figure 5-13.

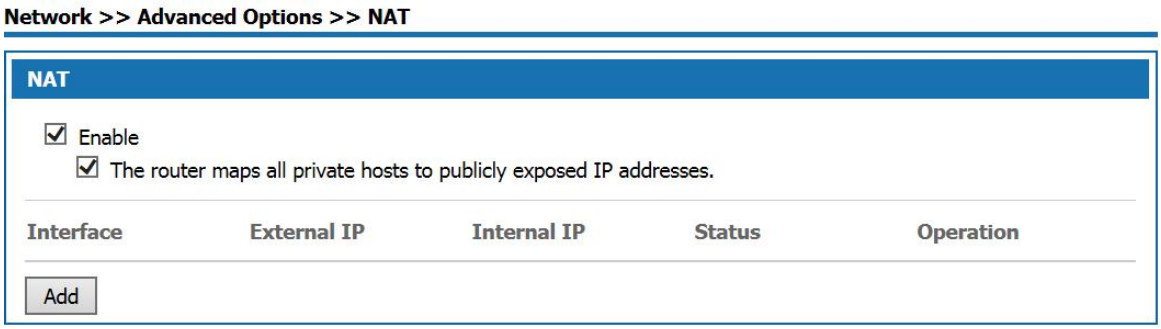


Figure5- 15 NAT Configuration

NAT Configuration Description：

Table 5- 7 NAT Configuration

Item	Description

Item	Description
Enable	Select“Enable” to activate NAT service
The router maps all private hosts to publicly exposed IP addresses	Select this item to enable NAT function, all the internal network IP address converted into WAN port IP address through the NAT function to ensure that users access the Internet. The NAT rule added later by the user takes precedence over this rule.

Click <Add> button to open the “Add NAT Configuration”page as shown in Figure4-14.

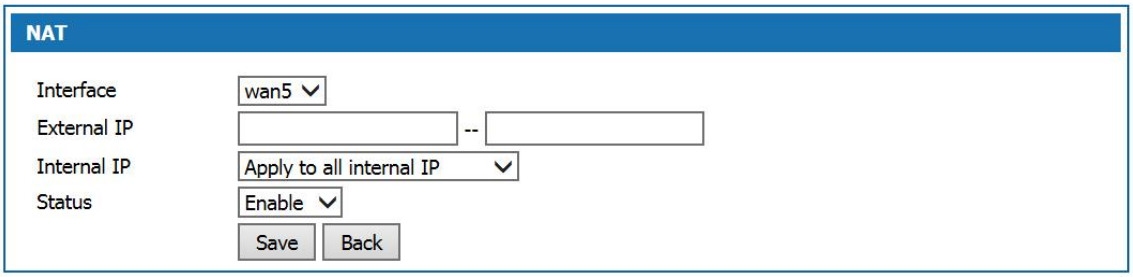


Figure 5-16 Add NAT Configuration

Add NAT Configuration：

Table 5- 8 Add NAT Configuration

Item	Description
Interface	Select WAN port. NAT configuration added is valid when the WAN port is static, otherwise it shows no static interface.
Extranet IP	IP address range used after address translation, the address range must be on the same network segment as the above network interface.
Intranet IP	Intranet IP address need to be translated. Select "Apply to all Intranet IP"， all Intranet IP are translated to the extranet IP through NAT function,select "Apply to the specified Intranet IP." Set the intranet addresses that need NAT to translated in the following text box .
status	Optional, Enable or Disable.

5.2.5 Port Mapping

Port mapping is used to map the WAN IP of the device to specific server IP of the intranet. To access the IP of the intranet specific server, user only need to access the WAN side IP.

Choose “Advanced Options> Port Mapping”, and enter the “Port Mapping” page shown in Figure4-15.

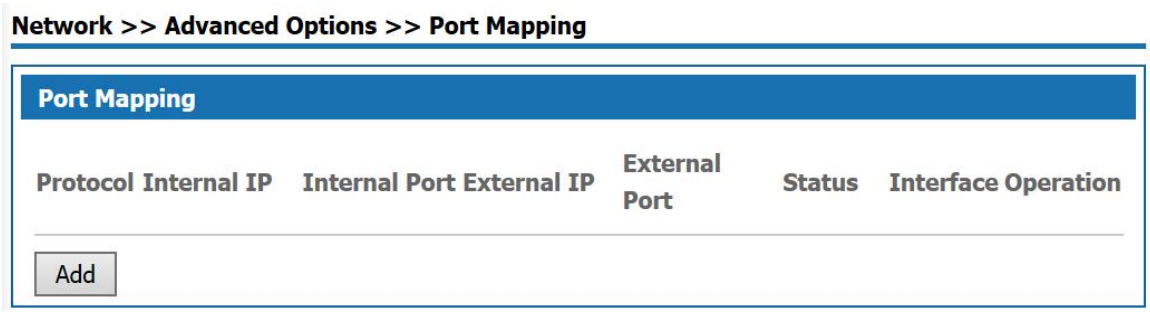


Figure5-17 Port Mapping Configuration

Click <Add> button to open Add Port Mapping page shown in Figure 4-16.

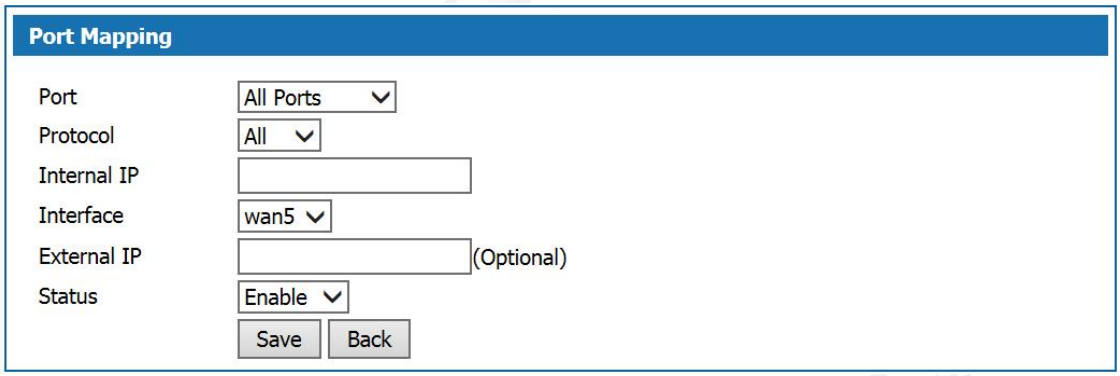


Figure5-18 Add Port Mapping

Item	Description

Port	Any ports：In this mode, all ports will be mapped. Designated port： Users need to configure the “Intranet port” and ”Extranet port”.
Protocol	The data connection protocol used when port mapping， options include All,TCP or UDP.
Internal IP	The intranet IP that neet port mapping
Interface	WAN port、WAN3G or User Defined are available.
External IP	Network Interface selected as “ External IP”, set the IP address of the extranet used by the port mapping, which must belong to the NAT address pool.
Status	Optional, Enable or Disable.

Table 4- 7 Add Port Mapping

5.2.6 UpnP Setting

Upnp can be optional enable or disable.

5.2.7 Host Name setting

Virtual domain Settings allow users to set the domain name to access the corresponding Intranet IP address. Select Network >Advance options> Host name, the page will pops up as the figure 5-19.

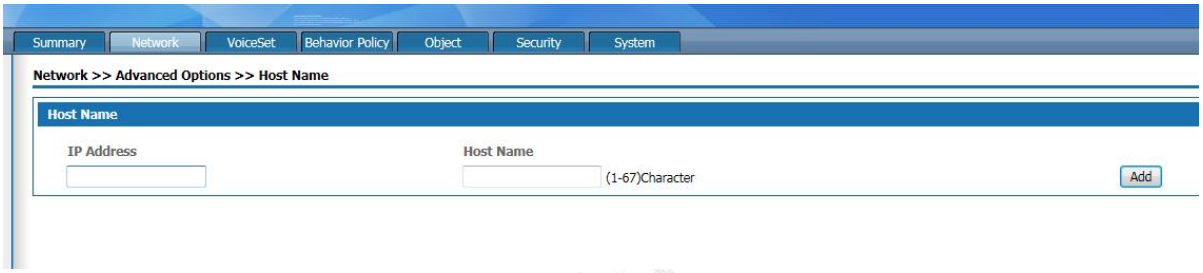


Figure 5-19 Host name setting page

Host name setting description as following:

Table 5-9 Host name setting description

Interface	Instruction
IP address	Intranet IP address
Host name	Set the host name of the intranet IP,1-67 character length

5.2.8 ALG setting

The ALG(Application Layer Gateway) is a type of firewall made by a an augmented firewall or computer network Application or firewall containing of security components for NAT.Enable ALG function to realize private network traversal function of SIP, FTP, H323, L2TP, RTSP, IPSEC and PPTP protocols.

Select "advanced options >ALG" and enter the "ALG" page as shown in figure 5-20.

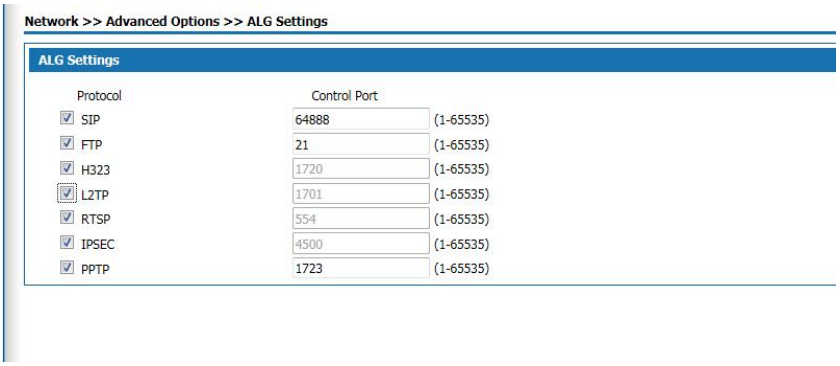


Figure 5-20 ALG setting

5.2.9 Push Portal

The page push is the website address opened by the user who logs on the Internet through this product when they first log on the Internet. Select <network> <advanced options> and <push portal> the push portal setting page appears as follows:

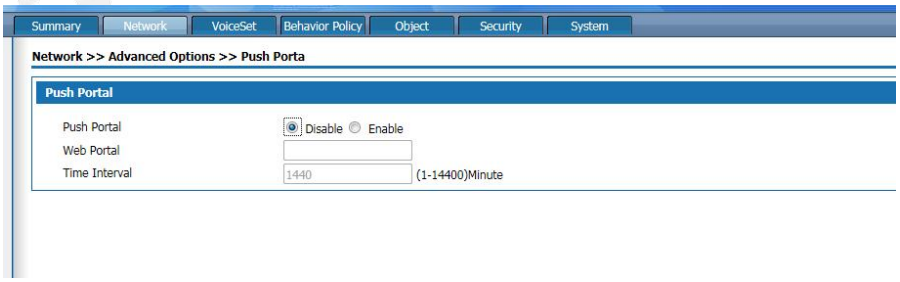


Figure 5-21 Push portal

Push portal setting description as following:

Table 5-10 Push portal setting

Interface	Instruction
Push portal	To enable or disable,default disable
Web Portal	The first time to open the website address when log in the internet through this product
Time interval	The interval time logs in the push website

	page again

5.2.10 IGMP Proxy

Select advanced options> IGMP Proxy setting,the page pops up as figure 5-23

Figure 5-22 IGMP Proxy setting

This product supports IGMP proxy and IGMP listen function,click the radio box to enable the function. The proxy interface is the interface connect with IGMP router,which can be WAN 5 or WAN sub-interface according to the drop-down box.

5.2.11 IGMP VLAN

Select "advanced option > IGMP vlan" and enter the "IGMP vlan" page as shown in figure 5-23.

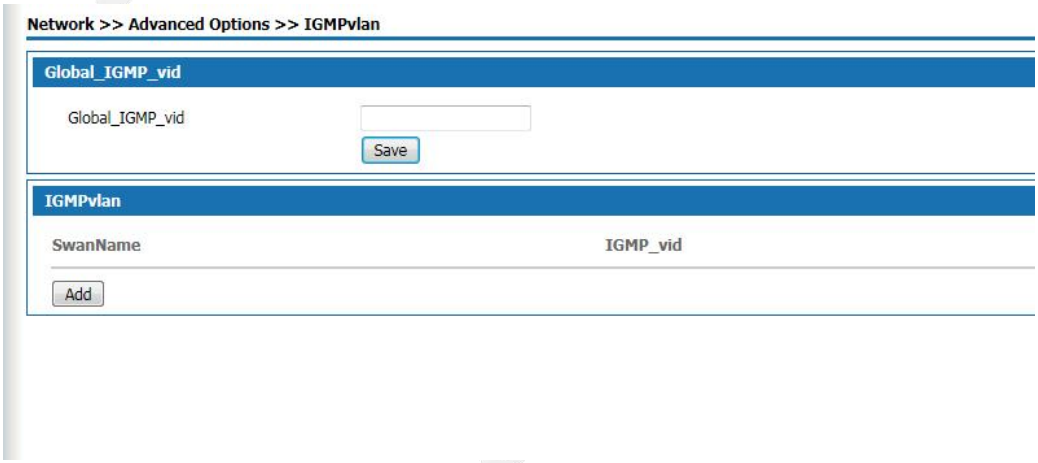


Figure 5-23 IGMP VLAN setting

Enter Global IGMP VID then click save button .

Click <add>button ,the popup page of adding multicast vlan is shown in figure 5-25

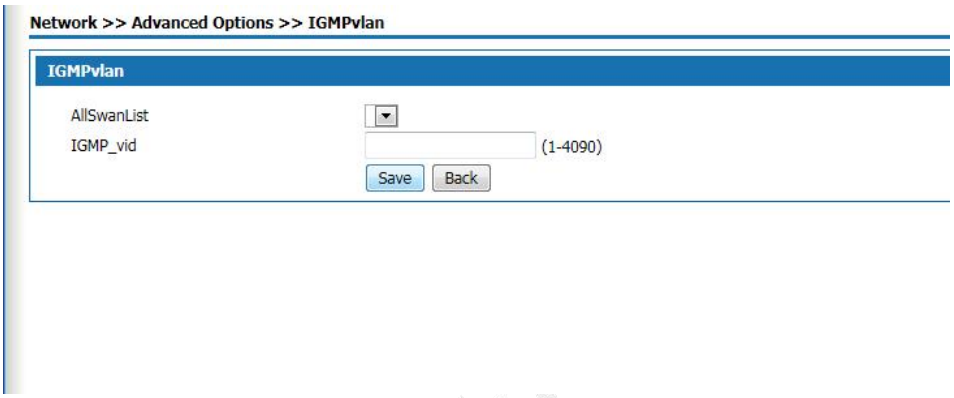


Figure 5-24 IGMP VLAN

Add IGMP VLAN setting as below:

Table 5-11 IGMAP VLAN SETTING

Interface	Instructions
All Swan list	Display only the enabled Wan-subinterface with connecting pattern “bridge”,and generally select the sub-interface of the IPTV property, that is, the binding type Subinterface for "IPTV" or "Other".
IGMP_vid	Configure the ID of the livestreaming channel and bind it to the WAN subinterface. After connecting the IPTV set-top box with the internal network port bound to the WAN sub-interface, you can watch live TV.
Save	Click the <save > button to add a multicast vlan policy.

5.3 VPN Setting

5.3.1 IPsec

IPsec (Internet Protocol Security), or Internet Security Protocol, is a series of specifications of Internet Security communication provided by IETF, which provides IP data packets with high-quality, interoperable and cryptographic-based Security functions. In the IP layer, encryption and data source authentication are used to ensure the privacy, integrity and security of data packets when they are transmitted over the network.

As IPsec VPN server, the configuration steps of this product are as follows:

Step 1: Add a new policy on the IPsec policy page

Step2: On the Ipsec application page, modify and delete the added policy.

Step 3: On the Ipsec status page, connect or disconnect the enabled policy.

Step 4:On the Ipsec log page to check the log of the connect or disconnect of the Ipsec policy. Select " VPN setup >IPsec " click the <Ipsec policy> tab enter the <IPSEC Policy > page as following figure 5-26

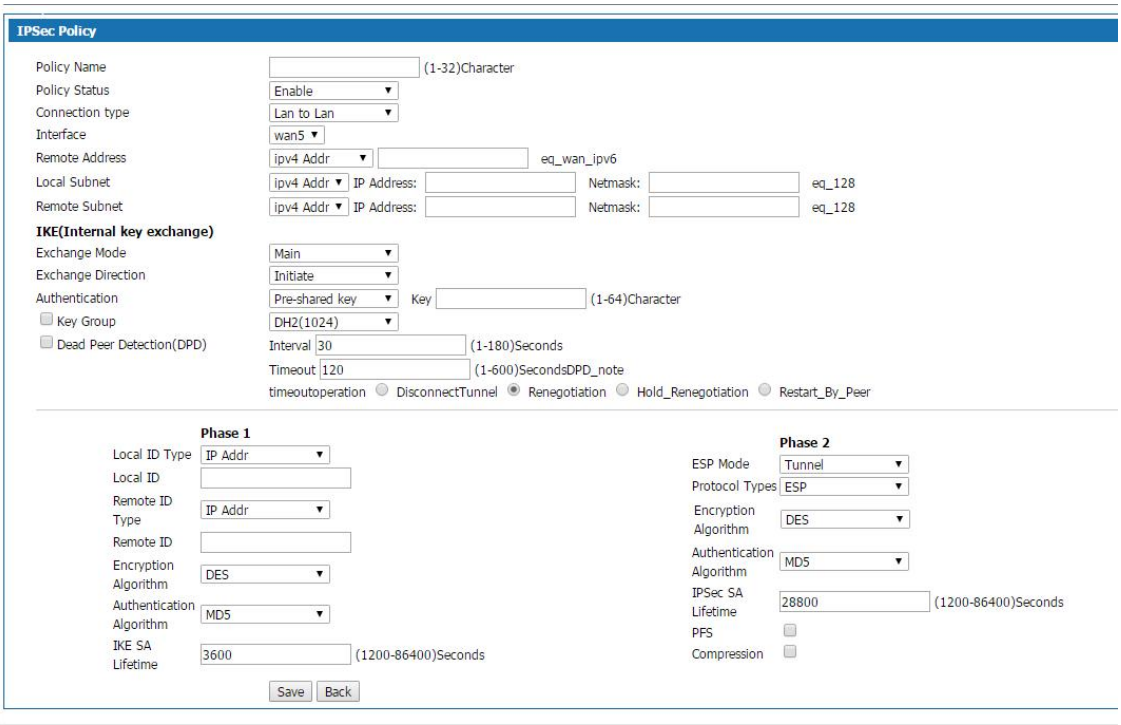


Figure 5-25 IPsec VPN-ipsec policy

Ipsec strategy description as following:

Table 5-12 IPsec policy description

Interface	Description
IPsec policy	By setting up the IPsec policy, a secure channel is established between the local end and the opposite end.
Policy name	Enter the policy name,1-32 characters long
Policy status	Enable or disable
Connection type	Lan to Lan: The connection between two equipment Remote access:Connection between PC with the product
Interface	Specify the interface of the secure channel,default is the WAN 5

Remote address	Specifies the opposite address of the secure channel connection, which can be set to an IP address or domain name
Local Subnet	Specifies the local network segment for the safe channel.
Remote Subnet	Specifies the opposing network segment for the safe channel.

IKE(Internal key exchange) description as below:

Table 5-13 Internal key exchange

Interface items	Description
IKE(Internal key exchange)	Configure IKE, which uses two phases to negotiate and establish the key for IPsec SA.
Exchange mode	When it is the first phase for exchange, the optional mode “Main” or “ Aggressive” .The Main difference between the Main and Aggressive pattern exchanges is that the Aggressive exchange provides no identity protection and exchanges only three messages. In cases where identity protection is less important, using Aggressive mode can speed up negotiations. In situations where identity protection is high, use the Main mode.

Exchange mode	When it is the first phase for exchange, the optional mode “Main” or “ Aggressive” .The Main difference between the Main and Aggressive pattern exchanges is that the Aggressive exchange provides no identity protection and exchanges only three messages. In cases where identity protection is less important, using Aggressive mode can speed up negotiations. In situations where identity protection is high, use the Main mode.
Exchange direction	Select “Initiate” This end is the initiating end of IKE negotiation; Select “receive” this end is the

	receiving end of IKE negotiation.
Authentication	Select the authentication mode of the both communications parties. Optional “preshared key”or RSA Signature
Key group	DH2(1024) OR DH5(1536)
Dead Peer Detection(DPD)	Click and to enable this function,Interval: sets how long it is before an IPsec message is received from the opposite side, triggering DPD queries.The default value is 30s,the range 1-180 s. Timeout: after sending the DPD query, set how long it is before the DPD response is received, and delete IKE SA and the corresponding IPsec SA. The default value is "120 seconds", ranging from 1 to 600 seconds.

Phase 1 setting description as following:

Table 5-14 Phase 1 configuration as below

Interface items	Description
Phase 1	In the first phase of configuration, the communicating parties establish an authenticated and secured channel among themselves, that is, establish an IKE SA.
Local ID type	The ID type is used by the product during IKE's first phase of negotiation used to identify itself to the opposite product. Optional IPaddress or FQDN
Local ID	When selecting IP address here it enters local IP address here, when selecting domain name, it enters domain name here.
Remote ID Type	The type of ID used by the end device during IKE phase 1 negotiation. Optional "IP Address or domain name” Between two docking devices, the home end ID set by one device should be the same as the opposite end ID set by the other device.
Remote ID	When selecting IP address here it enters local IP address here, when selecting domain name, it enters domain name here.

Encryption Algorithm	DES（Data Encryption Standard）The 64bit key is used to encrypt the message block.
	3DES（Triple DES）Three 64bit DES keys are used to encrypt the message block. AES（Advanced Encryption Standard）This product supports 128bit, 192bit, 256bit key length AES algorithm; Default value is DES
Authentication Algorithm	MD5: MD5 generates a 128bit message digest by entering messages of any length;SHA1: the 160bit message digest is generated by input messages with the length less than 2 64 bits. The digest of SHA1 is longer than MD5, so it is more secure.The default value is "MD5".
IKE SA Lifetime	Before the life cycle timeout of the set IKE SA, an SA will be negotiated in advance to replace the old SA. Before the new SA is completed, the old SA will still be used. After the new SA is established, the new SA will be used immediately. Default value is 3600s ,the range is (1200-86400) Seconds

Phase 2 setting description as below

Table 5-15 phase 2 setting description as below

Interface items	Description
Phase 2	Configure the second stage, use the SA established in the first stage to provide IPsec negotiation security service, that is, negotiate specific SA for IPsec, and establish IPsec SA for final IP data packet security transmission.
ESP mode	In tunnel mode, AH or ESP is inserted before the original IP packet header, and a new packet header is generated before AH or ESP. In transport mode, AH or ESP is inserted behind the IP packet header, but before all transport layer protocols, or before all other IPsec protocols; Default value is “Tunnel “
Protocol types	AH or ESP Default value is “ ESP”. AH is the authentication header protocol and the

	protocol number is 51. The main functions include data source authentication, data integrity verification and message retransmission prevention. ESP: ESP is a packet security encapsulation protocol with a protocol number of 50. Unlike the AH protocol, ESP encrypts the data packets that need to be protected and then encapsulates them in the IP packet to ensure the confidentiality of the data.
Encryption Algorithm	Optional DES 、 3DES 、 AES128 、 AES192 、 AES256,with default “DES”
Authentication Algorithm	MD5 or SHA1 ,default “ MD5”
IPSec SA Lifetime	Set the lifetime for “IPsec SA” if over the lifetime,it needs to negotiate the IPsec SA again .Default value is 28800s.
PFS	Select the radio box and enable perfect forward secrecy; With this feature enabled, the connection time will be longer but the privacy will be better.
Compression	Select this if you want to compress the header of IPsec.
Save	Click save button to save and the IPsec policy will appear in the page of application page.

Click the IPsec tab ,and the IPsec application will pops up as figure 5-26 shown.

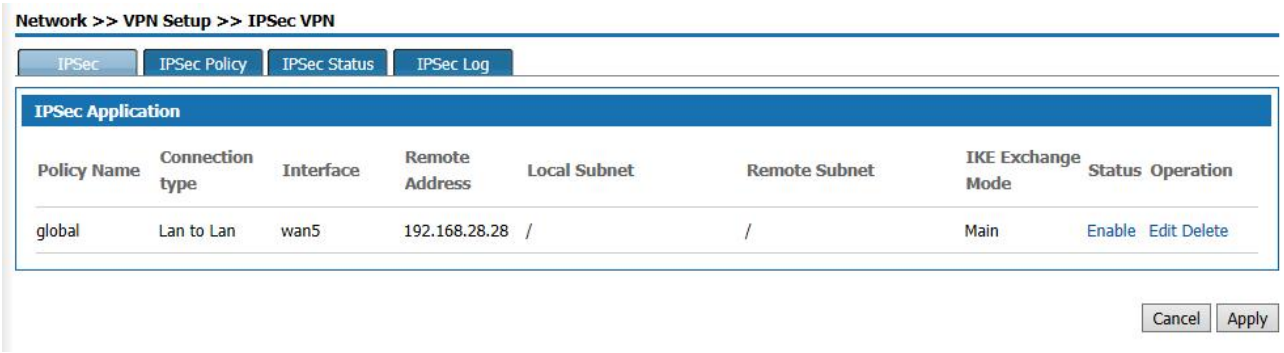


Figure 5-26 IPsec VPN-IPsec Application

On this page, you can see all the IPsec policies set, modify the policies, or directly modify the status of the policies or delete the policies.

Click< IPsec status> you can see the IPsec status as figure 5-27 shown

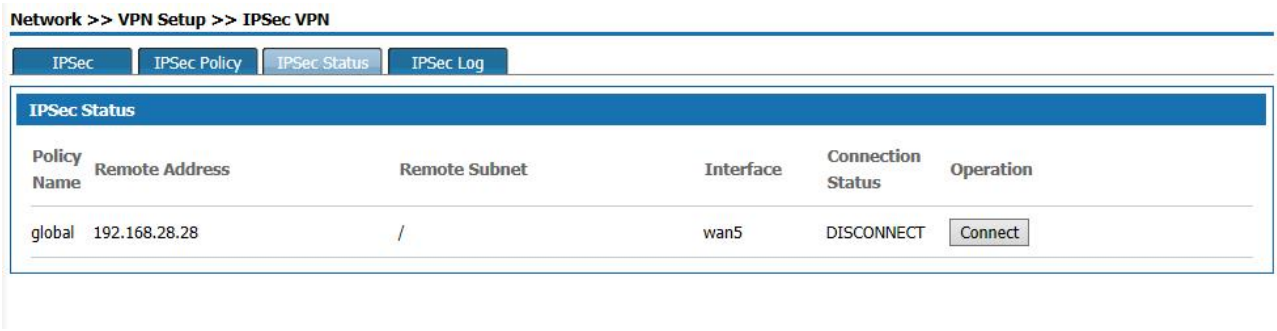
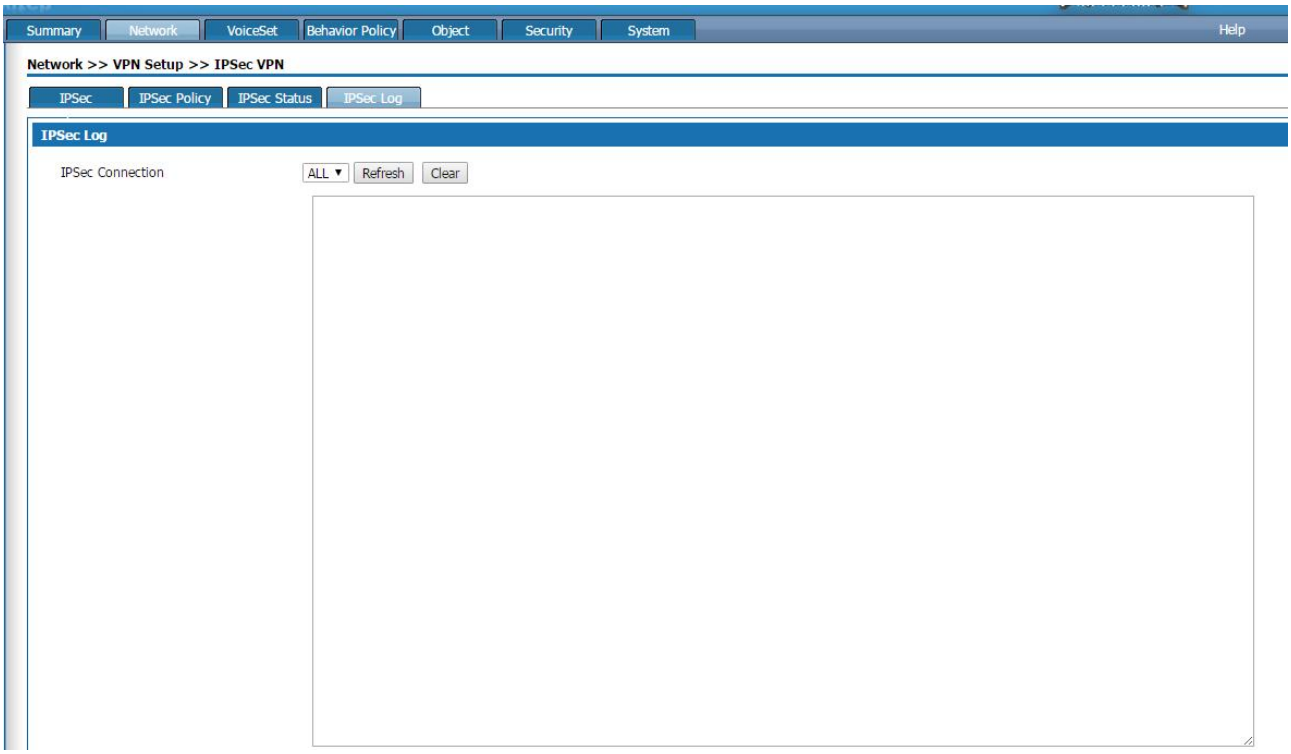


Figure 5-27 IPSEC status

On this page,it shows the connect status of the enabled IPsec, to connect or disconnect.

Clicking <IPsec log> tab, it shows the page as figure 5-28.



5-28 IPsec log

You can see log information about IPsec connections and disconnections on this page.

After the correct configuration of the server-side setting for accessing IPsec VPN, when establishing IPsec VPN connection, the client computer shall be able to access the Internet and complete the connection setting of IPsec VPN client. Due to compatibility issues with the "vpn-ah" mode, "AH" is not recommended for protocol type in the phase 2 configuration of the IPsec policy.

5.3.2 L2TP

L2TP (Layer 2 Tunneling Protocol) is the most widely used protocol of the VPDN (Virtual Private dial-up Network) tunnel protocols. Here to introduce how to configure L2TP VPN.

L2TP Client configuration

This product can be configured as L2TP client, which can send connection request actively, establish VPN tunnel and obtain private IP address. Select "VPN configuration >L2TP VPN" and enter the "L2TP VPN" page as shown in figure 5-29.

Figure 5-29 L2TP client set

L2TP client setting description as following:

Table 5-16 L2TP client setting

Interface items	Description
Enable L2TP client	Click the box to enable
Connection name	Set the name of connection
Tunnel Authentication	This item needs to be agreed with the server side. Select the radio box, enable tunnel authentication, and configure authentication that is consistent with the server.
Server IP Address	The L2TP SERVER IP address
User name	The L2TP server user name connected to L2TP client
Password	The L2TP server user password connected to L2TP client

Click < save > to save client configuration information, and click < apply > to connect to the server.

L2TP server configuration

This product can be configured as an L2TP server, allowing authenticated L2TP clients to connect in.

Click the"L2TP server" TAB to enter the L2TP page as shown in figure 5-30.

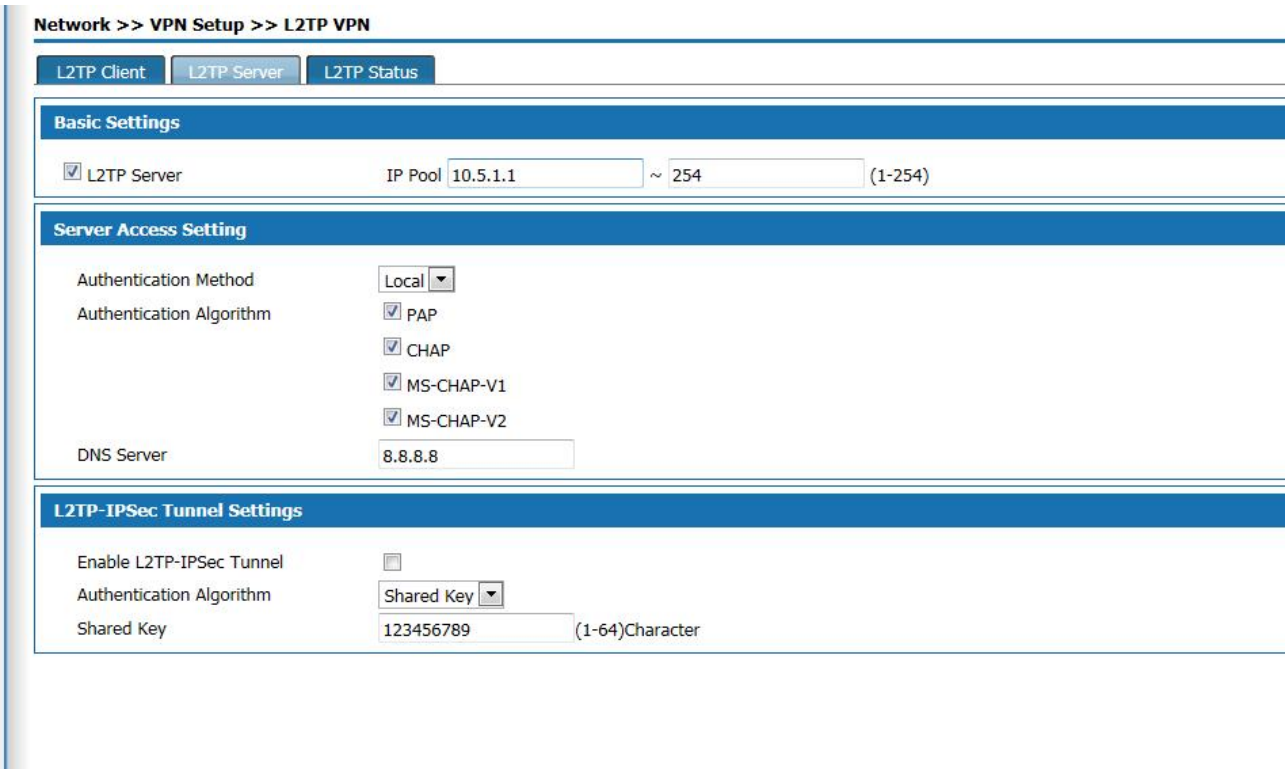


Figure 5-30 L2TP server setting

L2TP server setting description as :

Interface items	Description
Basic setting	Select the radio box to enable the server function while close the client function;
Authentication Method	Local
Authentication Algorithm	Optional PAP,CHAP,MS-CHAP-V1,MS-CHAP-V2 It should be the same with the client.
DNS Server	Be consistent with what operators are offering
L2TP-IPSec Tunnel Settings	Click the radio box to enable L2TP-IPSec tunnel setting.Select the Shared key authentication mode and enter it in the text box below Shared key; Now when the client connects to the server, it can use the IPSec encrypted VPN tunnel.

Click <save> button to save the server configuration information and <apply> to apply the setting.

L2TP status

After the VPN connection operation, click the <VPN status>label to pop up as shown in figure 5-31. Show the ID number, IP address of the opposite device, IP address of the device, and connection status automatically assigned by the established VPN tunnel.

Figure 5-31 L2TP status

5.3.3 PPTP

PPTP (Point to Point Tunneling Protocol) is a Point to Point tunnel Protocol. PPTP is a network technology which supports multi-protocol virtual private network and works on the second layer. Through the protocol, remote users can secure access to corporate networks through Microsoft Windows operating systems and other systems with point-to-point protocols.

Select <Network> and <VPN Setup> and <PP2P VPN> then appears the page as figure 5-32

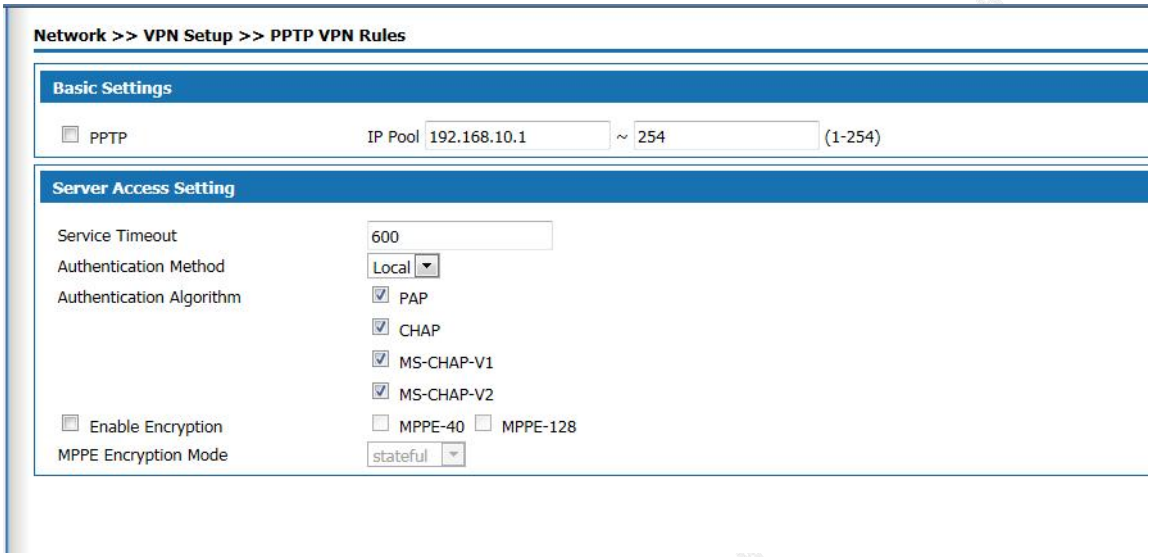


Figure 5-32 PPTP VPN setup

The basic setting description as below:

Table 5-17 pptp vpn setup

Interface items	Description
Enable PPTP	Click the box to enable PPTP
IP pool	The IP address obtained by the client after dialing the

	VPN is in the form of XX.XX.XX.XX
Service Timeout	The VPN connection is idle continuously, that is, no packet has been sent/received for longer than the set time. If the service is considered to be timeout, the VPN connection will be disconnected.
Authentication Method	Default value Local
Authentication Algorithm	PAP、CHAP、MS-CHAP-V1 and MS-CHAP-V2
Enable Encryption	Encryption can only be enabled under ms-chap -V1/V2 authentication algorithm, password length support MPPE-40 and MPPE-128; MPPE encryption mode supports stateless and stateful.

6 Voice Configuration

Voice configuration includes Quick Guide, User Config, Trunks Config, PBX Features, PBX Settings and Status Report.

6.1 Quide Guide

The quick setup module guides you to configure the product in the form of wizard. According to the steps provided, you set up the extension number, analog relay or SIP relay and exhalation routing in the setup wizard, enabling basic internal call and external call. The SIP relay needs to input specific information to the end-to-end gateway or ISP, such as IP address, port number, SIP account and SIP password.

Before configuration, click the "Quide Guide" of the page to enter the quick setting page as shown in Figure 5-1.

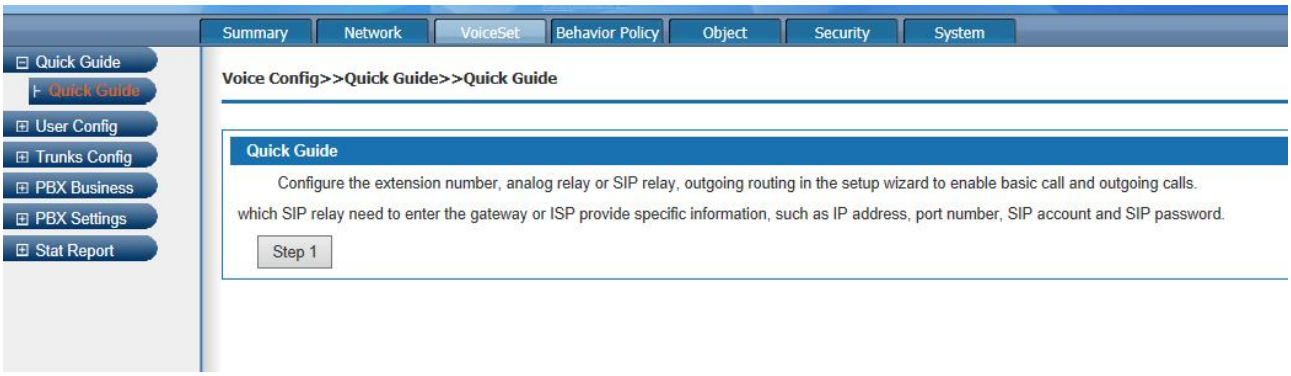


Figure 6- 1 Quick Guide

The Click<Step 1> button to pop out as the page shown in Figure 5-2, and configure extensons.

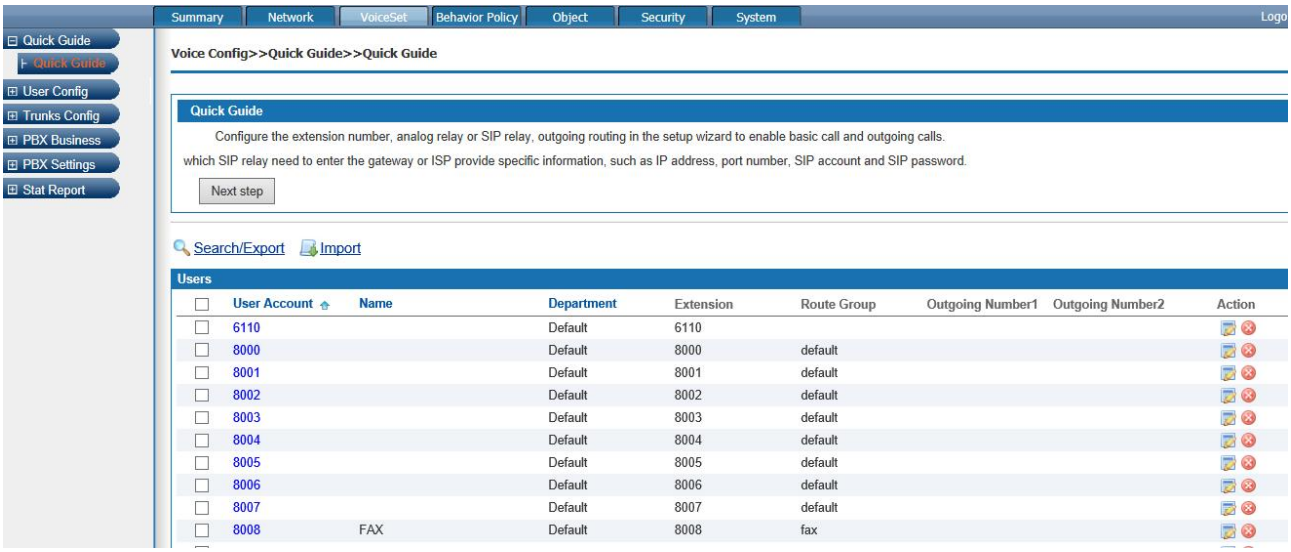


Figure 6- 2 Extesnion Settings

Click the <next step> to pop up the page shown in Figure 5-3, and configure tunks

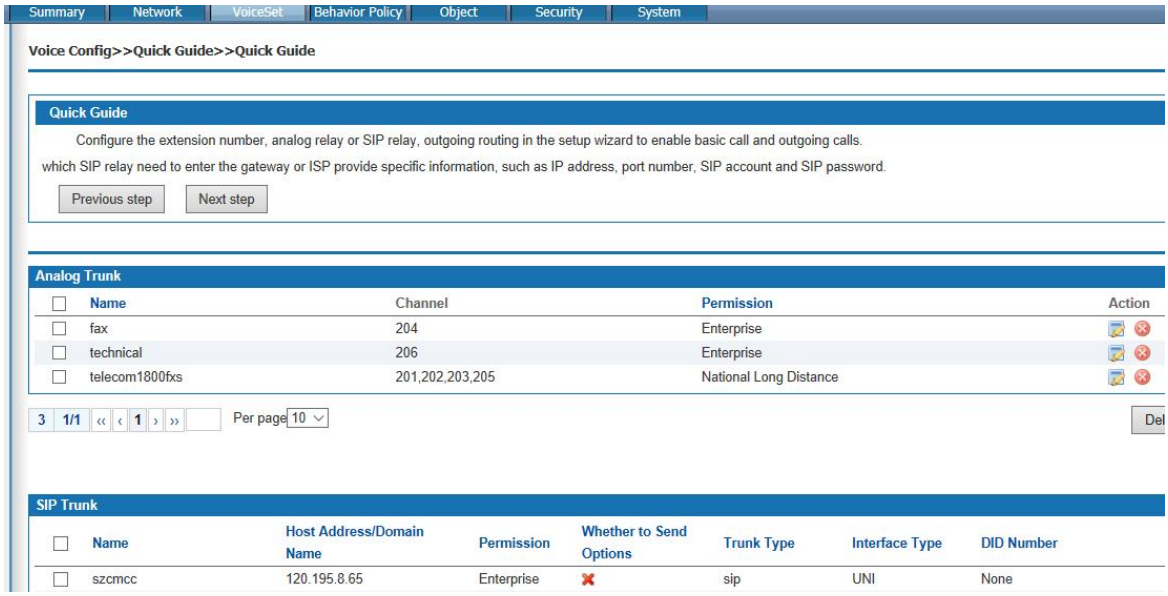


Figure 6- 3 Trunk Settings

Click the <next step> to pop up the page shown in Figure 5-4, and configure routes

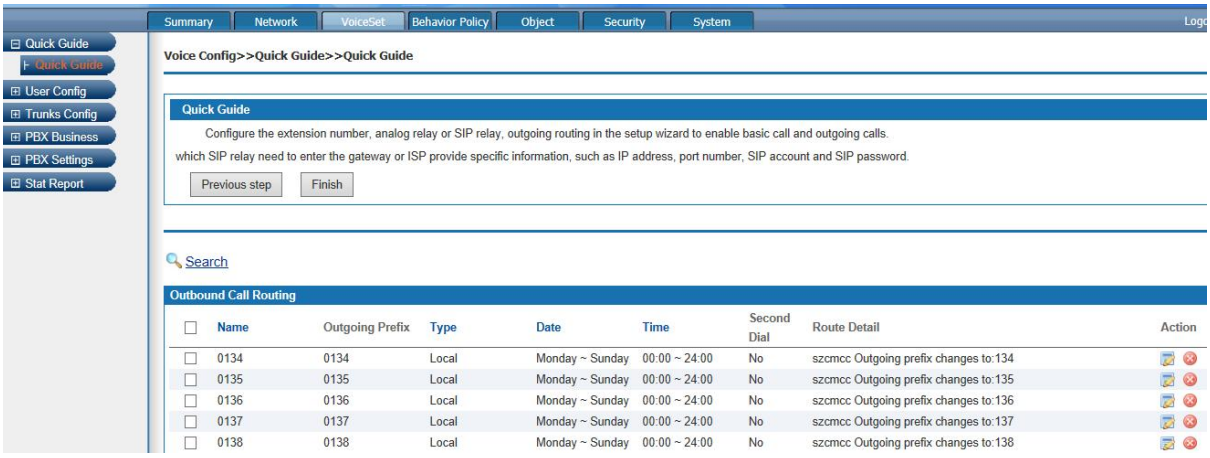


Figure 6- 4 Route Settings

Click <Finish> to finish configuration.

6.2 User Config

User Config includes User and Department

6.2.1 User

Click “Voice Config>>User Config>>User” to pop up the page shown in Figure 5-5; add user information, create the only user that the device can identify, and manage and restrict the user's behavior effectively

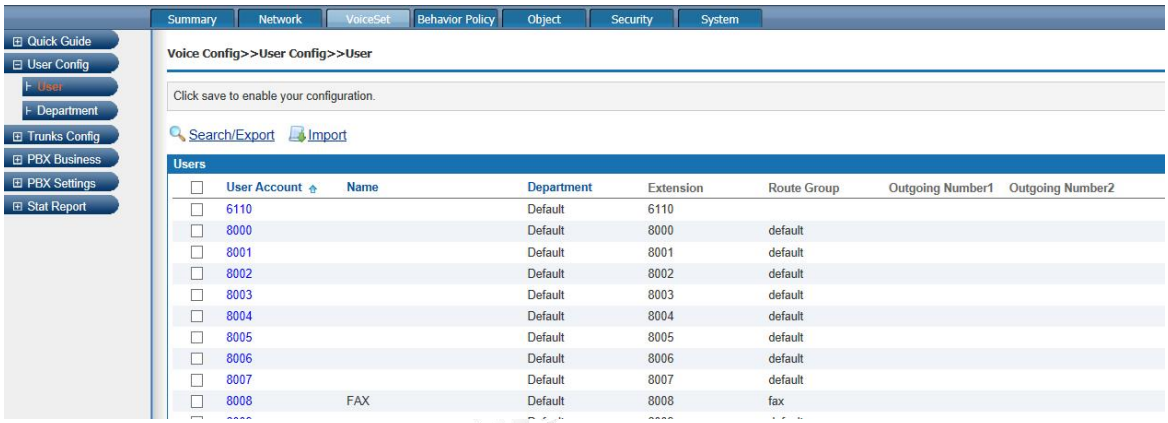


Figure6- 5 User

Add a single user

Click “Add” to pop up the page shown in Figure 6-6

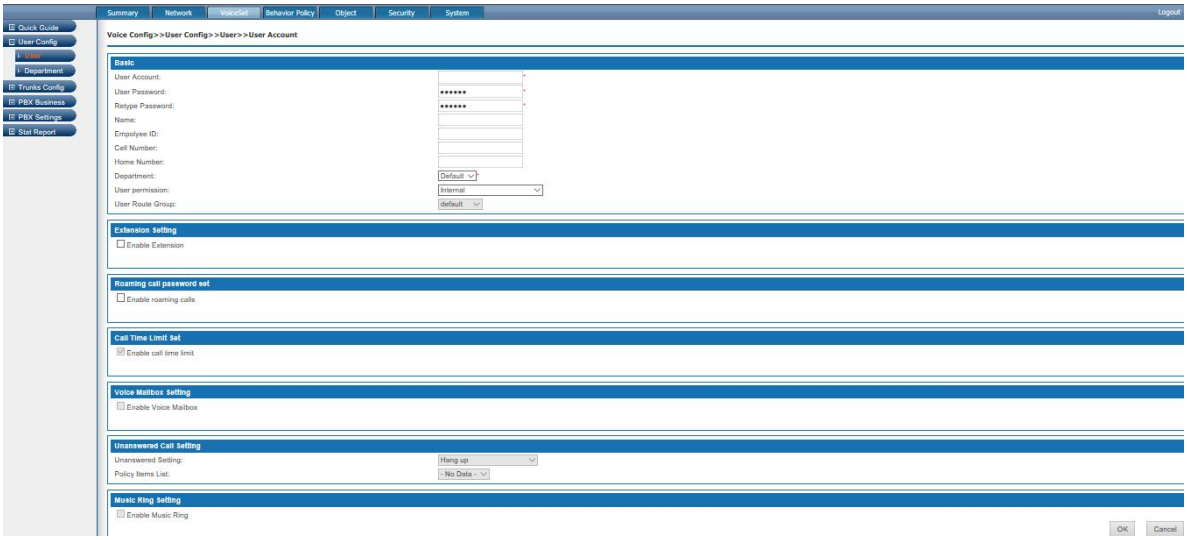


Figure6- 6 Add user information

1. Basic Settings

Basic configuration page is shown in the following figure 6-7.

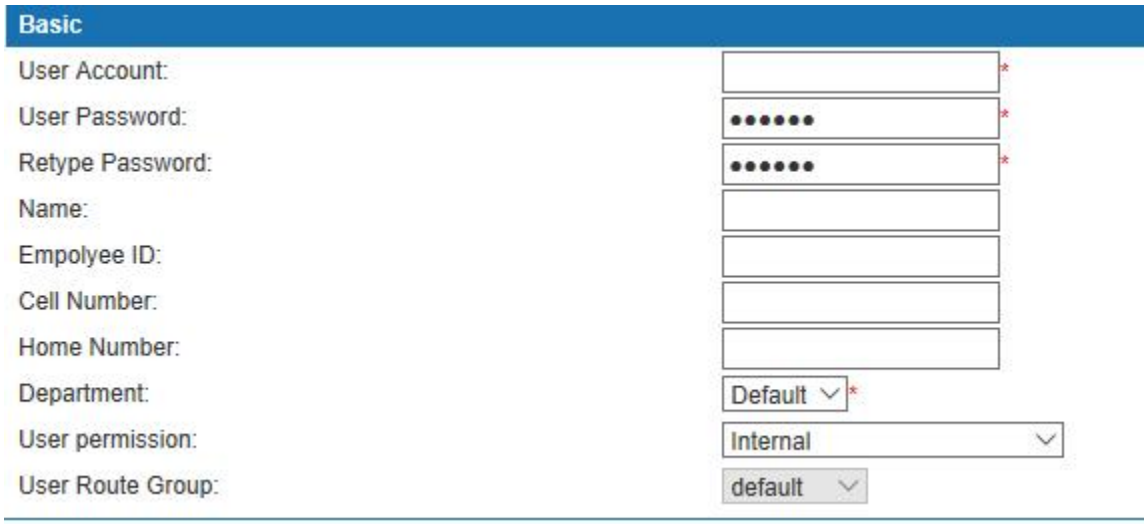


Figure6- 7User-Basic

Interface items are described as follows:

Table 6- 1 User Information – Basic

Items	Description
User Account	This is the basic information for employees. As a unique ID, it can't be modified. Statistic reports about users' status are generated in the name of this parameter. You can input digit (0-9), char (a-z A-Z) or _!@#$%^&*() with the length 1-20.
Password	Password of the user account. You can input ASSIC character with length 6-20.The default value is 111111.
Retype Password	You're required to input the password again.
Name	Input user's name.
Employee ID	Input user's Employee ID.
Cell Number	Input user's cell phone number.
Home Number	Input user's home number.
Department	Select department of the user.
Route Group	Add an extension to the selected routing group. A user can only be in one routing group. The system default routing group is "default".
VIP class	Select the VIP level of the user from the drop-down box, and the system will provide ordinary users, VIP1~VIP5, and the level will be increased successively. This option needs to turn on the VIP switch in "Voiceset >PBX setting > global setting".

2. Extension Settings

Click <Enable Extension> to enable extension settings; configuration page is shown in the following figure 6-8.

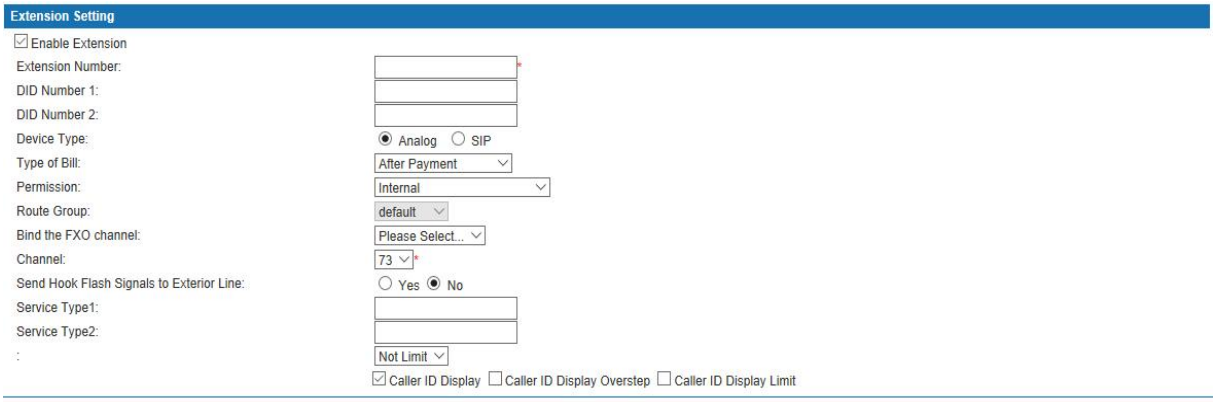


Figure6- 8Extension Settings

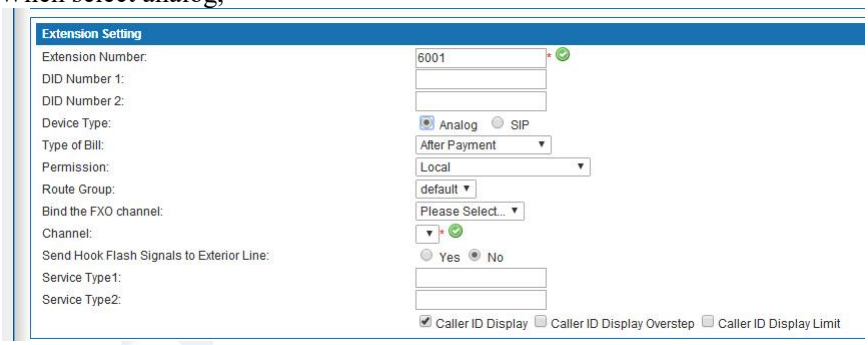
Interface items are described as follows:

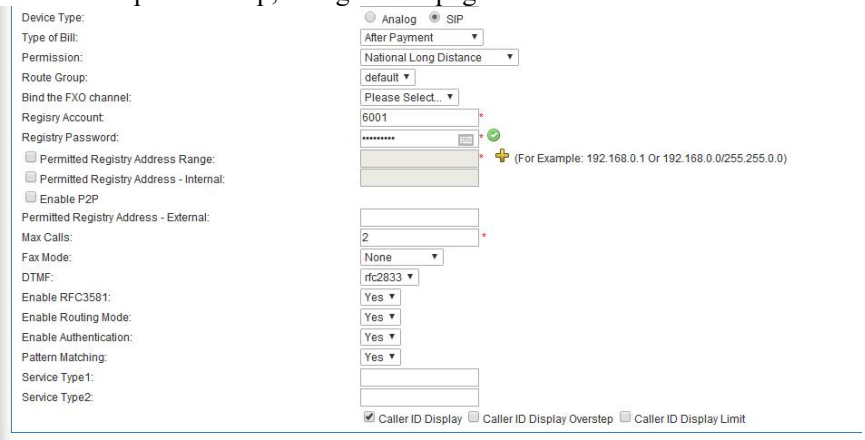
Table 6- 2 User-Extension Settings

Item	Description
Extension Number	Extension number for analog or SIP user
DID Number1/2	A DID number is a local telephone number for any particular country or city

Item	Description
Type of Bill	The selectable types include post payment, advance payment, card user pay, and default value for "post payment". (1) post payment: the post payment does not restrict the length of the call, and the bill is settled after the end of the call. (2) advance payment: the balance of the user's account is insufficient, the call can not be successfully carried out, and the balance of the query is called *203. (3) card users pay: "card users pay" on the extension to input the corresponding card number and password, in the case of adequate balance in the card, the call. When you select the card user payment type, you need to set up the card user payment mode at the same time, providing three ways: no binding, authentication, binding, authentication and binding without authentication. Do not bind but need to be authenticated: enter card number and password when make a call account to the system prompt tone. Bind and need to be authenticated: enter card number in the "card number account" text box, enter password when make a call account to the system prompt tone. Bind but no need to be authenticated: enter card number and password in the "card number account" text box, no need to enter again when make calls **Call code:** card number, call business code *201, users dial *201, enter the card number and password according to the prompt tone, such as binding, do not need to enter again, then enter the called number. **Business Code:** business code *202, users call *202, according to the tone input card number, password (as has been bound, again without input) according to sound business system, provide business change password, balance inquiries, binding (extension and number binding) and cancel binding. Related configuration: billing settings in the 6.5.1 global settings.

Item	Description
Permission	Internal Enterprise Local National Long Distance International Long Distance Device internal refers to the extensions internal the device can call to each other. Enterprise internal refers to the authority to call each other through different devices of the enterprise; The default value is "national long distance". If no international call is required, the international call permission must be turned off. Select the corresponding permissions, and the user can call out the corresponding calls. High permissions include low permissions. For example, if you choose international call, then you can make international call, domestic call, local call, enterprise call and internal call. Note: The calling permission of an extension is also limited by the calling route. For example, if the extension needs to make an international call, the permission of the extension should be "international call", and the calling route should be configured at the same time. Only when both conditions are met can the extension make an international call.
Route Group	Select route group from the drop-down box.
Bind the FXO channel	Select FXO channels.The device support analog phone, SIP phones to bind FXO channel. 1. Inbound routing: the inbound routing strategy has a higher priority than FXO channel binding. If the trunk corresponding to FXO port has set the inbound routing, it will give priority to calling according to the inbound routing; If the FXO port corresponding relay is not configured with inbound routing, but the FXO port is bound by the sub-extension, the inbound call directly to the bound sub-extension. 2. Exhalation: when the extension is exhaled by FXO port, select the FXO channel bound for exhalation. 3. If the channel number is not selected, all channels will be default.
Device Type	Select Anaglog or SIP

Item	Description
Type(Analog)	When select analog,  1) Channel:channel number needs to be specified. Select unoccupied channel from the drop-down box.Channel number needs to be the same with the FXS port. 2) Intra-office and out-office call restriction: by default, "no restriction" is adopted, and the extension can see the caller id number when there is no number display restriction service. Note: intra-office and out-office call restriction is only limited to analog phones, while sip phones are not limited. 3) Send Hook Flash Signals to Exterior Line: Select yes, it can send hook flash signal to exterior line; no, it can not. Default no.

Item	Description
Type(SIP)	If select the phone to sip,configuration page as follow:  (1) Register account/password :Sip registered authentication user account and password can be different with the unified account.The registry password should be complicated which is not easy to guess.8-20 characters long,and must contain both upper and lower letters and number.Such as LjlA08u96Q. The default registration password is Aa111111 (2) Permitted Registry Address Range:add registration address limit, you can add more than one registration address. Can add most 5 addresses include subnet mask. (3) IP address: selecting a SIP phone requires assigning an IP address. If you use static or external IP, you need to fill in the specified IP; Without an IP address, the system dynamically assigns an IP address. (4) Enable P2P: enable P2P protocol, exchange media stream directly when SIP phone calls, no longer through the device.It can improve audio and video quality, reduce the pressure of the server. The master SIP client is called and the P2P is started simultaneously. Note: voice calls using P2P cannot be recorded. (5) Max call:set the maximum number of simultaneous calls for a single SIP phone, default value 2. (6) Fax mode: NONE,T.30 by pass,T.38. Default value none. T.30 by pass is telephone line fax and IP point to point transmission.T.38 is used for IP network transmission, that is IP FAX. When none, it doesn't support fax. (7)DTMF mode: Set the sending mode of DTMF and to configure the sending dial way of the phone.There are Info, inband, rfc2833 three types, default Type "rfc2833". (8)Enable RFC3681:select "yes" to enable the rport mechanism, which requires SIP Terminal support, default value is "yes". (9)(Enable Routing Mode:The default value is "yes",enabling the routing mode. (10)Enable Authentication: Select yes to enable authentication service to improve the security of voice connection (11) Port matching: select "yes" to enable port matching. The default value is"YES" Yes."

3. Call Time Limit Set

Click <Enable Call Time Limit Set> to enable settings; configuration page is shown in the following figure 6-9.

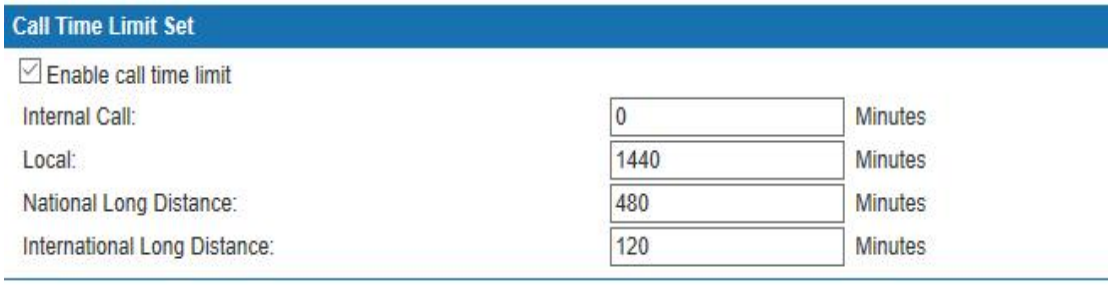


Figure6- 9 Call Time Limit Set

Default valuses as shown below ("0" means no limitation):

- Internale call: 0 minutes
- Local: 1440 minutes
- National Long Distance: 480 minutes
- International Long Distance: 120 minutes

4. Voice Mailbox Setting

Voice mailbox settings page is shown in the following figure 6-10

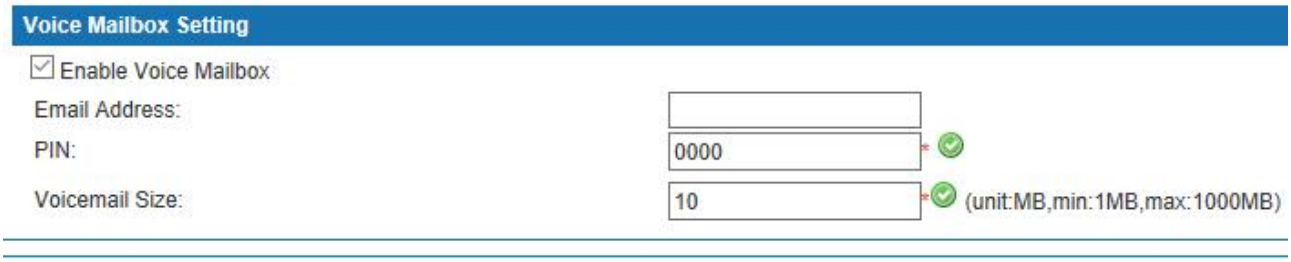


Figure 6- 10 Voice Mailbox Setting

Interface items are described as follows:

Table 6- 3 User- Voice Mailbox Setting

Items	Description
Enable Voice Mailbox	Select the single-box to enable voice mailbox.
Email Address	The email address of receiving the voice message should be filled in here.
PIN	Using the password to access voice mailbox.Default value is 0000.
Voicemail Size	Maximum size of voice messages (by MB, 1MB in minimum, and 1000MB in maximum)

Note：

（1）Local listen to voice message: listen to the voice message on local extension, dial feature code *97.

（2）Remote listen to voice message: listen to the voice message on remote extension, dial feature code *98 and operate according to the prompt tone

（3）Before setting up voice mail box, you need to set up the SMTP settings, please refer the PBX settings-SMTP settings.

5. Unanswered Call Setting

Unanswered Call Setting is shown in the following figure 6-11

Figure 6- 11 Unanswered Call Setting

Interface items are described as follows:

Table 6- 4 User-Unswered Call Setting

Items	Description
Unanswered Setting	Automatic Transfer to IVR, Voicemail,extension number or Hang up; default “Hang up”
Policy Itmes List	Default “No Data”

6. Music Ring Setting

Click to enable Music Ring

Batch import user data

It is recommended that users export user data in the Excel format. Information should include user name, name, employee ID, cell number and department.

Click the <Import> button in and go to interface as shown in the following figure.

Figure 6- 12 Import User Data

Click the <Browser> button and a pop-up dialog appears as shown in the following figure.

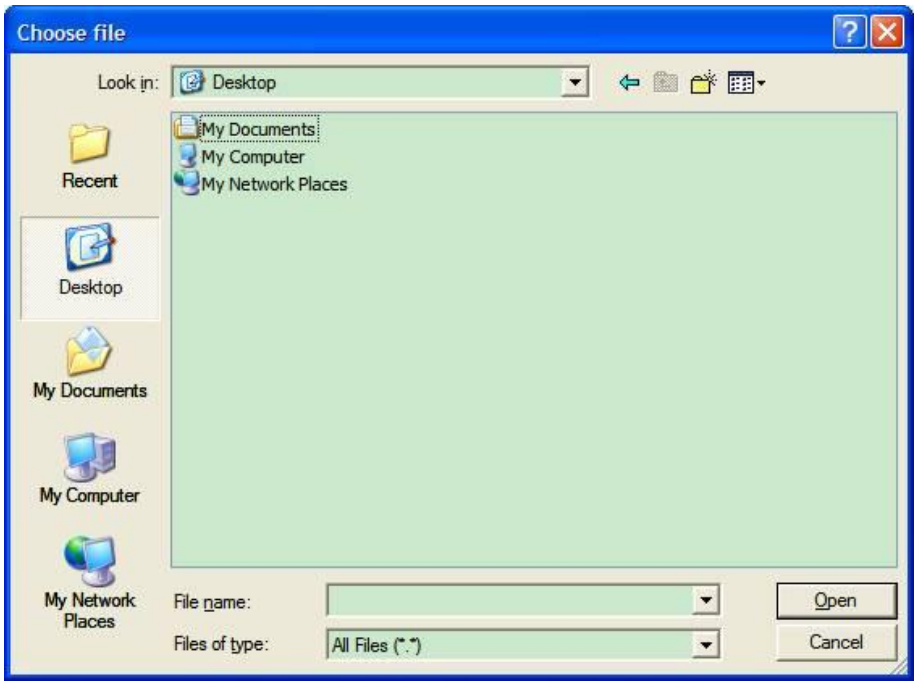


Figure 6- 13 Select a File

Users will see the following figure after successfully importing data. Click the <Reload> button to make the data effective.

Figure6- 14 Import User Data Successfully

Search/Export User Data

Export User Data

Click the <Export> button in the search/export page, a pop-up dialog appears as shown in the following figure.

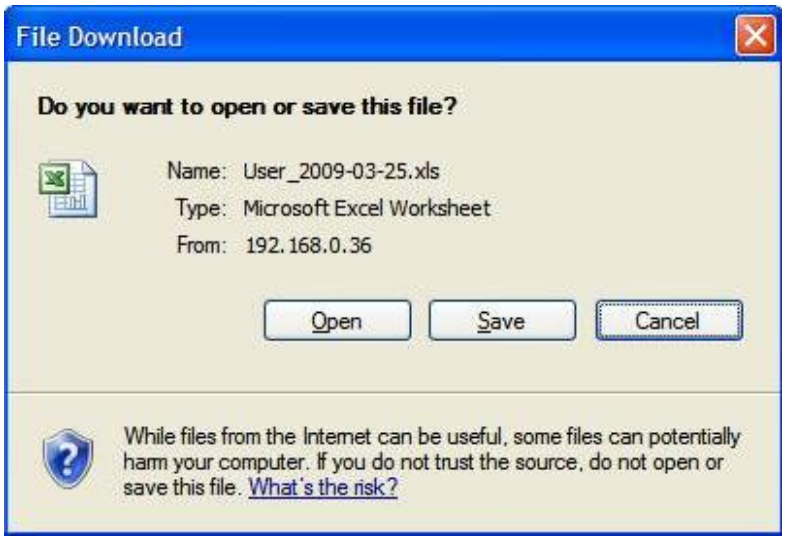


Figure 6- 15 File Download

Click <Save> button to save user data to local computer.

Batch Delete Users

Select the check box of user name, click" Delete" button to delete selected users

Search Users

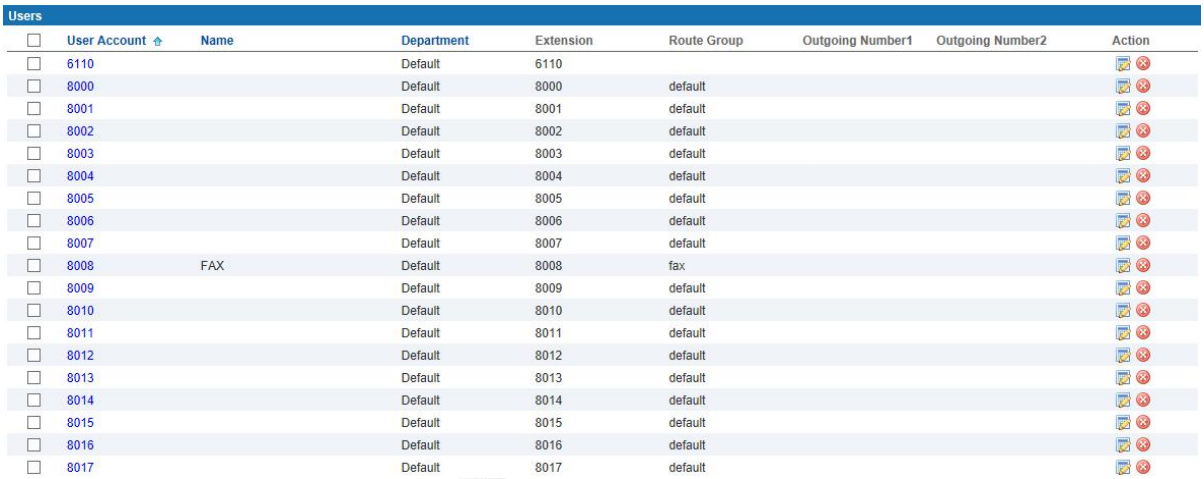
Click the <Search> button in the search/export page to open the page as shown in the following figure.

Figure 6- 16 Search Users

Users can search the user by username, name, extension and department.

Delete/Edit User Data

Click "delete" and "edit" to delete and edit users as shown below.



Users

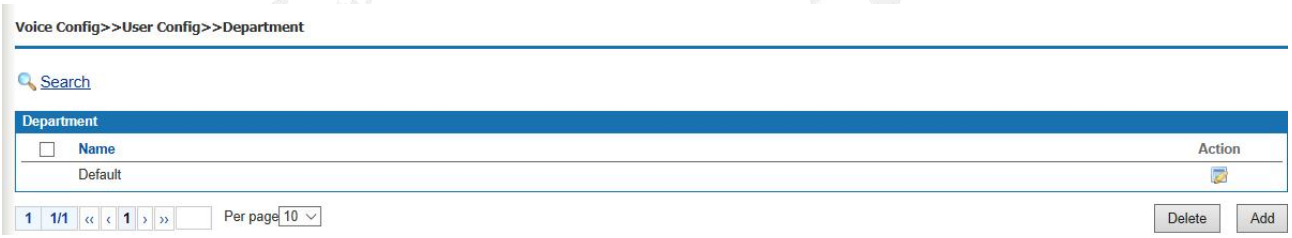
User Account	Name	Department	Extension	Route Group	Outgoing Number1	Outgoing Number2	Action
6110		Default	6110				
8000		Default	8000	default			
8001		Default	8001	default			
8002		Default	8002	default			
8003		Default	8003	default			
8004		Default	8004	default			
8005		Default	8005	default			
8006		Default	8006	default			
8007		Default	8007	default			
8008	FAX	Default	8008	fax			
8009		Default	8009	default			
8010		Default	8010	default			
8011		Default	8011	default			
8012		Default	8012	default			
8013		Default	8013	default			
8014		Default	8014	default			
8015		Default	8015	default			
8016		Default	8016	default			
8017		Default	8017	default			

Figure6- 17 Delete/Edit User Data

6.2.2 Department

Users are classified according to different user groups to facilitate the management and monitoring of user information. When the user group is defined, when the user is added, the user's department is selected from the user group drop-down box.

Click “Voice Config>>User Config>>Department” to pop up figure 5-18 below. There’s a default department “default”; it can’t be edited and deleted.



Voice Config>>User Config>>Department

Search

Department

Name	Action
Default	

1 1/1 « ‹ 1 › » Per page 10

Delete Add

Figure 6- 18 Department

1. Add a department

Click <Add> to pop up the figure 6-19.

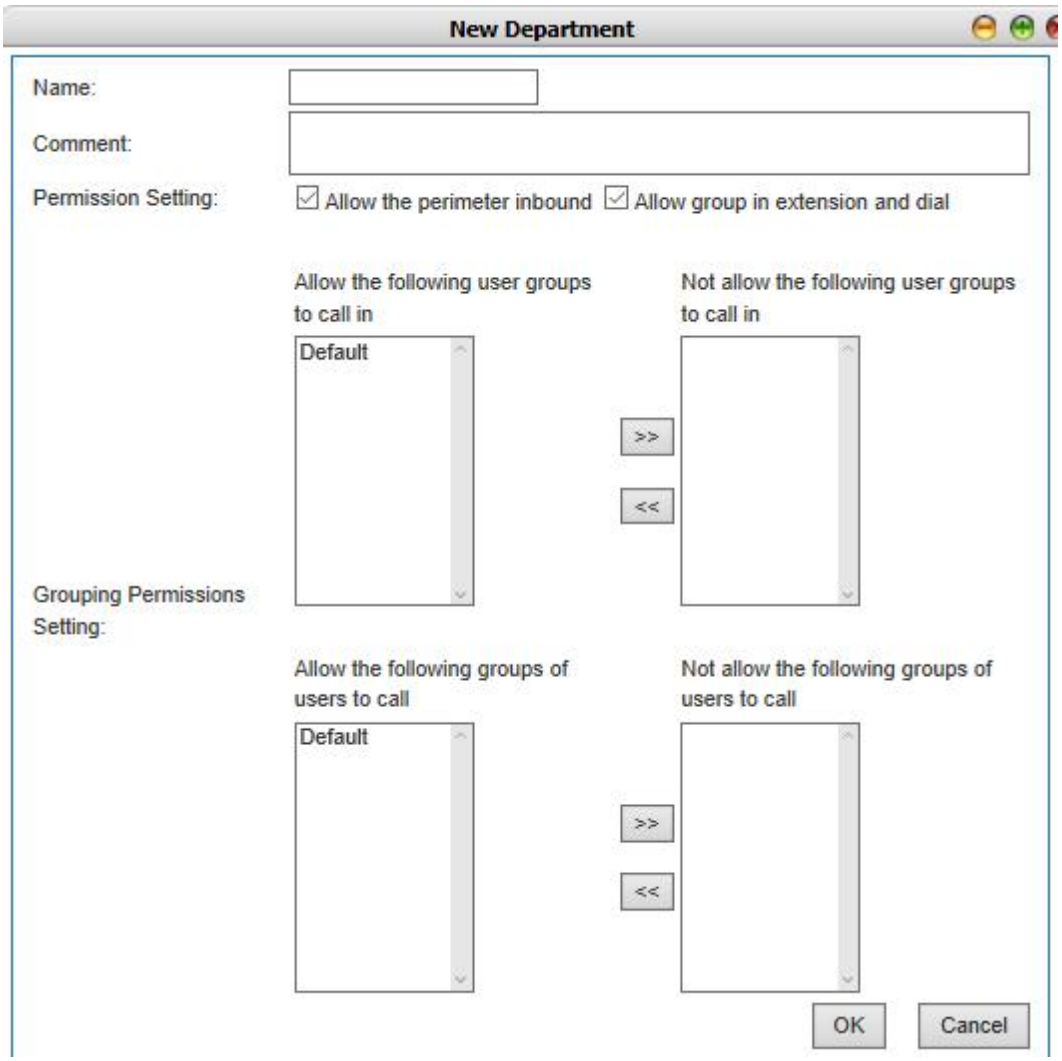


Figure 6- 19 Add a department

Interface items are described as follows:

Table 6- 5 Add a department

Item	Description
Name	Define the name of department, such as the marketing department.
Permission Setting	Set the subscriber group's dialing permissions. Select "allow the outside line to call the radio box, the user group can listen to the outside calls, otherwise you can only listen to the internal calls;" Select the "allow group to dial each other", the members of the user group can call each other, otherwise the members of the group can not dial each other.
Grouping Permissions Setting	Choose whether the user group and the other user groups can call each other.

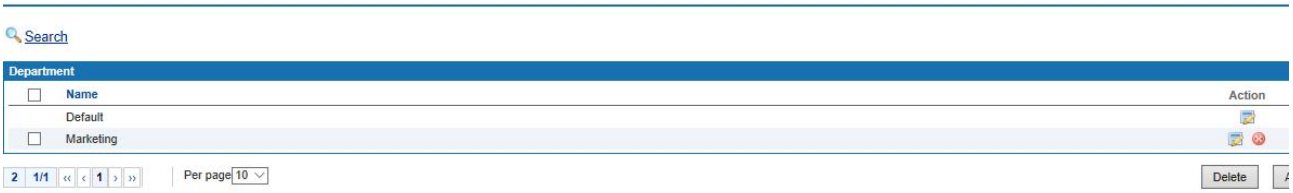


Figure 6-20 Department List

6.3 Trunks Config

Trunks Config includes trunks config, SIP registry, inbound call, outbound call, Number transfer, dial rule, DNIS and CNIS.

6.3.1 Trunks Config

An operator system or an upper device that is registered to the upper level by trunks. The device's VoIP system, as a terminal, is registered remotely to the upper softswitch. It can make the SIP terminal of lower level manage the domestic or international long-distance calls through the successful registered operators, or connect with the upper level system, so as to realize the voice interworking between the two platforms.

Select “Voice Config>>Trunks Config>>Trunk Config” to pop the Figure 6-21 below.

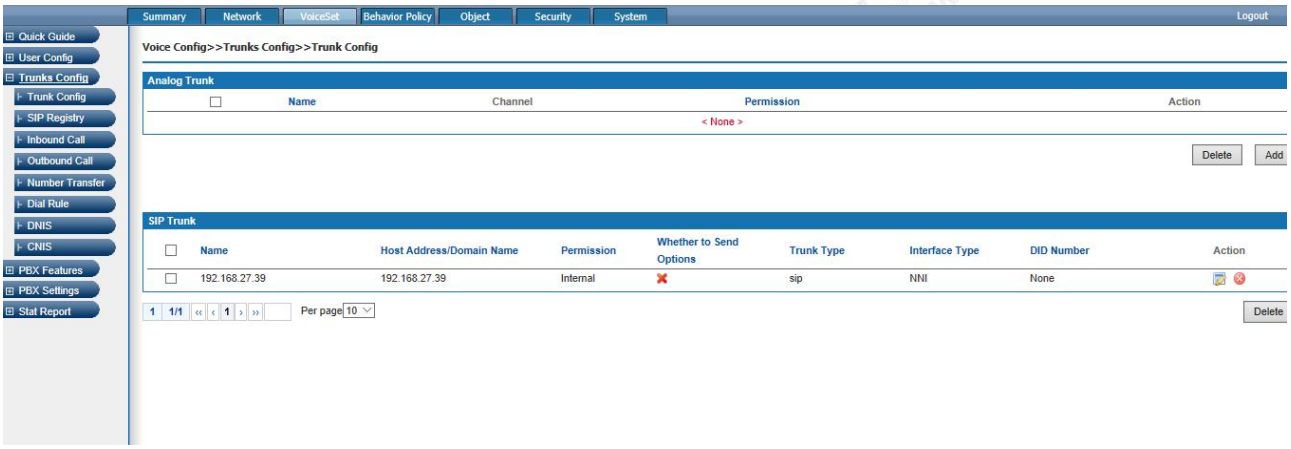


Figure 6-21 Trunk Setting

Analog Trunk

Add analog trunk

Click <Add> button to open the page as shown in the following figure.

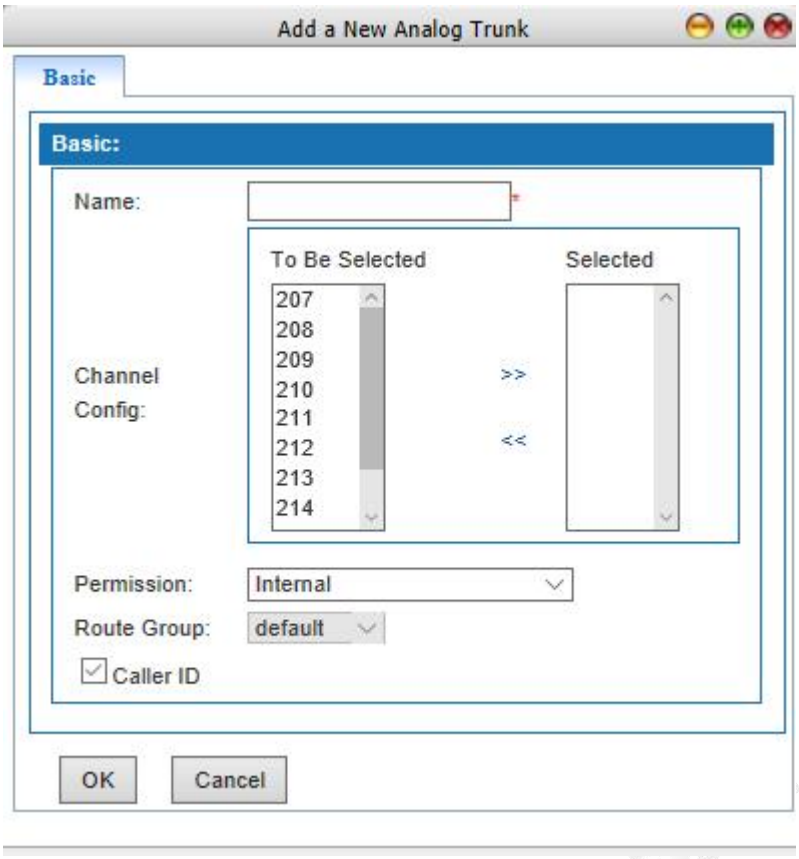


Figure 6- 22 Add Analog Trunk

Interface items are described as follows:

Table 6- 6 Add analog trunk – Basic Setting

Item	Description
Name	Name of this analog trunk
Channel Config	The channel number of the FXO port connected by the analog relay line. The option to be selected with the mouse, the continuous channel can be dragged by the mouse, multiple channels can be pressed to hold the CTRL keyboard with the mouse choice. Click "> >" after selection, and click "<< " after selecting the list.
Permission	Authority of this trunk
Routes Group	Select route group in the drop-down box, default route group is "Default"
Caller ID	Select this option to display calling number

SIP Trunk

Add SIP Trunk

Click <Add> button to open the page as shown in the following figure.

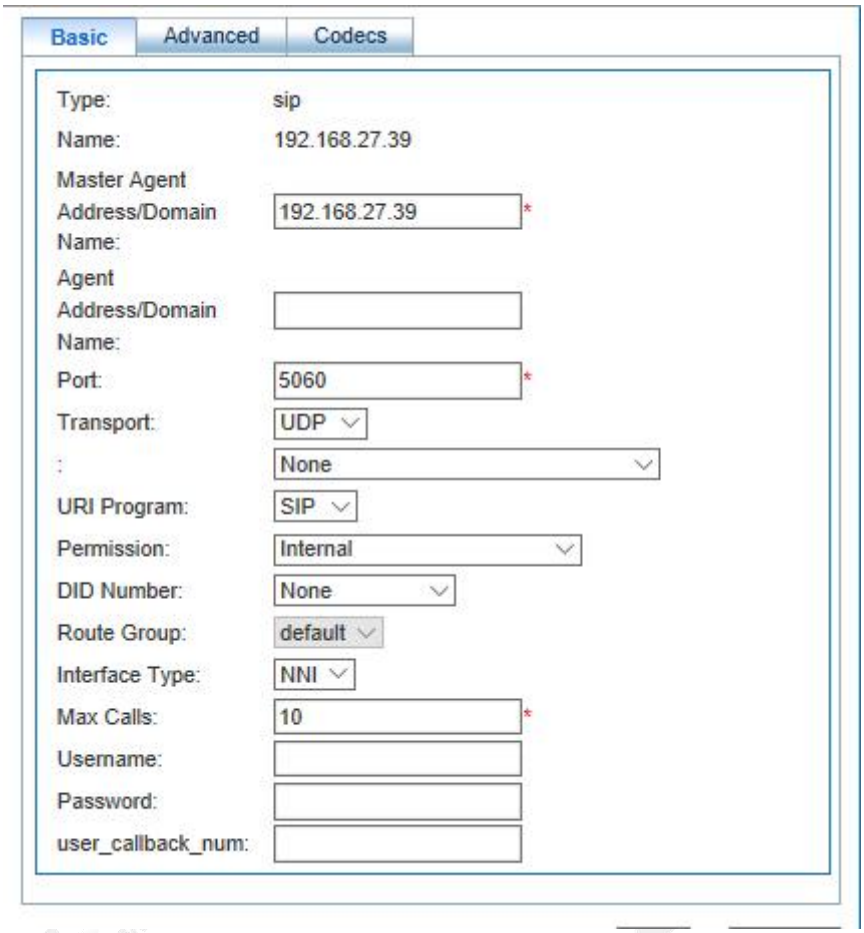


Figure 6- 23Add SIP Trunk – Basic Setting

1. Basic

Interface items are described as follows:

Table 6- 7 Add SIP Trunk - Basic

Item	Description
Type	Select SIP tunk type
Name	Name of this SIP trunk
Master Agent Address /Domain Name	Domain name or IP address of opposite terminal equipment
Address/Domain Name	IP address of opposite terminal equipment
Port	Port of opposite terminal equipment
Transport	TCP, UDP,which must be the same with opposite terminal equipment
URI Program	Option: SIP, TEL default value SIP
Permission	Authority of this trunk: Internal,Enterprise,Local,National long distance,International Long distance
DID Number	Options: None, DID Number 1, DID Number 2, default select “None”.It can be optional DID number 1.

Item	Description
Route Group	Select a route group
Interface Type	NNI or UNI.UNI is the user side interface and NNI is the network side interface. If selecting NNI,it can choose to fill in the user name and password.If not filled ,use IP authentication; NNI docking, IP PBX A calls IP PBX B through NNI.The caller number of A can be the same with any one number of B. Select UNI user to register, if the calling number transfer mode has been selected,the calling number of the extension will be taken out with a custom set number, if the radio box is not selected, the caller number of the extension will follows the number which is the register number in <PBX Features><SIP Registry>
Max Calls	Permitted maximum calls of this SIP trunk.Fill in the maximum number of simultaneous calls allowed on the relay, the maximum number is 32768, if more than this number of calls the calls will be discarded, please fill in according to the actual demand, the default value is "10".
Username	Input username which provided by opposite
Password	Input password which provided by opposite

2.Advanced setting

Click < advanced> it then pops out the page as 6-24a/b

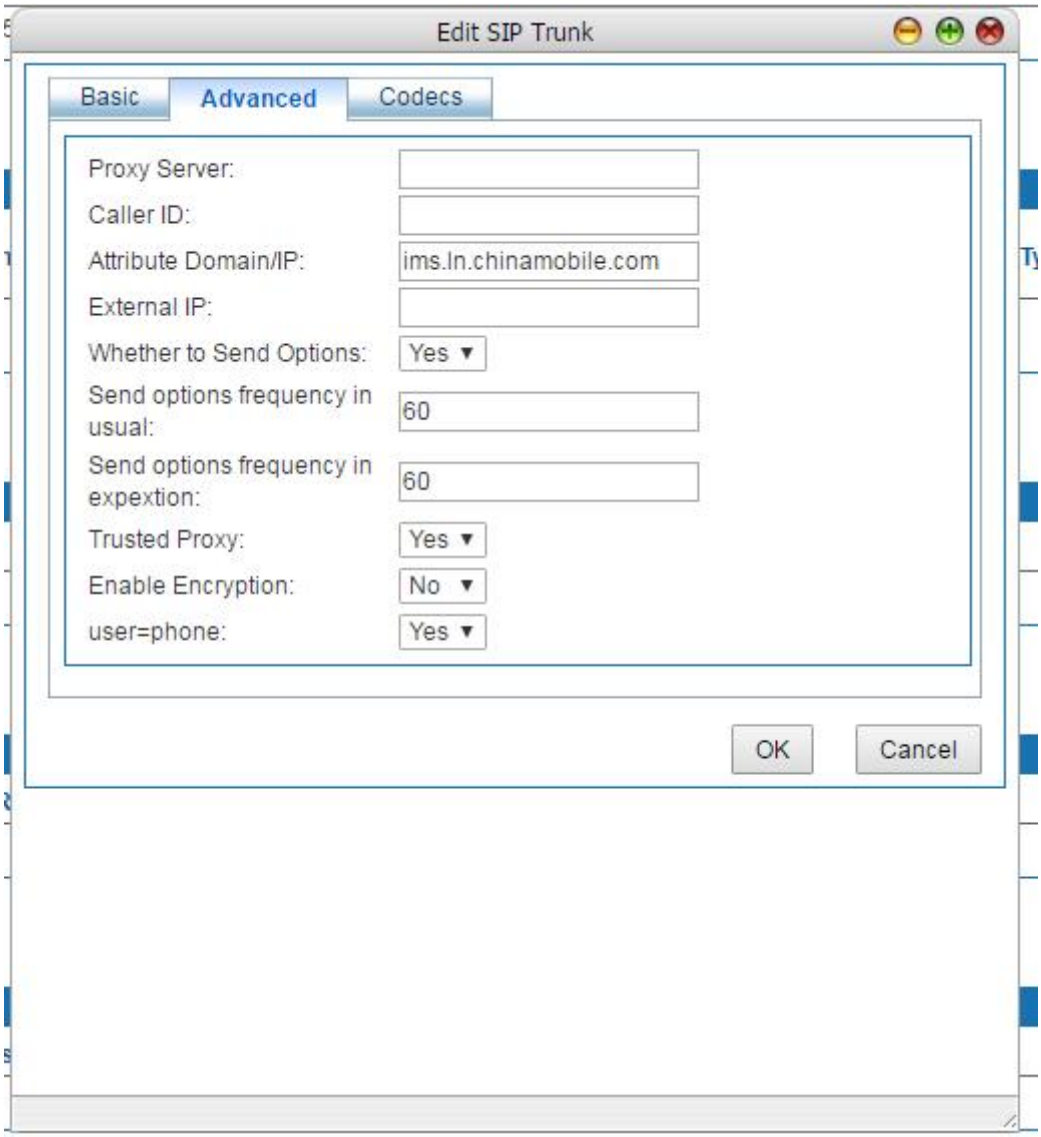


Figure 6-24a Newly added SIP advanced setting(used for interface type UNI side)

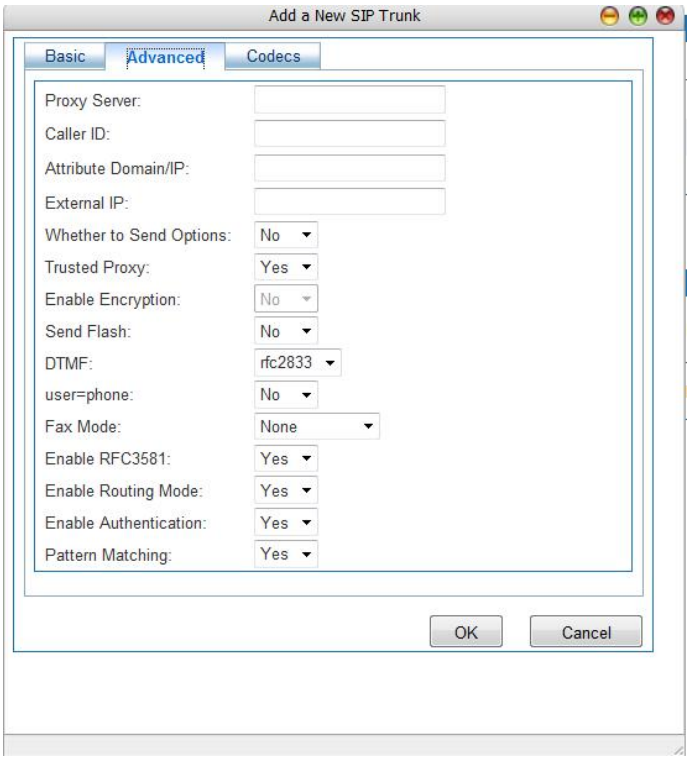


Figure 6-24b Newly-added SIP advanced setting (used for interface type NNI side)

Interface items description as below:

Name	Function instruction
Proxy Server	When you need to connect to the registration server through the proxy, fill in the proxy server IP
Caller ID	All incoming calls from this relay's calls number display
Attribute Domain/IP	Fill in the domain name or IP of the home network.When it is IMS relay register,it must be filled in.
External IP	The external IP address
Whether to Send Options	Select whether to send options. To select "yes", you need to fill in the following two items. Send "options" to inquire each other's ability, and the default value is "no".
Send options frequency in usual	Set the frequency of normal sending options within a range of over 30s, and the default value is "60s".
Send options frequency in expection	Set the frequency of abnormal transmission options, over the range of 10s, and the default value is "60s".

Trusted Proxy:	Whether to open a trusted agent. Select "yes", and when the direct route to the destination is interrupted, it can be transferred by another proxy server of the device.The default value is “yes”
Enable Encryption	Select to enable encryption or not.Default value no
Send the beat fork message	Select “yes”,to send the beat fork message to the opposite;no,not send. Default “no”
DTMF	Set the sending mode of DTMF signal, the options are rfc2833, inband, info.The default is rfc2833
User=phone	When the URI scheme is SIP, this parameter determines the form of the user name, with the default value "no". Select "yes" and the user name is in the form phone@host, such as Sip: 81091143@61.142.197.38 sip / 2.0 User = phone. Select "no", the user name is in the form of user@host, such as: superman@ims.js.chinamobile.com
Fax mode	None t.30 by pass or T.38
Enable RFC3681	Default value “yes”
Enable Routing Mode	Default value “yes”
Enable Authentication	Default value “yes”
Pattern Matching	Default value “yes”

2. Codec

Click <Add> button to open the page as shown in the following figure.

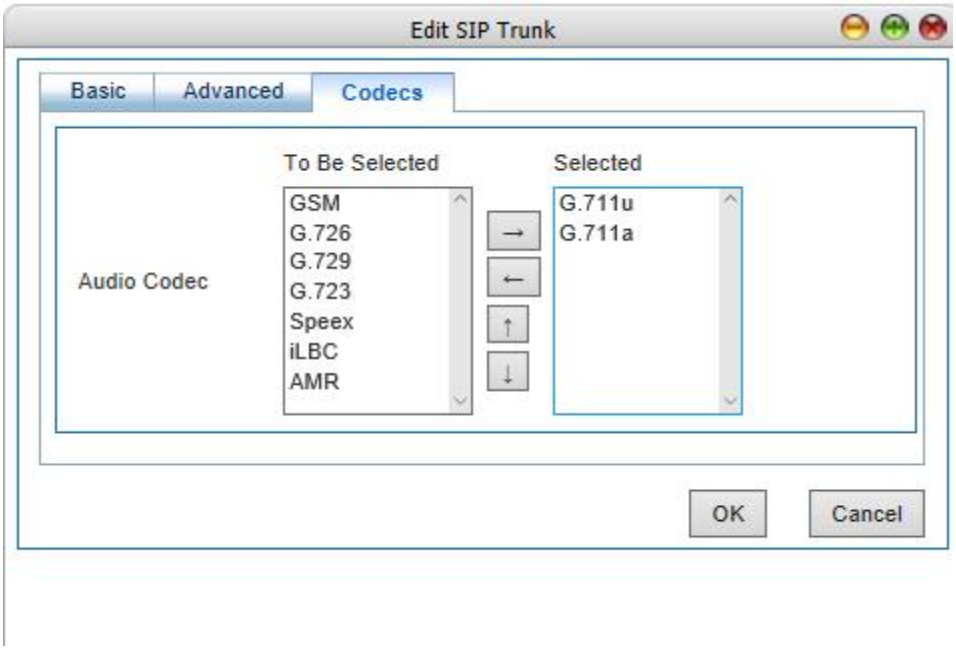


Figure 6- 25 Add SIP Trunk -Codec

Codec: GSM, G.711U, G.711A, G.723, G.726, G.729, Speex, Ilbc and AMR.

PRI trunk

Add a PRI trunk

PCM should be enabled before setting. Parameters should be agreed with the opposite side. Generally, the default value should be kept.Click the <add>button in the PRI trunk area and the page pops up as figure 6-29

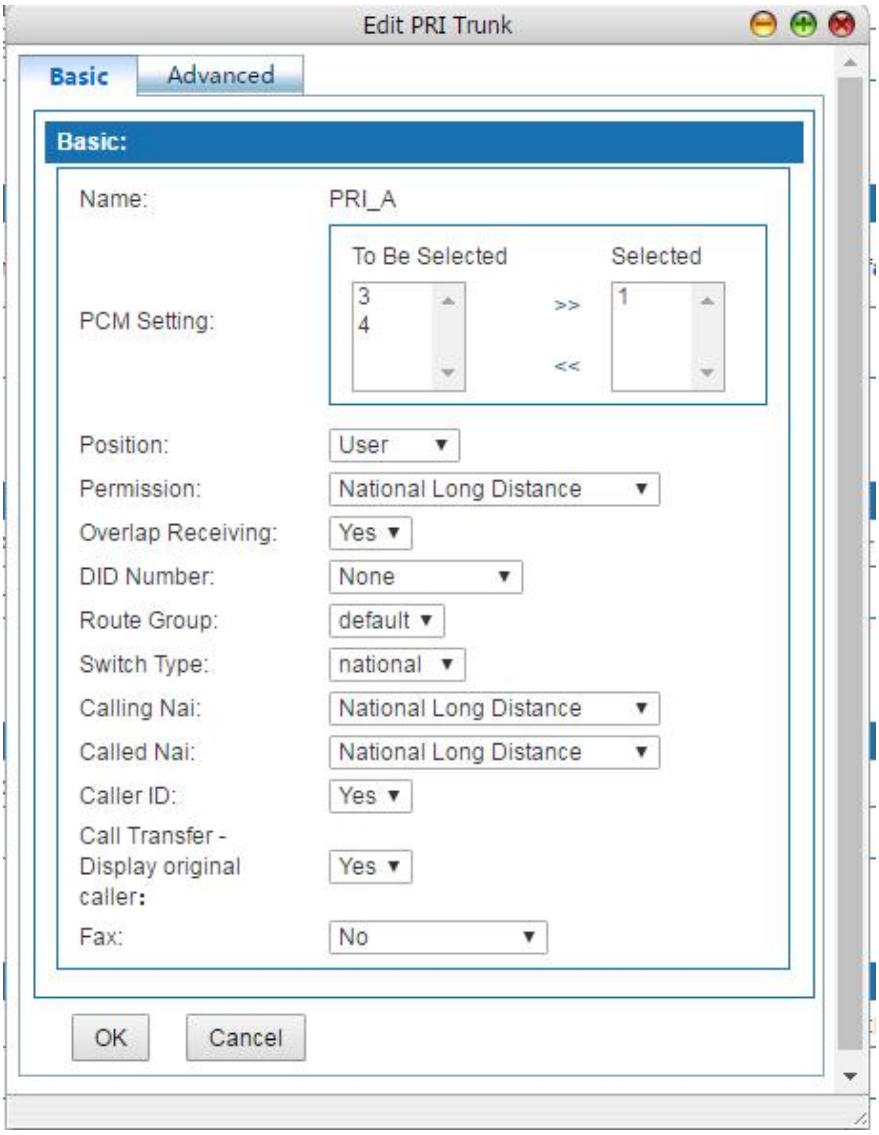


Figure 6-26 PRI TRUNK setting page

The basic setting is described as following:

Items	Description
Name	Set the PRI trunk name. In a configuration item such as routing that references the PRI relay name.
PCM setting	Add the enabled E1/T1 to the group. For details of enabling E1/T1, see "voiceset > PBX settings>PCM Settings".
Position	Optional network or user, this parameter must be inconsistent with the opposite side, default value "network side".If the opposite side is network side then the device side is user side.In general, PSTN or the superior bureau is on the network side, and this device

	is set on the user side.If a subordinate PBX is brought down, the device is on the network side and the subordinate PBX is on the user side.
Permission	Set the permission of the trunk, the options are internal,enterprise,local,national long distance and international long distance.Default value is internal
Overlap receiving	Select "yes", and the caller initiates the call by overlapping sending mode. Select "no" and the caller initiates the call as a whole. The default value is "yes".If the other party only provides the whole transmission, you can choose "no" to save DSP resources.
DID Number	Selects the number displayed in the exit of the sub-bureau, and the default value is "none". Generally, "DID number 1" is selected.
Route Group	The left button in the drop-down box selects the routing group to which it belong, and the default is "default" routing group
Switch Type	Set the switch type of PRI trunk and the default value is national. Provide the several types: National : National ISDN type2 (common in the US) ni1: National ISDN type 1 dms100: Nortel DMS100 4ess: AT&T 4ESS 5ess: Lucent 5ESS euroisdn: EuroISDN qsig: Minimalistic protocol to build a "network" with two or more PBX of different vendors
Calling Nai	Select the properties of the caller, provided by the ISP.Default value is national long distance.Including domestic long distance, international long distance, local , special number and unknown 5 options,
Called Nai	Select the properties of the called person, provided by the ISP.Default value is national long distance.Including domestic long distance, international long distance, local, special number and unknown 5 options.

Caller ID	Select "yes" to enable caller id on the relay. Select no to turn off the caller id on the relay.The default value is "yes".
Call Transfer - Display original caller	Select yes,the calls through PRI trunk will display the caller number,select no it will not display.The default value is yes.
Fax	Select "yes" to enable faxes on the relay. Select no to close the fax on the relay. The default value is "yes".

Advanced setting

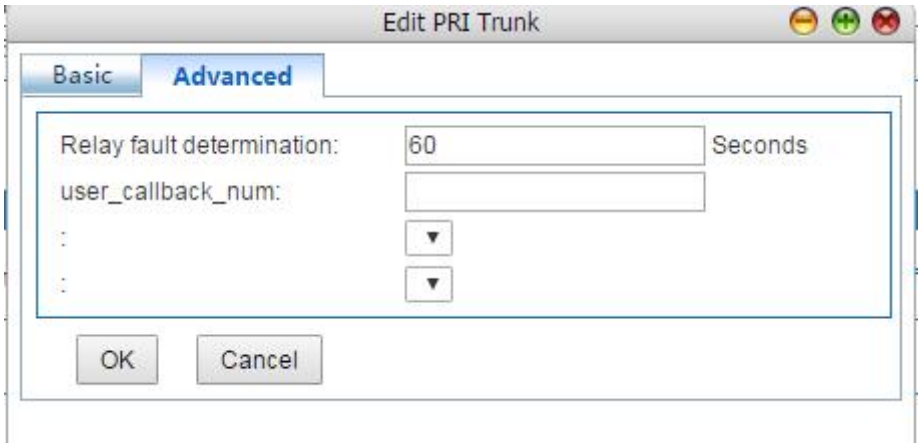


Figure 6-27 Advanced setting of PRI trunk

Advanced setting items description as following

Table 6-8 Advanced setting description

ITEMS	Description
Relay fault determination	When the relay fault duration reaches the set value, the fault message will be sent to the corresponding incoming relay. After the recovery of the relay fault, when the normal operation reaches the value, the corresponding relay service will be informed to start.
Relay on busy processing	Hang up directly or send busy signal
Receive the alerting message	Options: send back the ringtone or not send back the ringtone

Modify/delete PRI Trunk

In the "PRI trunk" list, click a certain PRI trunk that you want to modify, click the button, and modify the setup information of designated PRI relay in the popup interface;

Select a PRI relay you wish to remove from the PRI relay list, click the button, and confirm that the designated PRI relay can be removed.

Add R2 trunk

Before setting, PCM needs to be enabled, and the parameters need to be consistent with the opposite end. Select "CAS" for the frame, and generally keep the default values for other parameters. Click < add > button in R2 relay bar, and the page shown in figure 6-31will pop up.

The interface items as following:

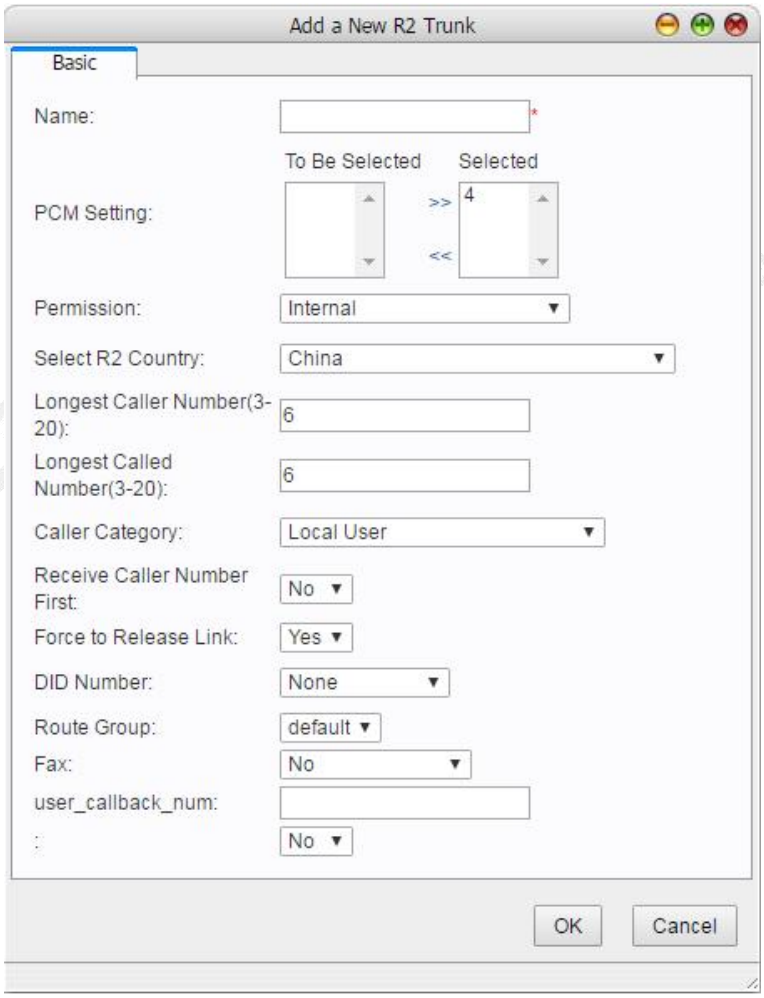


Diagram 6-10 New adding R2 trunk

Items	Function description
Name	Set R2 relay name, which is referenced in configuration items such as inbound and outbound route.
Group	Relay group number, use the default value.

Items	Function description
PCM setting	Select the enabled PCM circuit. See " Voice set > PBX Settings >PCM Settings" for details on enabling PCM.
Permission	Set the permission of the trunk,options are internal device,enterprise,local call,national long distance,international long distance.
R2 country selection	Select the country standard ,different country has different standard,default value is “China”
Longest called number	Set the longest bits of called number,the range 3-20 bits ,default value is 6.
Longest caller number	Set the longest bits of caller number,the range 3-20 bits ,default value is 6.
Caller category	Select the caller type,provided by ISP.The system provides five categories of local users, priority local users, international users, priority international users and collect calls. The default value is "local users".
Accept the calling number first	Select "yes" to accept the calling number first; Select no to accept the called number first, the default value is no.
Forced release chain	Select "yes" to force release; Select no to not force release, default yes.
Outgoing number	Select exit display number, default value "none", generally choose "DID number 1".
Route group	The left key in the drop-down box selects the routing group to which it belongs. The default is "default".
Fax	Select yes to enable the fax function on the relay; Select no to turn off the fax function on this relay. The default value is no.

Modify/delete R2 trunk

In the "R2 trunk" list, click a R2 trunk to be modified and click the button to modify the setting information of the specified R2 relay in the pop-up interface;

Select an R2 trunk to be deleted in the "R2 trunk" list and click the button to delete the specified R2 trunk.

SS7 Trunk

Add a SS7 trunk

PCM needs to be enabled before setting, and the parameters need to be agreed with the opposite side. Generally, the default value should be maintained. Click the < add > button in the SS7 relay bar, and the new SS7 relay window will pop up as shown in figure 6-28.

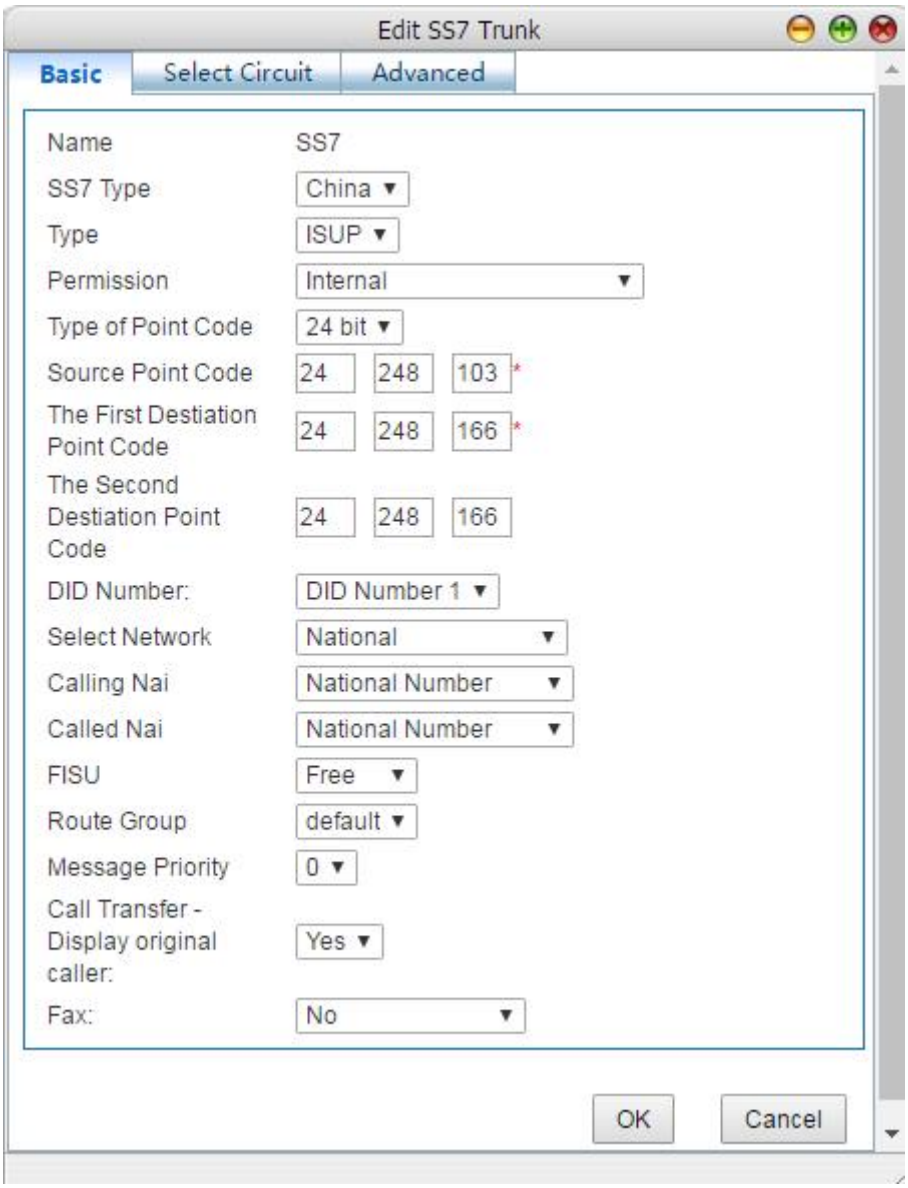


Figure 6-28 SS7 trunk-basic setting

Table 6- 9 New SS7 Relay - Basic Settings

Name	Function Description
Name	Custom relay name。
SS7 Type	Select the standard of SS7，Available options are: China, ITU, ANSI, default value "China"。ANSI（American National Standards，American National Standard），The countries used are North America countries such as the United States and Canada； ITU（International Telecommunications Union，International standard）。
Type	Currently only supports ISUP signaling.。
Permission	Set the permissions of the relay. The options are internal to the device, internal to the enterprise, local calls, national long distance, and international long distance. The default value is “internal”。

Name	Function Description
Type of Point Code	Select "14 bit" as the signaling point coding type for the international NO.7 signaling network；Select "24" bit, which is the signaling point coding type of NO.7 signaling network in China. The default value is "14 bits"。
Source Point Code	The source point code represents the information source signaling point code, and the signaling point code of the product is the source point code.。 OPC：The source point code is provided by the operator and the format is generally：xxx-xxx-xxx，Corresponding to the above figure OPC1-OPC2-OPC3。 Where xxx is a number in the range 0~255 (decimal) or 0~FF (hexadecimal)， This product only supports decimal mode. If the assigned point code is in hexadecimal format, please convert it to decimal before configuring。
Destination point code 1/2	The destination point code is the signaling point code of the docking device and is provided by the other party. The format is generally: xxx-xxx-xxx, corresponding to the above figure DPC1-DPC2-DPC3。Where xxx is a number in the range of 0~255 (decimal) or 0~FF (hexadecimal). This product only supports decimal mode. If it is in hexadecimal format, please convert it to decimal before configuring。
DID Number	In the drop-down box, select the outgoing number of the branch. The default value is “None”. Generally, select “DID Number 1”.。
Select Network	Provided by ISP，The options are national, international, national backup, and international backup. The default value is “national”.。
Calling Nai	Provided by ISP，Select the attribute of the calling number from the drop-down box. The option has a national number, spare, a national backup, and an international number. The default value is “national number”。
Called Nai	Provided by ISP，Select the attribute of the called number from the drop-down box. The option has a national number, spare, a national backup, and an international number. The default value is “national number”。
FISU	Select the status of FISU, the option has free, timing, the default value is "free". FISU（Fill-In Signal Unit，Fill signaling unit to fill signaling unit）Is SS7 information sent in both directions when other signaling units are not present.。The padding signaling unit provides a CRC check for the use of two signaling endpoints and is used for both signaling endpoints。
Route Group	In the drop-down box, select the home route group by default. The default is defaul route group.。
Message Priority	North America is used to identify message priority (0~3, 3 highest)，message priority is only used when network congestion occurs，It does not affect the order of normal message transmission. When the network is congested, low-priority messages will be discarded. For example, the signaling link test message has higher priority than the call setup message.；This field is free in Europe。
Call Transfer - Display original caller	Select "Yes" to enable caller ID on this trunk； Select "No" to turn off Caller ID on the trunk. The default value is "Yes"。
Fax	Select "Yes" to enable the fax function on this trunk； Select "No" to turn off the fax function on the trunk. The default value is "No".。

Select < Select Circuit> to pop up the interface as shown in Figure 6-29.

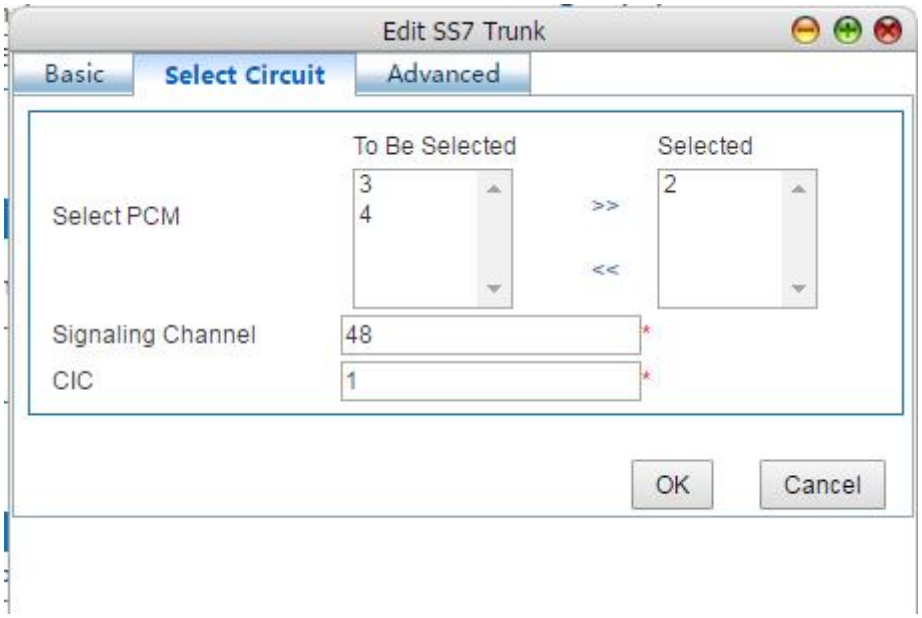


Figure6-29 Select circuit -SS7 trunk

Table 6-10 New SS7-Select circuit

Name	Function Description
Select PCM	Select the PCM number to the destination signaling point link. Select the unused port from the drop-down box, and select the PCM to determine the order of the circuits。
Signaling Channel	The circuit number occupied by the signaling link。 PCM select "1", fill in the item 16； PCM selects "2", the item is filled in 48； PCM selects”3”,the item is filled in 80; PCM selects”4”,the item is filled in 112. Separate multiple circuit numbers with ","。
CIC	The telephone number which is negotiated between the two devices to be connected. This product supports starting from 0。

Select <advanced setting> and the page pops up as figure 6-30

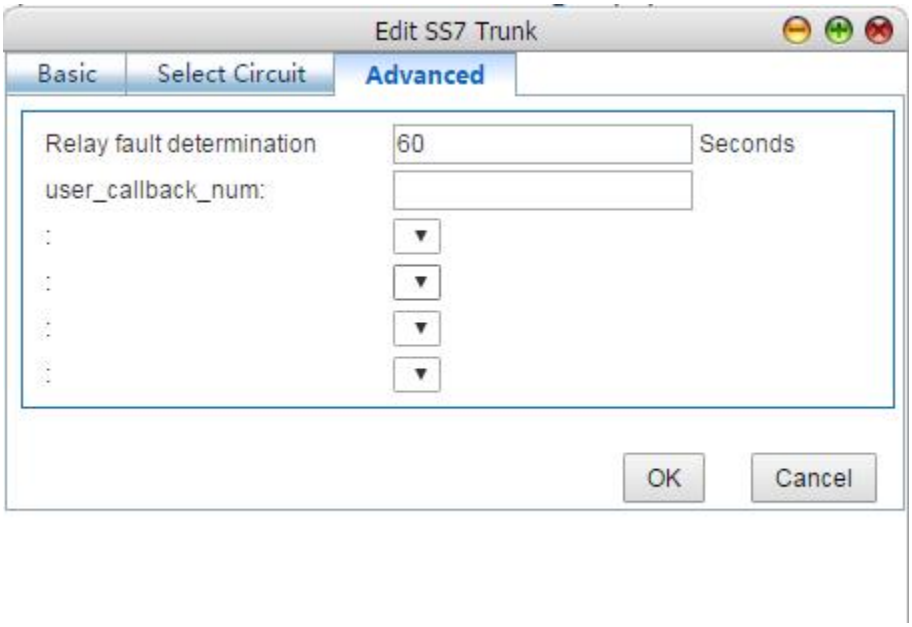


Figure 6-30 Advanced setting

Table 6-11 Advanced setting of SS7 trunk

ITEMS	Description
Relay fault determination	When the relay fault duration reaches the set value, the fault message will be sent to the corresponding incoming relay. After the recovery of the relay fault, when the normal operation reaches the value, the corresponding relay service will be informed to start.Default 60 seconds, value range: 1 to 300 seconds.

Note:

Source code type must be set. 24-bit code type is used domestically and 14-bit code type is used internationally.

Modify/delete SS7 Trunk

In the "SS7 relay" list, click the SS7 relay you want to modify, and click the button to modify the setting information of the specified SS7 relay in the pop-up interface.

Select an SS7 relay in the "SS7 relay" list that you want to delete, and click the button to delete the specified SS7 relay.

6.3.2 SIP Regitry

SIP Registry used when SIP trunk type is UNI mode.

Click “Voice Config>>Trunks Config>>SIP Registry” to open the page as shown in the following figure.

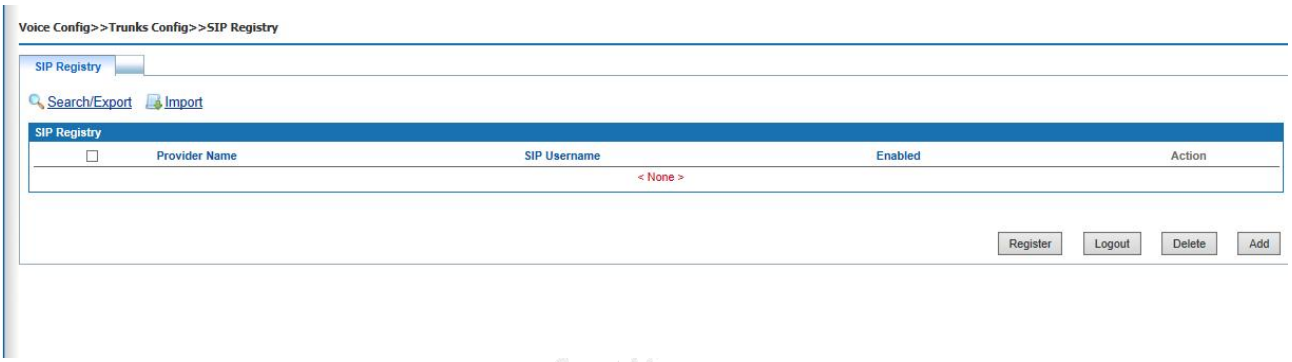


Figure 6-31 SIP Registry

SIP Registry

Click <Add> button to open the page as shown in the following figure.

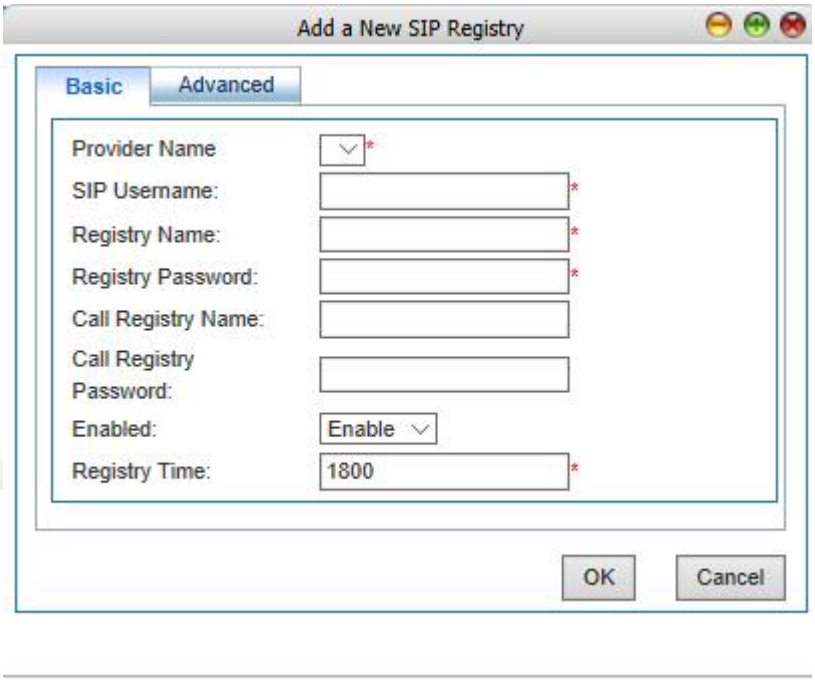


Figure 6-32 SIP Add a New SIP Registry - Basic

Interface items are described as follows:

Table 6- 11 SIP Add a New SIP Registry - Basic

Item	Description
Provider Name	Select from provider name list, only used for SIP UNI interface type
SIP Username	Fill in the name of SIP user
Registry Name	Registry name of SIP user
Registry Password	Password of the SIP user
Call Registry Name	Name of call registry user
Call Registry Password	Password of call registry user

Item	Description
Registry or not	Select “Yes”, this account will be registered; select “No”, this account will not be registered
Registry Time	Default registry time is 1,800s

Click <Advanced> button to open the page as shown in the following figure.

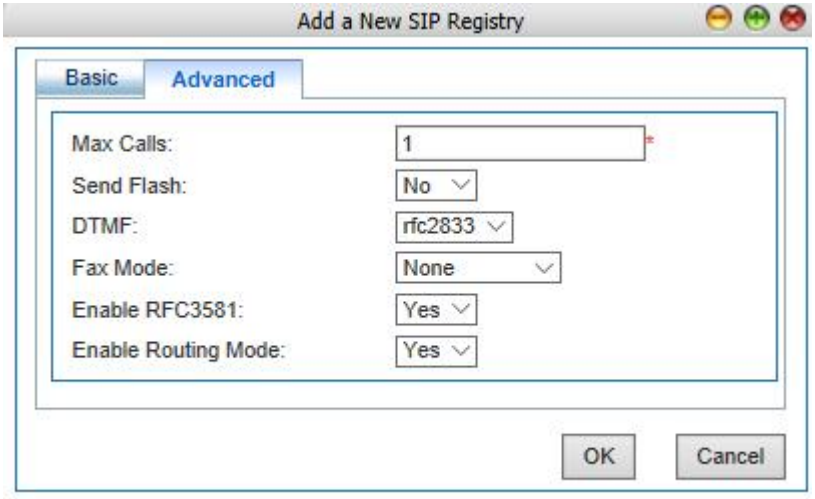


Figure 6-33 SIP Add a New SIP Registry - Advanced

Interface items are described as follows:

Table 6- 12 Add a New SIP Registry - Advanced

Item	Description
Max Calls	Default value is “1”
Send Flash	Type and select “Yes” if you want to send Flash
DTMF	Option: RFC 2833, info and inband
Fax Mode	Option: T.38, T.30
Enable RFC3581	Yes or No, default Yes
Enable Routing Mode	Yes or No, default Yes

Register/Logout SIP account

Select SIP account and click <Register> button to register SIP account.

Select SIP account and click <Logout> button to register SIP account.

Edit SIP account

Select SIP account and click <Edit> button to edit SIP account.

Delete SIP account

Select SIP account and click <Delete> button to delete SIP account.

Batch Import SIP Account

Click <import> botton and select Excel file to import.

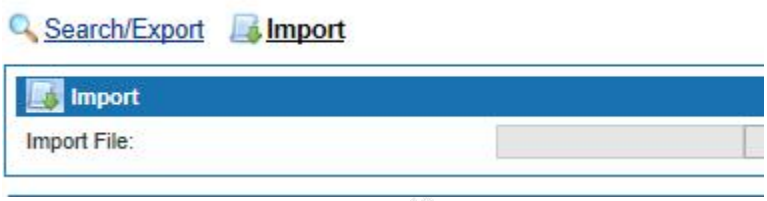


Figure 6-34 Batch Import SIP Account

Search SIP Registry

Click <Search> button to open the page as shown in the following figure.

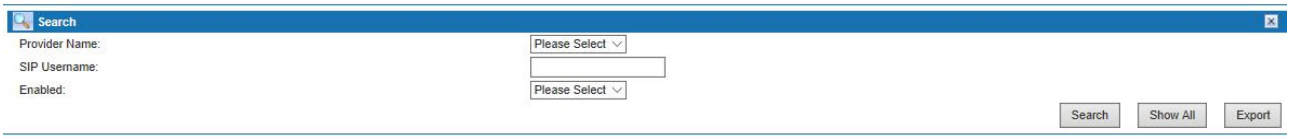


Figure 6-35 Search SIP Registry

6.3.3 Inbound Call Routing

By setting inbound call routing, incoming calls from analog trunk can be transferred to internal extensions, IVR or agents. Users can set different inbound call routing in different time period.

Select " Voice Config>>Trunks Config>>Inbound Call " to open the page as shown in the following figure.

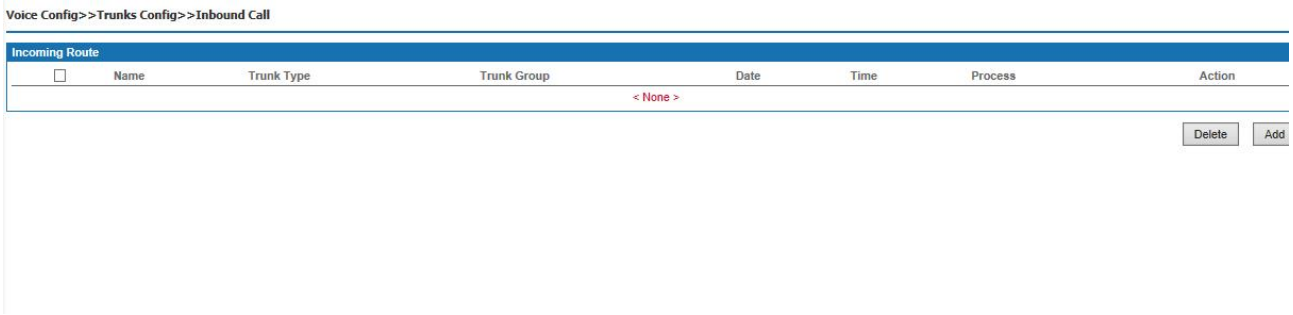


Figure 6-36 Inbound Call Routing

Add inboud call routing

Click <Add> button to open the page as shown in the following figure.

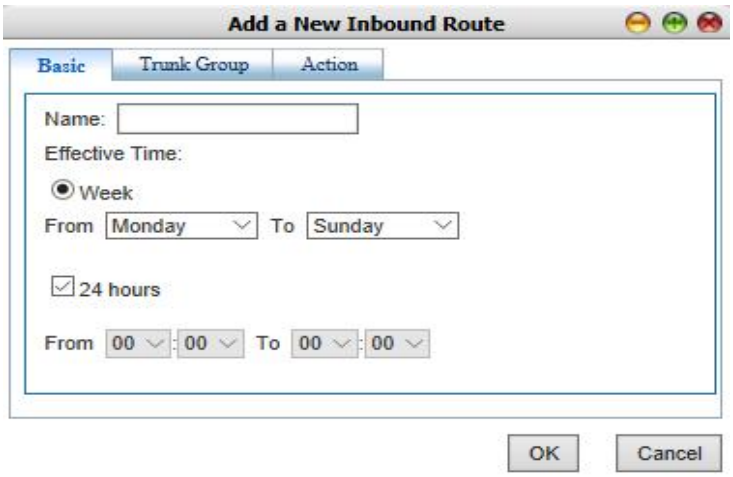


Figure 6-37 Inbound Call Routing - Basic

1. Basic

Interface items are described as follows:

Table 6- 13 Add a New Inbound Route - Basic

Items	Description
Name	Name of new inbound route.
Week	Set effective time of this route: Monday to Sunday
Hour	Set effective time of this route: 24 hours

2. Trunk Type

Click <Trunk> button to open the page as shown in the following figure.

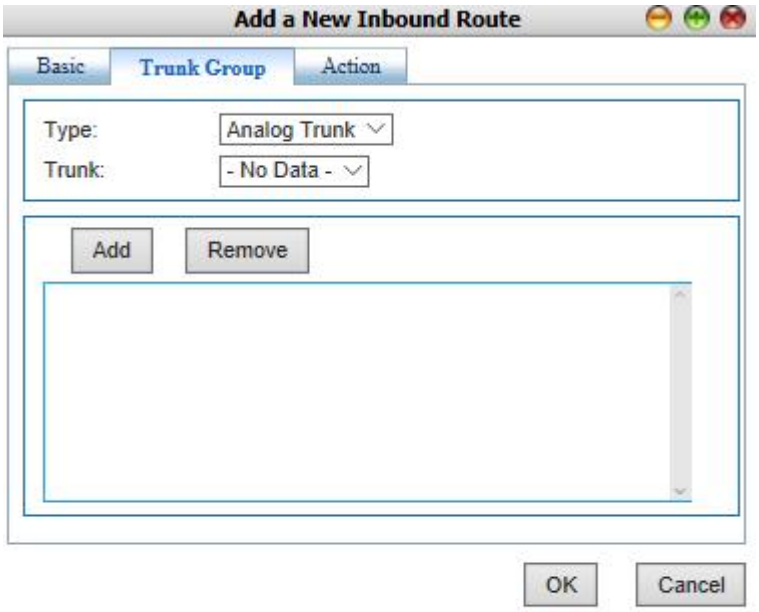


Figure 6-38 Inbound Call Routing – Trunk Group

Interface items are described as follows:

Table 6- 14 Inbound Call Routing – Trunk Group

Items	Description
Type	Trunk type.Analog trunk,the inbound calls are only applicable to the analog trunk.
Trunk	Trunk name
Add/Remove button	Click the < add > button to add the selected relay to the text box, click the < remove > button to remove the selected relay group from the text box.

3. Click <Action> button to open the page as shown in the following figure.

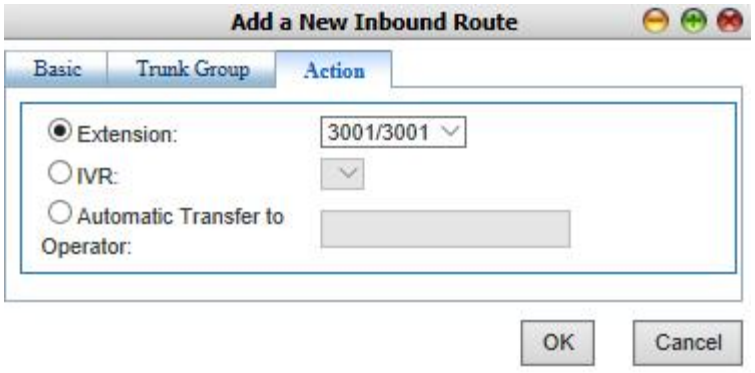


Figure 6-39 Inbound Call Routing – Action

Interface items are described as follows:

Table 6-14 Inbound Call Routing – Action

Items	Description
Extension	If the option is selected, the external call will be automatically transferred to the specified extension.
IVR	If the option is selected, the external calls will be automatically transferred to IVR.
Automatic Transfer to Operator	If the option is selected, the external calls will be automatically transferred to the specified operator.

6.3.4 Outbound Call Routing

By setting outbound call routing, users can make outbound calls through different trunks. For example, when users make local calls, they can use analog trunk; when users make long-distance calls, they can use SIP trunk. By setting reasonable outbound call routing, enterprise can reduce communication costs.

Click “Voice Config>>Trunks Config>>Outbound Call” to open the page as shown in the following figure.

Figure 6-40 Outbound Call Routing

Add New Outbound Route

1. Click <Action> button to open the page as shown in the following figure.

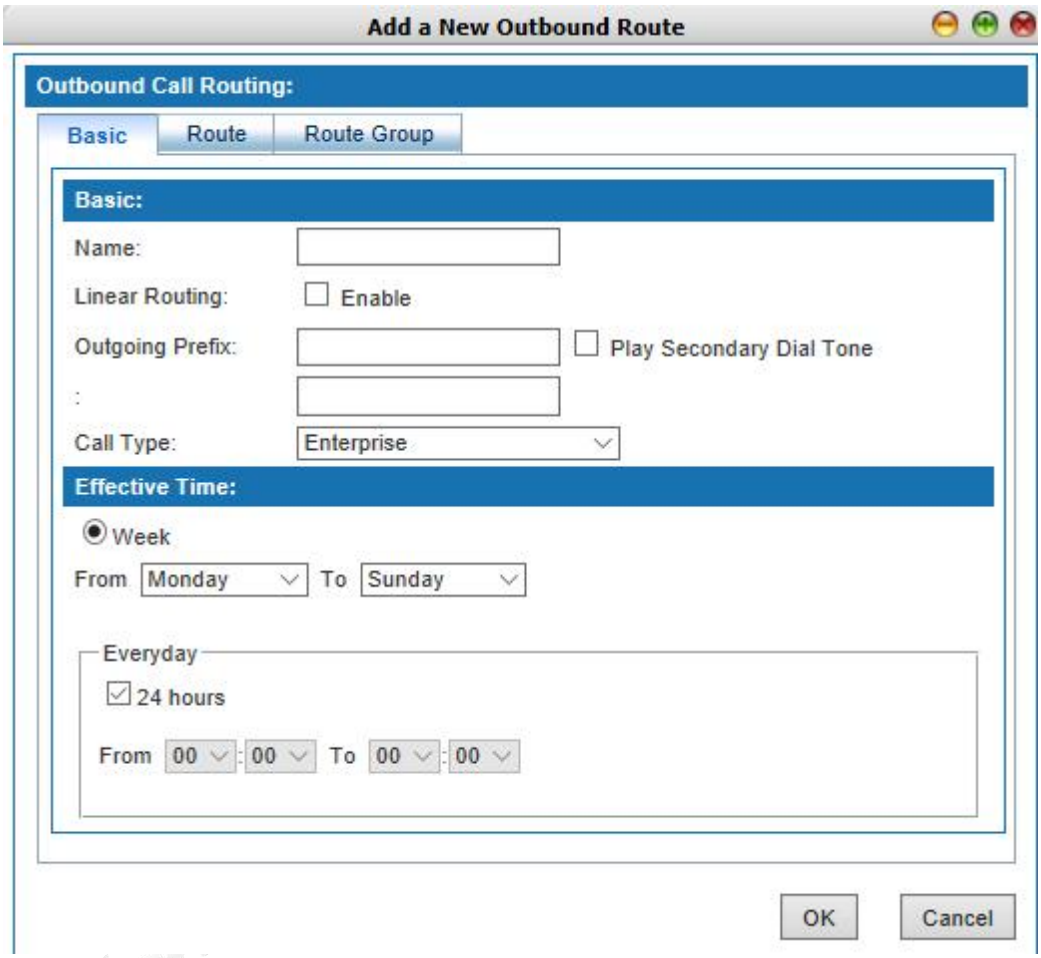


Figure 6-41 Outbound Call Routing - Basic

Interface items are described as follows:

Table 6-15 Add New Outbound Route - Basic

Items	Description
Name	Name of this route.1-20 characters length,it can use A-Z upper case letters and a-z lower case letters and 0-9,_ and !@#$%^&*() etc letters.
Linear Routing	There's no outgoing prefix adn play secondary dial tone when enabling linear routing,if not enable this term ,please fill in the outgoing prefix.
Outgoing Prefix	Prefix of outgoing call, 0-9 and # can be typed
Call Type	Options: Enterprise, Local, National Long Distance and International Long Distance.Default enterprise
Week	Set effective time of this route: Monday to Sunday

2. Click <Route> button to open the page as show in the following figure.

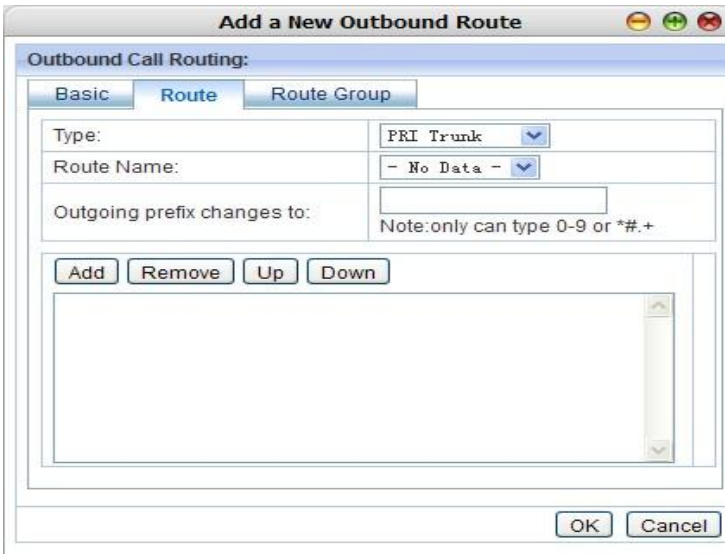


Figure 6-42 Outbund Call Routing - Route

Interface items are described as follows:

Table 6-16 Add New Outbound Route

Items	Description
Type	Trunk type, sip trunk or analog trunk,PRI trunk,R2 trunk,IMS trunk,SS7 trunk
Route Name	Trunk Name
Outgoing prefix changes to	0-9 can be typed.The number after dial out is the real number after conversion.If it is blank,no need to change the dialed number. If it needs to change the number,for example, needs to add 0 after the outbound ,it enter 0 here.
Routing relay configuration box	After selecting the type and name, click the < add > button to add the trunk to the text box. Select the added relay and click the < delete > button to delete the relay. Select the added relay and click the button < move up > and < move down > to change the relay priority.

Select the routing group to which the routing belongs and add the routing to the selected routing group System default routing group "default", click the selected routing group in the grouModify and delete the outbound route, click the button to modify the route information. Click the unwanted route and click button to delete the outbound route.p to be selected, click >> and add to the right box; Click the unwanted routing group in the right box and click << back to the left box does not take effect. A route can be assigned to multiple routing groups.

Search outbound route

Click the < search > button, and the page as shown in figure 6-37 will pop up. The user can search the set outbound route according to the name.

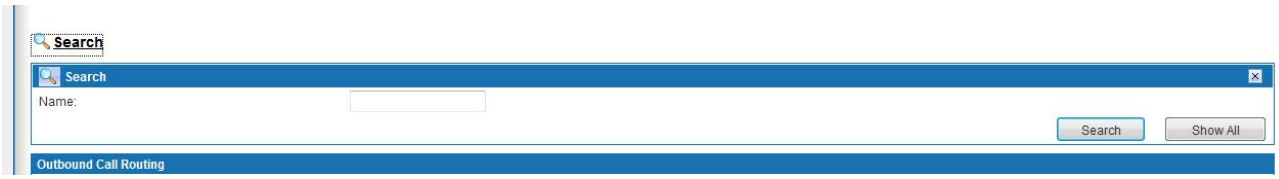


Figure 6-43 Search outbound call route

Examples:

Linear outbound call route :

Figure6-44 Linear outbound call route example

Dial “0” outbound call route

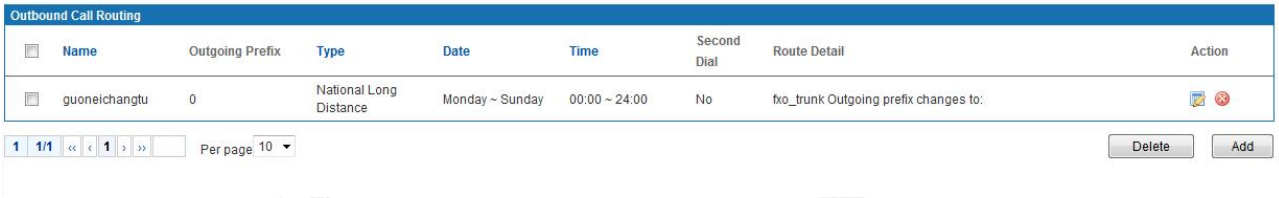


Figure6-45 Outgoing prefix 0 call outbound example

Dial “9” outbound call route

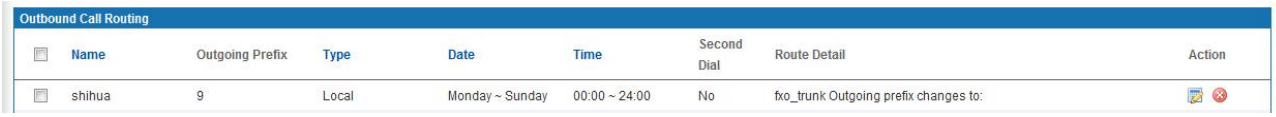


Figure 6-46 Outgoing prefix 9 call outbound example

6.3.5 Number Transfer

When make outbound and inbound calls, number can be changed by rules. Select “Voice Config>>Trunks Config>>Number Transfer” to open the page as shown in the following figure.

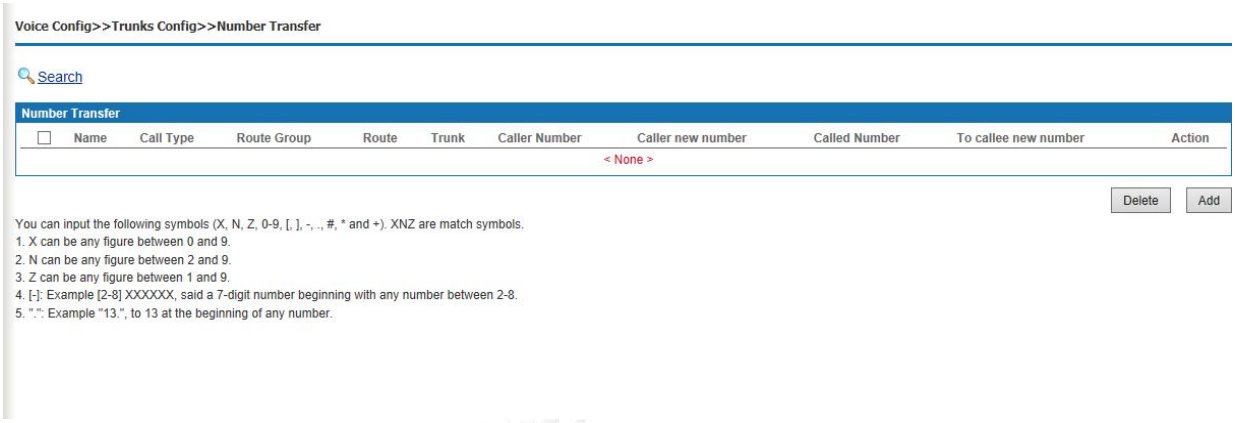


Figure 6-47 Number Transfer

Add Number Transfer

Click <Add> button to open the page as shown in the following figure.

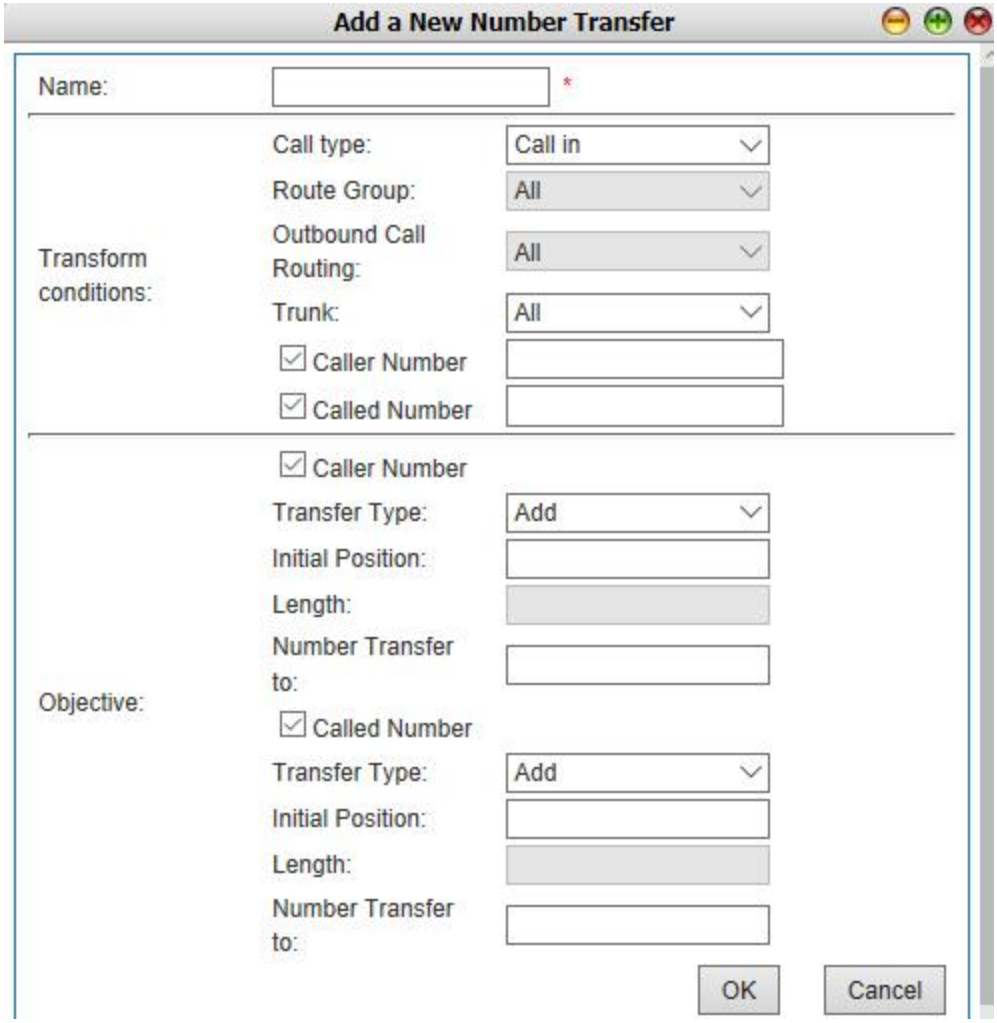


Figure 6-48 Add Number Transfer

Interface items are described as follows:

Table 6-17 Add Number Transfer

Items	Description

Items	Description
Name	Name of this rule
Transform conditions	
Call Type	Select Call in or Call out number,default value “Call in”
Route Group	When call type is “call in”, select route group, default “all”
Outbound call routing	When call type is “call out”, select route group, default “all”
Trunk	Select trunks that do number transfer, default “All”
Caller Number	Caller number before transfer
Called Number	Called number before transfer
Objective:Can make different number transfer rule according to caller number and called number	
Transfer Type	How to change the former number, options: add, delete and edit.
Initial Position	Set initial position which need to be changed
Length	Length of the call number need to be changed, change type of “Add” cannot be filled.
Number Transfer to	Type added call number or revised call number; change type of “delete” cannot be filled.

Note:

Original number uses 1-9, “X”, “N”, “Z”, “*”, etc. it is applied for the same regular expressions with the dial-up rule. The collective description is as follows:

- To designate a specific number, such as 114, 61202700;
- To designate the call number with a specific beginning; for example 61xxxxxx, can also be written for 61 or 61x;
- To designate this kind of expression for 268[0-1, 3-9], that means the call number beginning with 268 and the next number is 0-1 or 3-9

X can be any digit between 0-9

N can be any digit between 1-9

Z can be any digit between 2-9

Search Number Transfer

Click <Search> button to open the page as shown in the following figure.

Figure6-49 Search Number Transfer

Users can search number transfer by trunk name, original number, objective and transfer type.

6.3.6 Dial Rule

Select " Voice Config>>Trunks Config>>Dial Rule" to open the page as shown in the following figure.

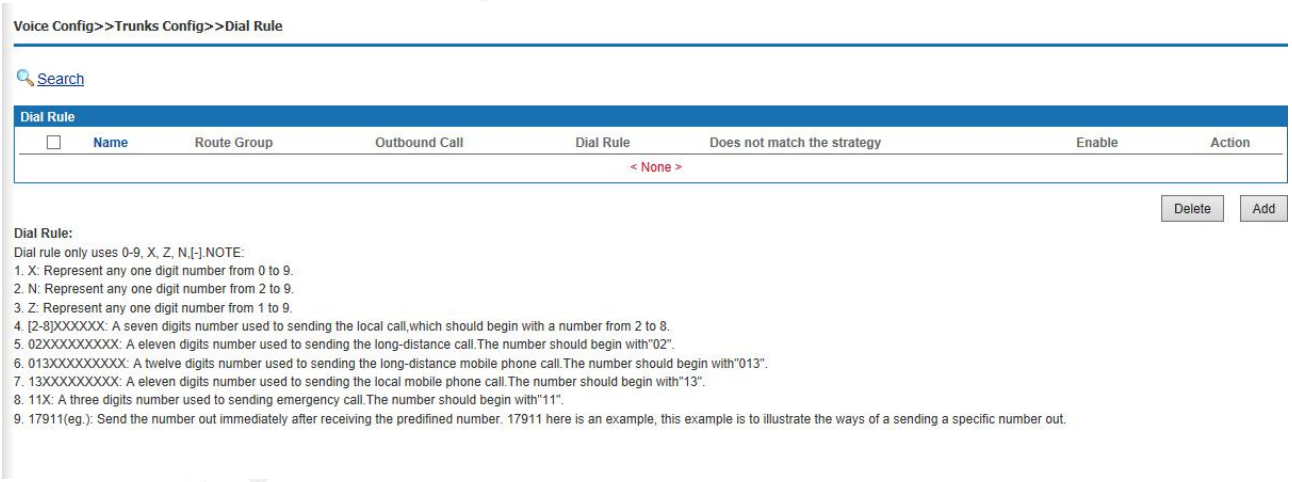


Figure 6-50 Dial Rule

Add a New Dial Rule

Click <Add> button to open the page as shown in the following figure.

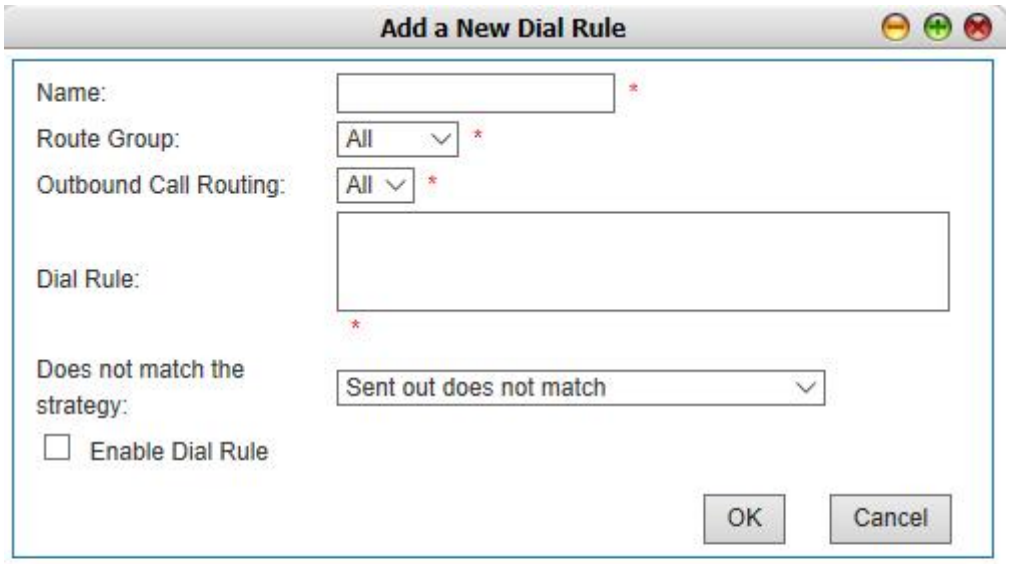


Figure 6-51 Add a New Dial Rule

Interface items are described as follows:

Table 6-18 Add a New Dial Rule

Items	Description
Name	Name of this dial rule
Route Group	Select route group
Outbound Route	Select configured outbound route
Dial Rule	Please refer to dial rule description
Does not match the strategy	Select "send out does not match", and when dialing and dialing rules do not match, the signal is sent out over reaction time. Select "send immediately when does not match", when dialing and dialing rules do not match, send out the signal immediately. Select "does not match then hang up immediately ", when dialing and dial rules do not match, immediately hang up, the default value is "send out does not match"
Enable Dial Rule	Each time only one rule can be enabled

Dialing rule is described as follows:

Table 6-19 Dial Rule

Items	Description

Items	Description
“X”	Any digit between 0 to 9
“N”	Any digit between 2 to 9
“Z”	Any digit between 1 to 9
[2-8] XXXXXX	A seven digits number used to send local call which first digit should from 2 to 8.
02XXXXXXXXX	An eleven digits number used to send long-distance call which first two digits should begin with"02".
013XXXXXXXXX	A twelve digits number used to send long-distance mobile phone call. The number should begin with"013".
13XXXXXXXXX	An eleven digits number used to send local mobile phone call. The number should begin with"13".
11X	A three digits number used to send an emergency call. The number should begin with"11".
17911 (an example)	Send the number out immediately after receiving the predefined number. 17911 here is an example, this example is to illustrate the ways of a sending a specific number out.

6.3.7 DNIS

It is allowed that different “Call In” policies can be used according to the incoming DNIS (Destination Number Identification Service), which is usually used for the extension number with multiple routing policies. For instance, one extension is forwarded to extension A in a certain time, and forwarded to extension B in another certain time, or will prompt the client that user is not in the company during holidays.

Select " Voice Config>>Trunks Config>>DNIS" to open the page as shown in the following figure.

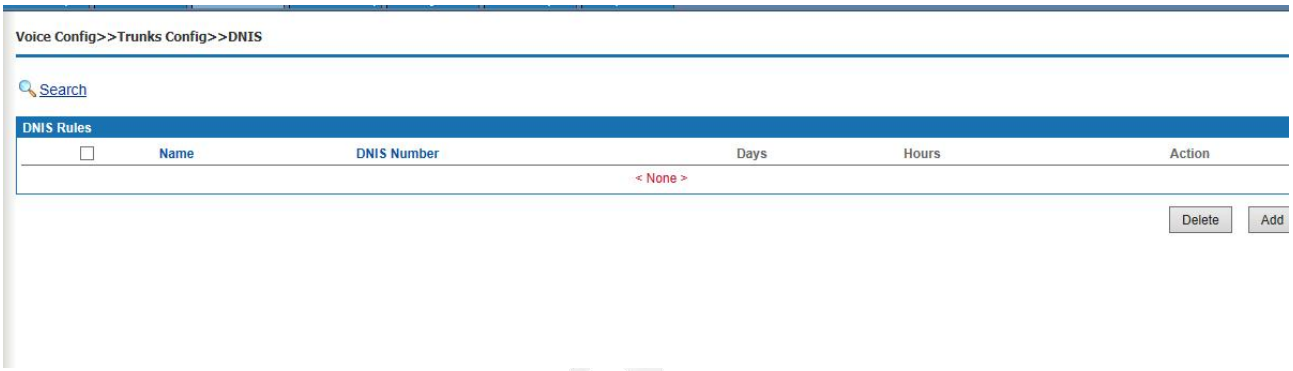


Figure 6-52 DNIS

Click <Add> button to open the page as shown in the following figure.

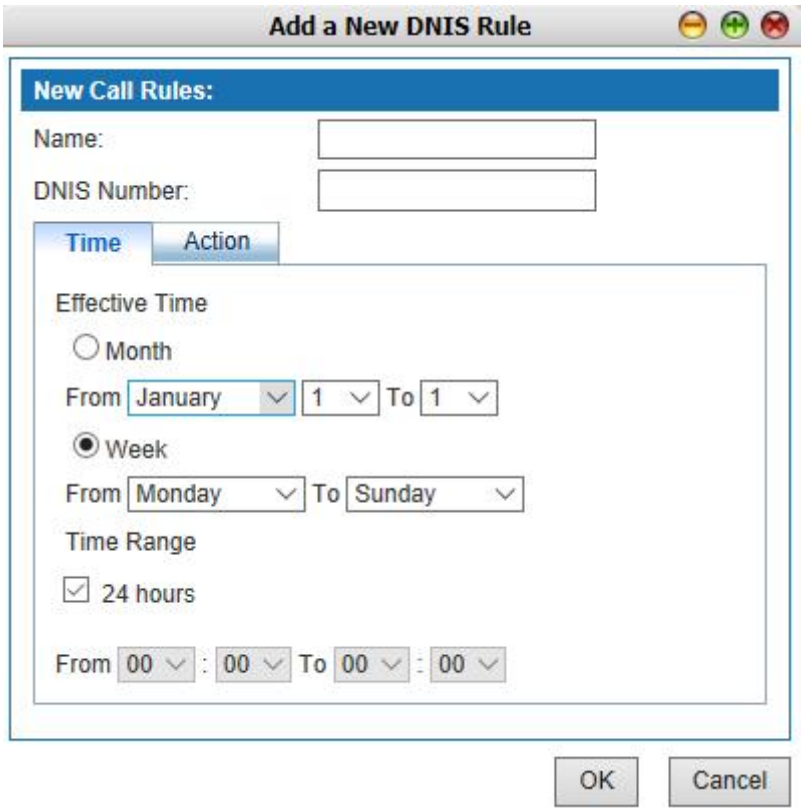


Figure6-53 DNIS

Interface items are described as follows:

Table 6-20 DNIS

Items	Description
Name	Name of this rule
DNIS Number	DNIS number destination number ,called number
Action	The selection boxes under the number are the action selection boxes. Calling DNIS number triggers the selected action. The options of the action include IVR, extension, conference, play prompt tone, voicemail, group call, queue, wait, hang up and dial (not forwarded to voice mail).
Action List	Click <Add> after the selected action and its content, the selected action will be displayed in the action list. If there is more than one action, they will be arranged in line from top according to the sequence of the actions. The order of the action list can be adjusted with the buttons <Up> and <Down>. The unnecessary actions can be deleted with the <Remove> button.

Note

1. According to the Chinese custom, if all the members are selected, please choose from "Monday" to "Sunday". Remember not to choose from "Sunday" to "Monday", otherwise only "Sunday" and "Monday" will take effect.

2. Applicable to SIP trunk only.

6.3.8 CNIS

Select " Voice Config>>Trunks Config>>CNIS" to open the page as shown in the following figure.

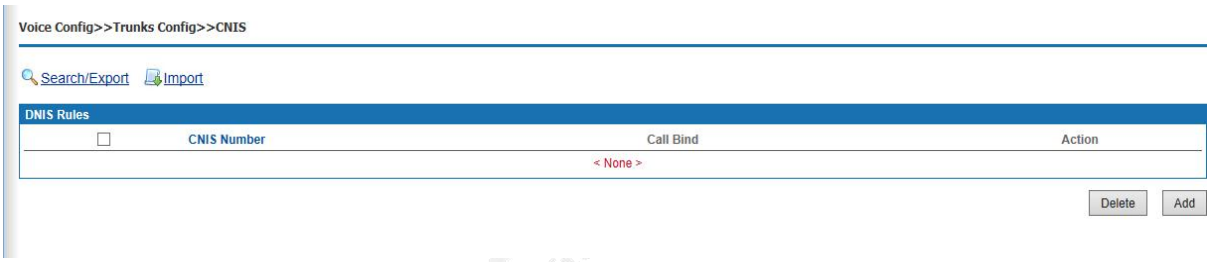


Figure 6-54 CNIS

Click <Add> button to open the page as shown in the following figure.

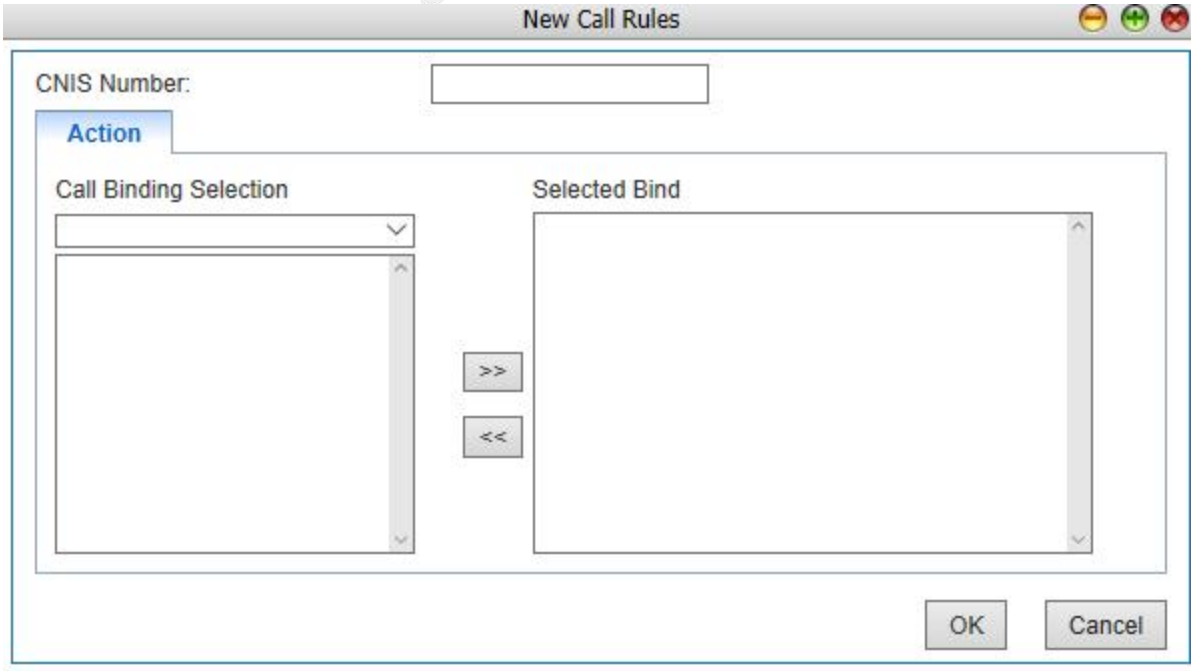


Figure 6-55 Add New Rule

Interface items are described as follows:

Table 6-21 Add New Rule

Items	Description
CNIS Number	CNIS number is defined according to demand. It can not repeat with internal system number， such as extension number, extension DID number, DNIS, queue number, etc.
Action	1) Call binding selection: Currently, it can support FXO port, IMS trunk and SIP UNI trunk 2) Selected bind: same type can only bind 1 port, and this bind is bidirectional, for example, when the FXO port 1 is selected, it is indicated that the CNIS number is out of the FXO port 1, while the call coming in from the FXO port 1 is turned to the CNIS number.

Note

1. The called number must meet the dialing rules (see 6.3.6 dialing rules for details) in order to be out of the designated relay set by the calling number identification.

2. Called number identification priority is higher than calling number identification.

3. If the called number is the internal number of the equipment system, the calling number identification rule is invalid. The called number is an out-of-system number, according to the rules of calling number identification.

6.4 PBX Features

PBX features include call transfer, call waiting, three-way call, hotline, call pickup, clock, speed dial, blacklist, follow me, voicemail, IVR, queue, recording billing, ect.

6.3.9 Feature Code

Select "Voice Config>>PBX Features>>Feature Code" to open the page as shown in the following figure.

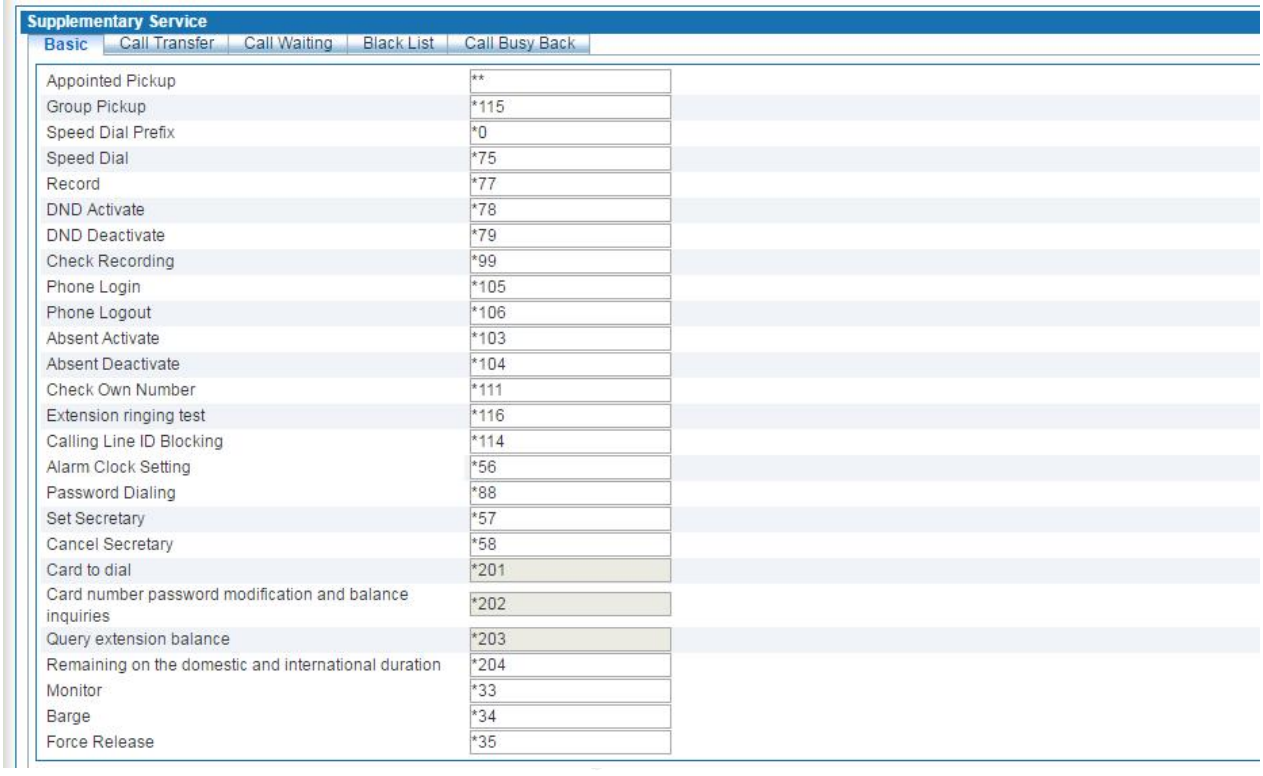


Figure 6-56 Basic Features

Basic Features

The basic page is as shown in the above figure which introduces the operation method of basic configuration by using extension. Characteristic number begins with "*" or "#", dialing characteristic number is able to trigger corresponding function.

Interface items are described as follows:

Table 6-22 Basic Features

Items	Description
Appointed Pickup	The characteristic number is **. A certain extension rings, while other extensions can dial "** + the number of the ringing extension" to pick up the phone call.
Group Call Pickup	The characteristic number is *115. If one of the extensions in the same group rings, you can press *115 on other extensions to answer the phone. If there is more than one extension ring, the order of pickup is the sequence of ringing.
Speed Dial Prefix	The characteristic number is *0. For example, to dial 999 with the fast dial whose prefix is set to 1 for the number 999, just dial "*01".
Speed Dial	The characteristic number is *75. The ten numbers from 0 to 9 can replace ten special telephone numbers. Users need only dial "*0 + the corresponding number" to call those users. For the business registration, dial *75 on the extension, enter a shortcut key after the prompt tone, and enter the number the shortcut key represents after the other prompt tone.
Record	The characteristic number is *77. Dial the number with the extension, and you can record after the prompt tone. Hang up the phone to end recording.
DND Activate	The characteristic number is *78. Dial the number, and other users who dial the number of this extension will hear the busy tone.
DND Deactivate	The characteristic number is *79. Dial the number with the extension, which can deactivate DND service.
Check Recording	The characteristic number is *99. Dial the number to listen to the recording on the extension. Press 1 to listen to it again after the recording is finished. Press * to record again. The new recording will replace the original one.
Phone Login	The characteristic number is *105. Dial the number with the logout extension, and enter the password after the prompt tone to login the extension.
Phone Logout	The characteristic number is *106. Dial the number with the extension, and enter the password after the prompt tone to logout the extension. Other users who dial the number of the extension will hear the logout prompt.
Absent Activate	The characteristic number is *103. Dial the number, and the extension will enable absent status. Other users who dial the number of the extension will hear the absence prompt.
Absent Deactivate	The characteristic number is *104. Dial the number with the extension, which can deactivate absent status.
Check Own Number	The characteristic number is *111. Dial the number with the extension to check extension number.
Calling Line ID Blocking	The characteristic number is *114. Dial the number with the extension to hide the extension number.
Alarm Clock Setting	The characteristic number is *56. Dial the number with the extension to set alarm clock.
Password Dialing	The characteristic number is *88. Dial *88 enter password, prefix+outbound call number to make calls
Set Secretary	The characteristic number is *88. Dial the number with the extension to enable secretary service
Cancel Secretary	The characteristic number is *58. Dial the number with the extension to cancel secretary service

Items	Description
Crad to dial	The characteristic number is *201, enter card number and password according to the prompt tone
Card number password modification and balance inquiries	The characteristic number is *202. Dial the number with the extension to change card number and password or check balance
Query extension balance	The characteristic number is *203. Dial the number with the extension to check balance.
Remaining on the domestic and international duration	The characteristic number is *204. Dial the number with the extension to check remaining domestic and internation call duration
Monitor	The feature number is *33+extension number, the user can listen to the extension call in real time, the listening mode definition: only the monitor can not speak.
Barge	The feature number is *34+extension number, and the user can force the extension to insert the call in real time. Intruder mode definition: participate in the extension call.
Force Release	Feature number *35 + extension number, the user can strongly open the extension call.

Call Transfer

Call transfer page is as shown in the following figure which introduces the operation method of basic configuration by using extension. Characteristic number begins with "*" or "#", dialing characteristic number is able to trigger corresponding function.

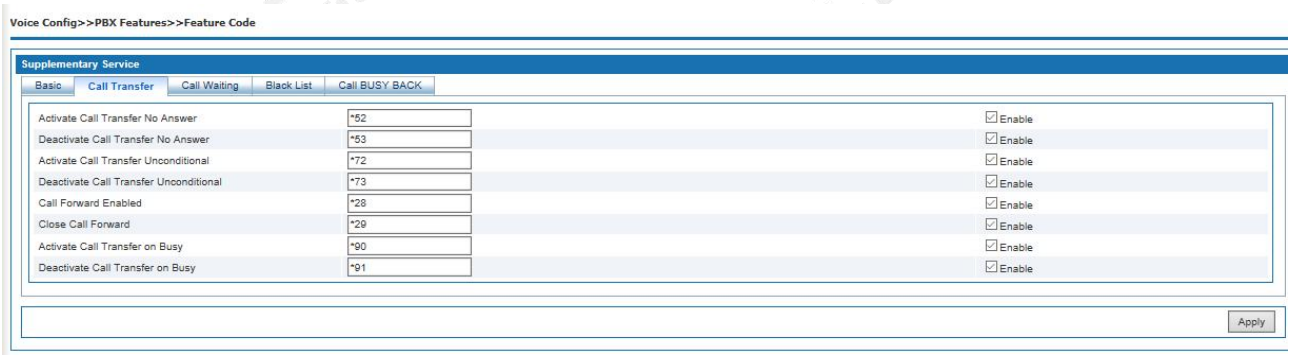


Figure 6-57 Call Transfer

Interface items are described as follows:

Table 6-23 Call Transfer

Items	Description
Activate Call Transfer No Answer	Characteristic number is *52. Extension A dials *52, and set call Transfer no answer to extension B. When someone calls A, the call will automatically transfer to extension B.
Deactivate Call Transfer No Answer	Characteristic number is *53. Dial *53 on extension can deactivate call Transfer no answer.
Activate Call Transfer Unconditional	Characteristic number is *72. Extension A dials *72, and set call Transfer unconditional to extension B. When someone calls A, the call will automatically transfer to extension B.

Items	Description
Deactivate Call Transfer Unconditional	Characteristic number is *73. Dial *73 on extension can deactivate call Transfer unconditional.
Activate Call Transfer on Busy	Characteristic number is *90. Extension A dials *90, and set call Transfer on busy to extension B. When someone calls B, the call will automatically transfer to extension B.
Deactivate Call Transfer on Busy	Characteristic number is *91. Dial *91 on extension can deactivate call Transfer on busy.
Attended Transfer	Characteristic number is *26. Enable this service on the page; during a call between extension A and extension B; extension A dials *26, after listen to the prompt tone, extension A dials extension C. Extension A hangs up, and extension B and C can establish a call.
Blind Transfer	Characteristic number is *25. Enable this service on the page; during a call between extension A and extension B; extension A dials *25, after listen to the prompt tone, extension A dials extension C. Extension B and C can establish a call, and extension A hangs up automatically.

Call Waiting

Call forwarding page is as shown in the following figure which introduces the operation method of basic configuration by using extension. Characteristic number begins with "*" or "#", dialing characteristic number is able to trigger corresponding function.

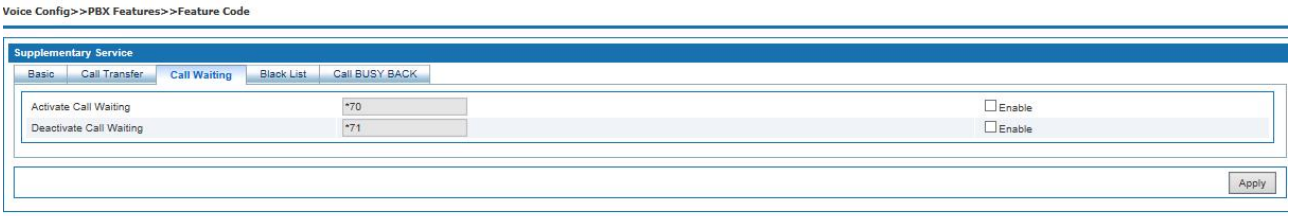


Figure6-58 Call Waiting

Interface items are described as follows:

Table 6- 24 Call Waiting

Items	Description
Activate Call Waiting	The characteristic number is *70. Dial *70 on extension to activate this service, this handy feature allows a person to receive a call while he or she is already on the line with someone else.
Deactivate Call Waiting	The characteristic number is *71. Dial *71 on extension to deactivate this service

Black List

Call blocking page is as shown in the following figure which introduces the operation method of basic configuration by using extension. Characteristic number begins with "*" or "#", dialing characteristic number is able to trigger corresponding function.

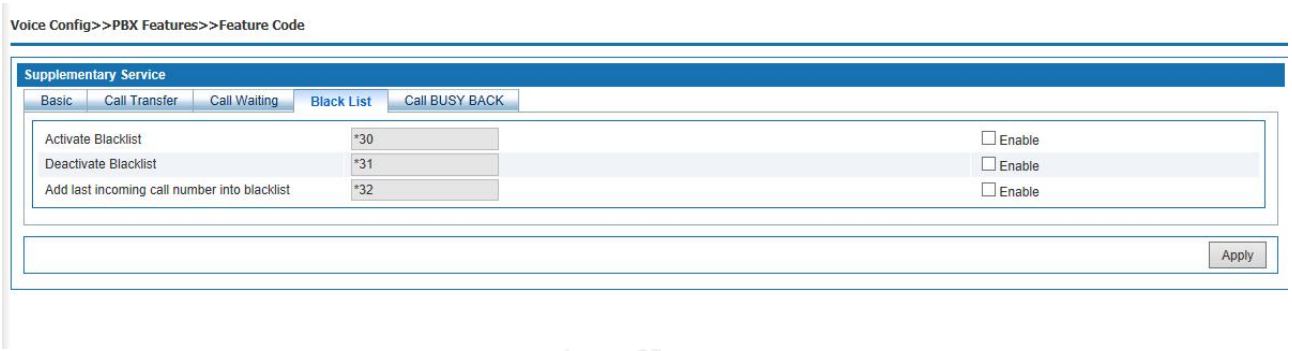


Figure 6-59 Black List

Interface items are described as follows:

Table 6-25 – Black List

Items	Description
Activate Blacklist	The characteristic number is *30. Dial *30 and enter the blacklist number after prompt tone, press 1 to confirm the setting.
Deactivate Blacklist	The characteristic number is *31. Dial *31 and enter the number which need to be removed from blacklist, press 1 to confirm the setting.
Add last incoming call number into blacklist	The characteristic number is *32. Dial*32 to put last income call number into blacklist, press 1 to confirm the setting.

Call Busy Back

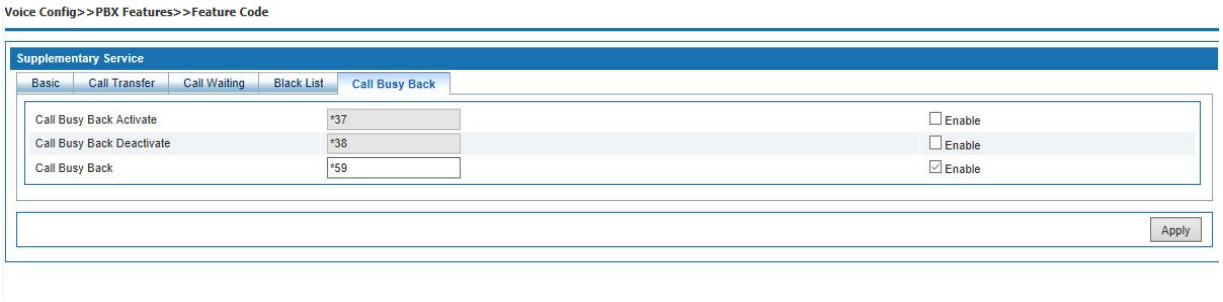


Figure 6-60 Call Busy Back

Interface items are described as follows:

Table 6-26 Call Busy Back

Items	Description
Call Busy Back Activate	Press *37 to activate call busy back service
Call Busy Back Deactivate	Press *38 to deactivate call busy back service
Call Busy Back	Press *59 to register callbusy back service

Steps:

1. Extension A calls extension B, B is on the phone, and extension A has enabled call back service.

Step:

1. Extension A calls extension B, B is on the phone
2. Extension press *59 to register call busy back service and then hang up
3. Extension B finish the previous call and hang up
4. Extension A answer the system back
5. Extension A answer the system back
6. Extension A and B build the call successful 。

Attention:

(1)Call busy back service can be only used between extensions.

(2)The called extension should be in condition of on the phone,if the called extension is just picking up the phone or other status,the call busy back affair doesn't take effect.

Three Party Call

Service Process:

1. Extension A makes a call with extension B

2. Extension A press hookswitch and call extension C, A and C establish calls; at this time extension is holded

3. Extension A press hookswitch and press digital key 3; A, B and C establish three party calls

Inquire Transfer

Service Process:

1.A call front desk B, B answers, B needs to transfer the phone to the colleague extension C.

2.B press hookswitch and call C, C answers, B and C establish a call, and then B hang up

3.A and C establish a call

Blind Transfer

Service Process:

1. A call front desk B, B answers, B needs to transfer the phone to the colleague extension C.
2. B press hookswitch and call C, B hears ring back tone and hang up before C pickup the phone; extension A hear the ring back tone
3. A and C establish a call

6.3.10 Hotline

Hotline (also called an automatic signaling service, ringdown, or off-hook service) is a point-to-point communications link in which a call is automatically directed to the preselected destination without any additional action by the user when the end instrument goes off-hook. Hotline includes instant hotline and delayed hotline.

Select " Voice Config>>PBX Features>>Hotline" to open the page as shown in the following figure.

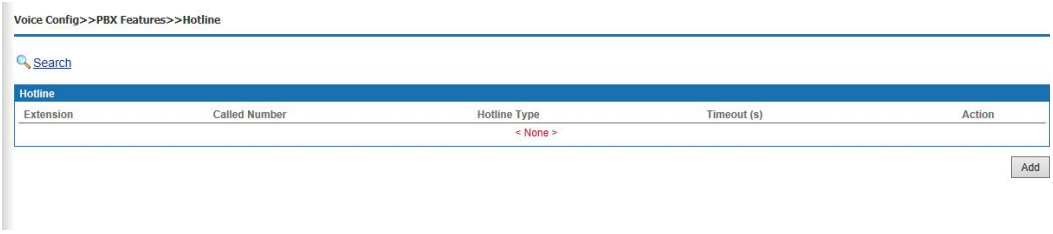


Figure 6-61 Hotline

Click <Add> button to open the page as shown in the following figure.

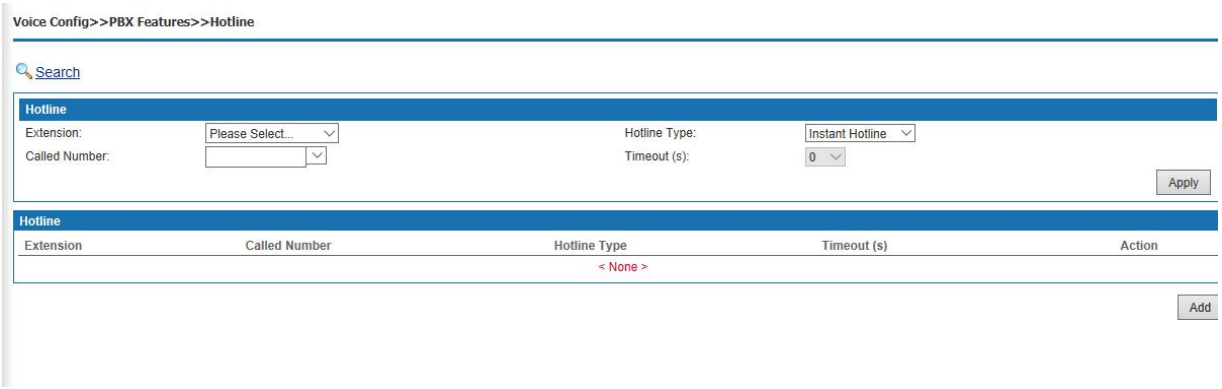


Figure 6-62 Add New Hotline

Interface items are described as follows:

Table 6-27 Add New Hotline

Items	Description
Extension	Select which extension enables hotline service
Hotline Type	Delayed hotline or instant hotline
Called Number	Destination number
Timeout	When selected delayed hotline, select delay time from 0-10 seconds.

6.3.11 Group Pickup

Select " Voice Config>>PBX Features>>Group Pickup" to open the page as shown in the following figure.

Group Call Pickup:

If there is no answer when an extension is ringing in a group, other members could pickup for him as the following operation.

1. Usage: In a group, if there is no answer when an extension is ringing, including outbound and inbound calls, members can pick up the phone and press *115 after hearing the dial tone.

2. NOTE: The extension does not need to designate the called extension number; he just needs to follow the above operation. If several extensions ringing simultaneously; users can pick up according to calling sequence.

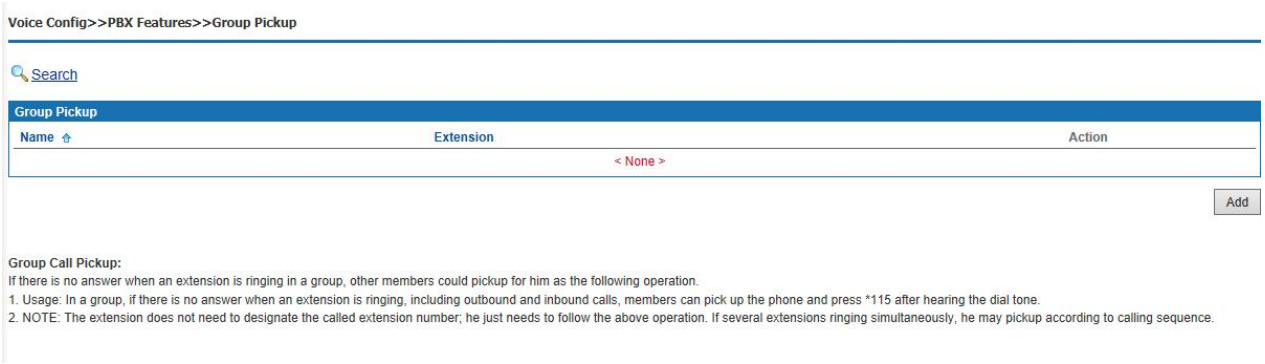


Figure 6-63 Group Pickup

Add Extensions to a Group

Click <Add> to open the page as shown in the following figure.

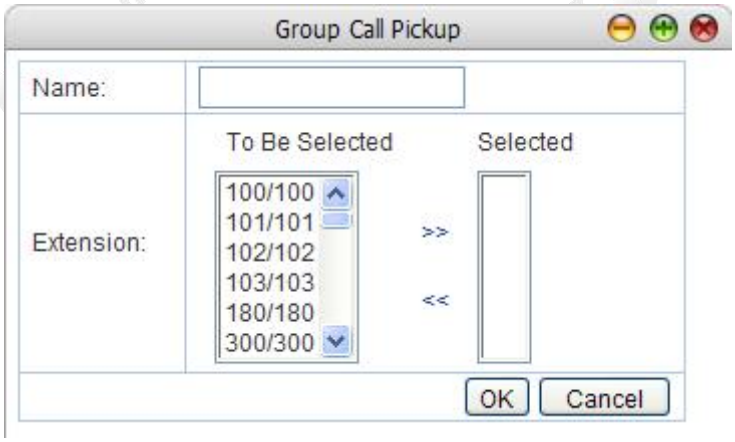


Figure 6-64 Add Extensions to a Group

Interface items are described as follows:

Table 6-28 Add Extension to a group

Items	Description
Name	Name of this group
Extension	Add extension numbers to this group

6.3.12 Music Ring

Select "Supplement Service>Music ringtone Back Tone" to open the page as shown in the following figure.

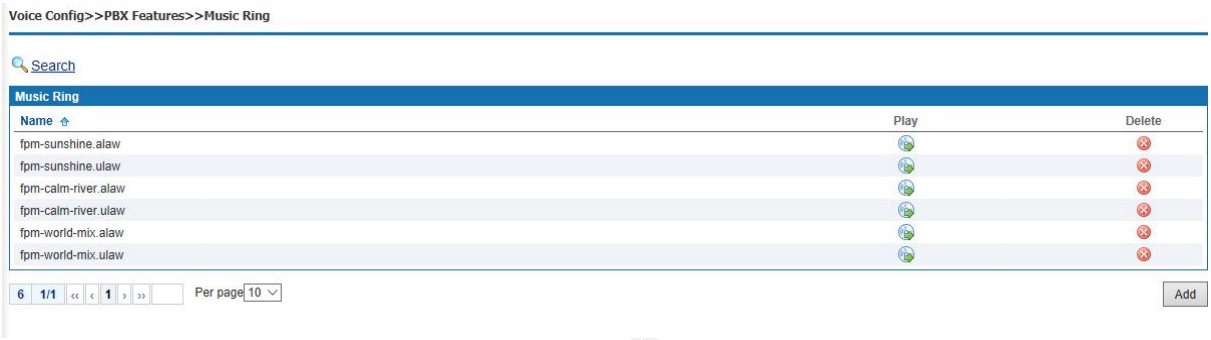


Figure 6-65 Music Ring

Add a CRBT

Click <Add> to open the page as shown in the following figure.

Figure 6-66 Add Music ringtone Back Tone

Click <Browser> button to select local music files, and then click the <Upload> button to upload the music to system.

Play CRBT

Click < > button to play CRBT.

Search CRBT

Click < Search> button to open the page as shown in the following figure.

Figure 6-67 Search CRBT

Users can search CRBT by name.

Note:

(1) Users can upload or record personalized color ringtones in the self-service system.

(2) Upload audio files in 8kHz, 16bit, mono format of wav, alaw, ulaw and GSM file.

6.3.13 Alarm Clock

Users can set the alarm clock to make the extension ring at the specified time, thus to prevent missing any important arrangement.

Select " Voice Config>>PBX Features>>Alarm Clock" to open the page as shown in the following figure.

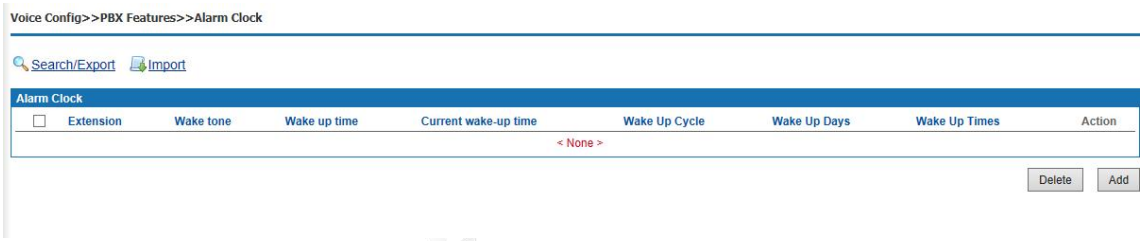


Figure 6-68 Alarm Clock

Add Alarm Clock Service

Click <Add> to open the page as shown in the following figure.

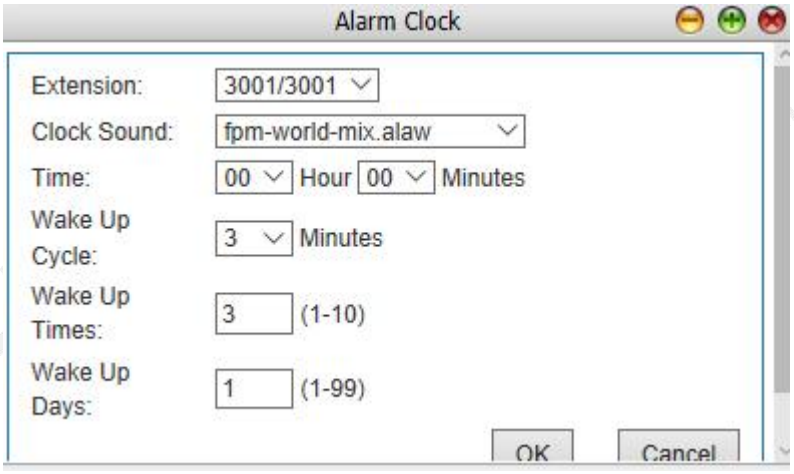


Figure 6-69 Add Alarm Clock Service

Configure extension number, clock sound and effective time of alarm clock service.

Search Alarm Clock Service

Click <Search> button to open the page as shown in the following figure.

Figure 6-70 Search Alarm Clock

Users can search the alarm clock that has been set in accordance with extension.

6.3.14 Speed Dial

Speed dial is a function, which allows the user to place a call by pressing a reduced number of keys.

Select " Voice Config>>PBX Features>>Speed Dial" to open the page as shown in the following figure.

Figure 6-71 Speed Dailck

Add a Speed Dial

Click <Add> to open the page as shown in the following figure.

Figure 6-72 Add a Speed Dial

Interface items are described as follows:

Table 6- 29 Add New Speed-dial

Items	Description
Extension	Select extension number
Speed-dial Number	The corresponding speed-dial key for the phone number.
Phone Number	Phone number which needed to be dialed with the speed-dial number

Search Speed-dial

Click <Search> button to open the page as shown in the following figure.

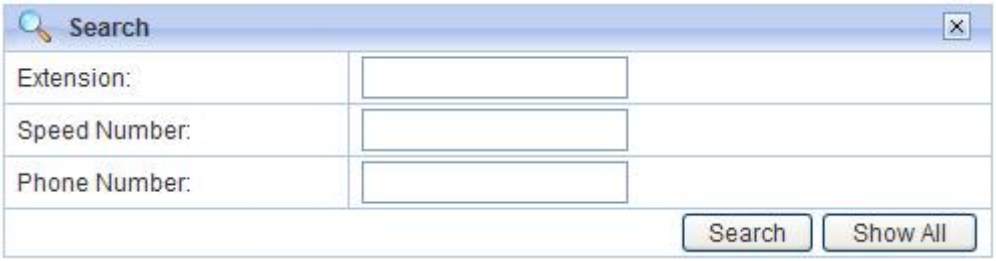


Figure 6-73 Search Speed-dial Policy

Users can search the speed dial by extension number, speed-dial number and phone number.

6.3.15 Call Transfer

Select "V Voice Config>>PBX Features>>Call Transfer" to open the page as shown in the following figure.

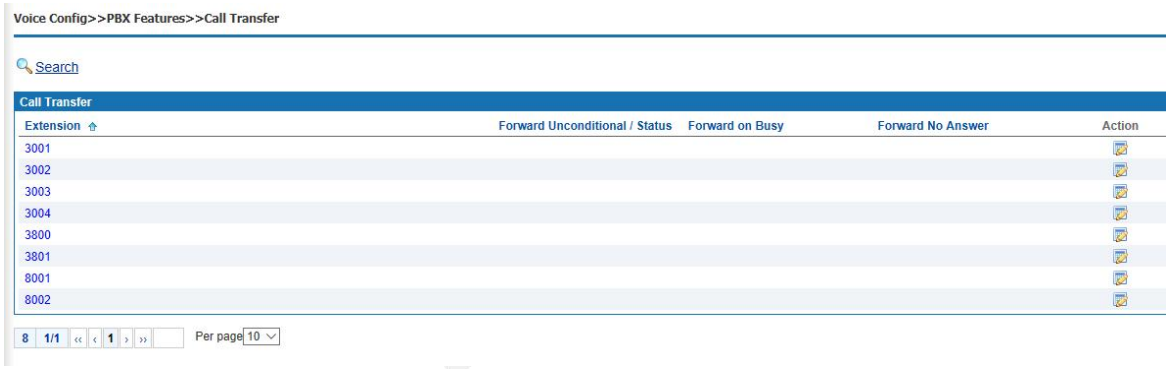


Figure 6-74 Call Transfer

Configure Call Forwarding

Click <> button to open the page as shown in the following figure.

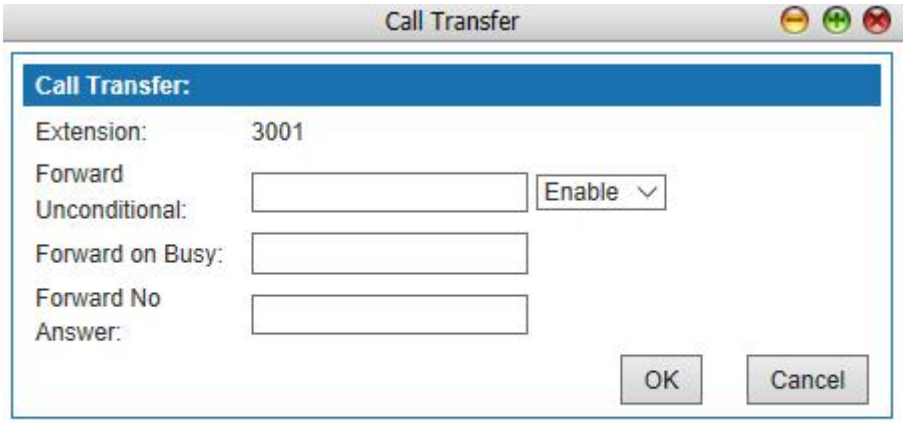


Figure 6-75 Edit Call Transfer

Interface items are described as follows:

Table 6- 30 Call Forwarding Configuration

Items	Description
Extension	Extension number
Forward Unconditional	Incoming calls will be forwarded to another preset phone number.
Forward on Busy	Incoming calls will be forwarded to another preset number when the line is busy.
Forward No Answer	Incoming calls will be forwarded to another preset number when no one answers the call.

Search Call Forwarding

Click <Search> button to open the page as shown in the following figure.

Figure 6-76 Search Call Forwarding Policy

Users can search call-forwarding policy by extension number, forward unconditional, forward on busy and forward no answer.

6.3.16 Black List

Users can refuse the incoming calls from some certain numbers to prevent users from unacceptable calls.

Select " Voice Config>>PBX Features>>Black List" to open the page as shown in the following figure.

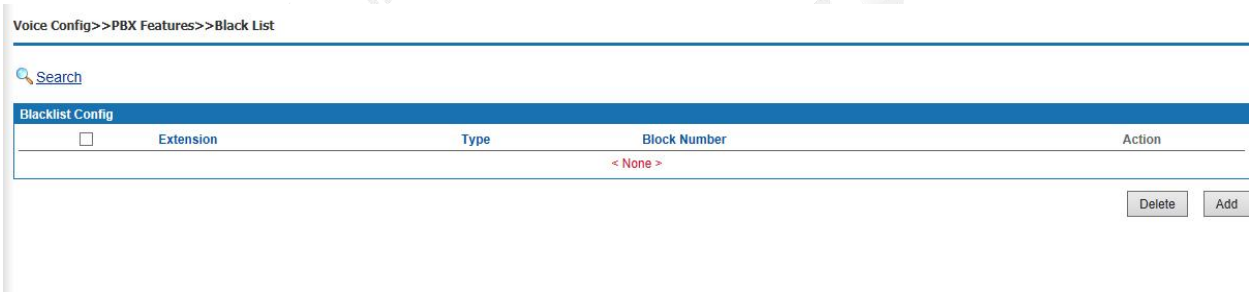


Figure 6-77 Black List

Add Blacklist

Click <Add> to open the page as shown in the following figure.

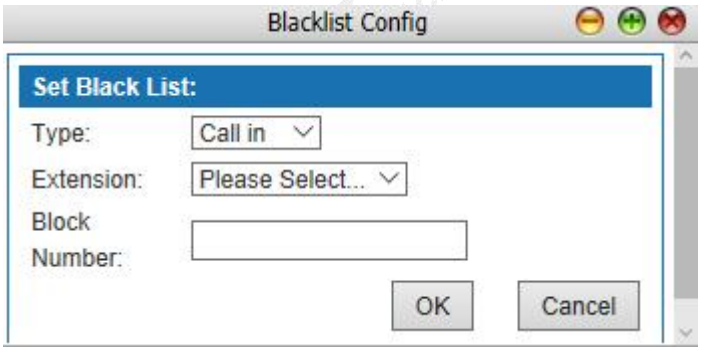


Figure 6- 78 Blacklist Configuration

Interface items are described as follows:

Table 6- 31 Blacklist Configuration

Items	Description
Extension	Select extension number
Block Number	Phone number that the extension is designated not answer.

Search Blacklist

Click <Search> button to open the page as shown in the following figure.

Figure 6- 79 Search Blacklist

Users can search blacklist by extension number and block number.

6.3.17 White List

Select " Voice Config>>PBX Features>>White List" to open the page as shown in the following figure.

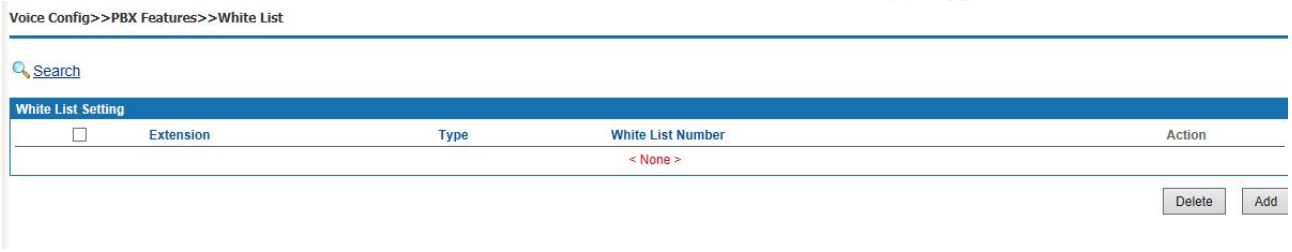


Figure 6-80 White List

Add Whitelist

Click <Add> to open the page as shown in the following figure.

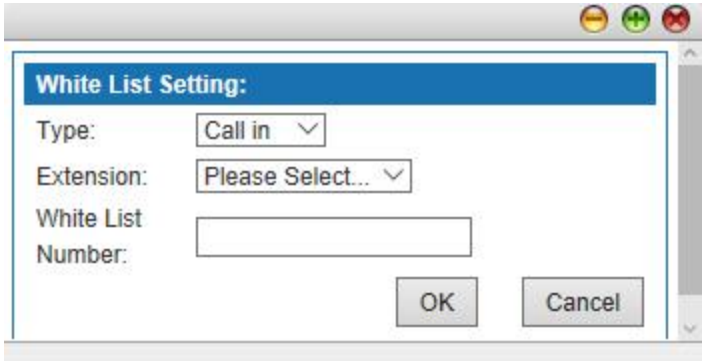


Figure 6- 81 Whitelist Configuration

Interface items are described as follows:

Table 6- 32 Whitelist Configuration

Items	Description

Items	Description
Extension	Select extension number
White List Number	Phone number that the extension is designated answer

Search Blacklist

Click <Search> button to open the page as shown in the following figure.

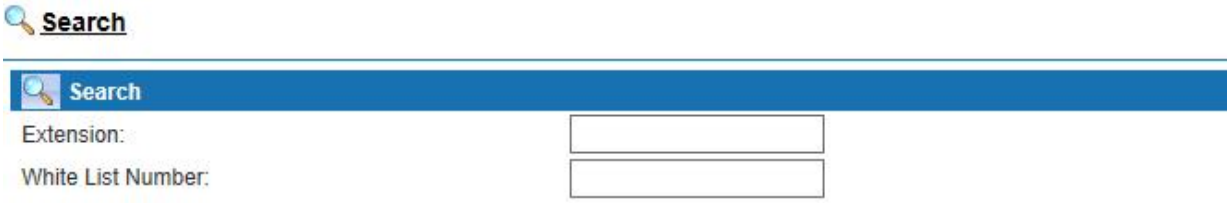


Figure 6- 82 Search Whitelist

Users can search blacklist by extension number and white list number.

6.3.18 Secretary

According to the set rules, the call can be filtered through the secretary extension and then transferred to the manager extension, which greatly saves the manager's time and avoids unnecessary interruptions.

Select the " Voice Config>>PBX Features>>Secretary", the pop-up page as shown in the figure below.

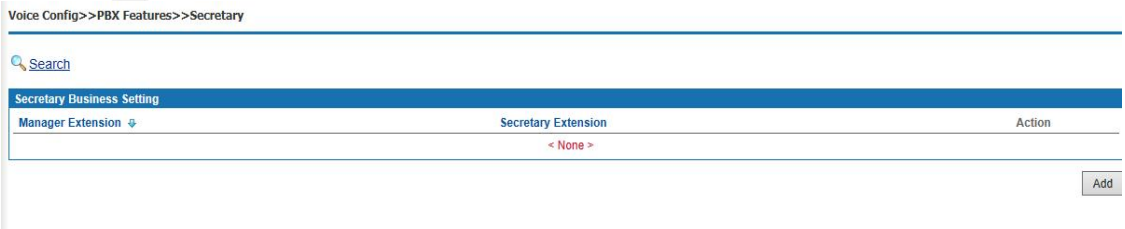


Figure 6-83 Secretary

Steps:

1. Business Settings (in global parameters)

Seleect “Voice Config>>PBX Settings>>Global Setting”

Figure 6-84 Business Setting

- Global: internal extension or outside number call manager number, all calls reach the secretary first;
- Internal: refers to the internal extension call manager number, reach the secretary first; outside number calls manager number, directly to the manager;

- External: refers to the outside number call manager number, reach the secretary first; internal extension calls manager number, directly to the manager;

1. Add Secretary Number

Click <Add> to open the page as shown in the following figure.

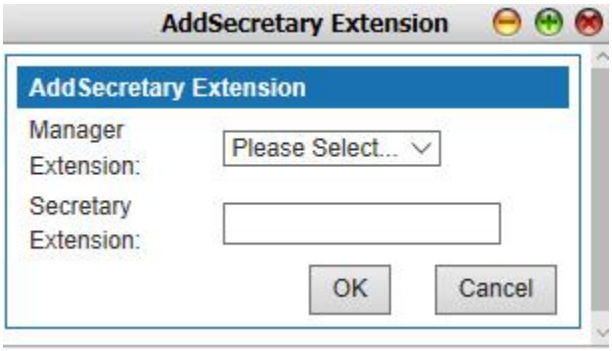


Figure 6-85 Add Secretary Number

Interface items are described as follows:

Table 6-33 Add Secretary Number

Items	Description
Manager Extension	Extension of manager
Secretary Extension	Extension of secretary

6.3.19 Follow Me

When user is being called, phones will concurrently or sequentially vibrate accord to the setting. In the circumstance of concurrent vibration, if one terminal picks up the phone, then other ringing will stop. Under the circumstance of sequential vibration, if one terminal doesn't answer the phone in the setting time, then the call will transfer to next terminal.

Select "Voice Config>>PBX Features>>Follow Me" to open the page as shown in the following figure.

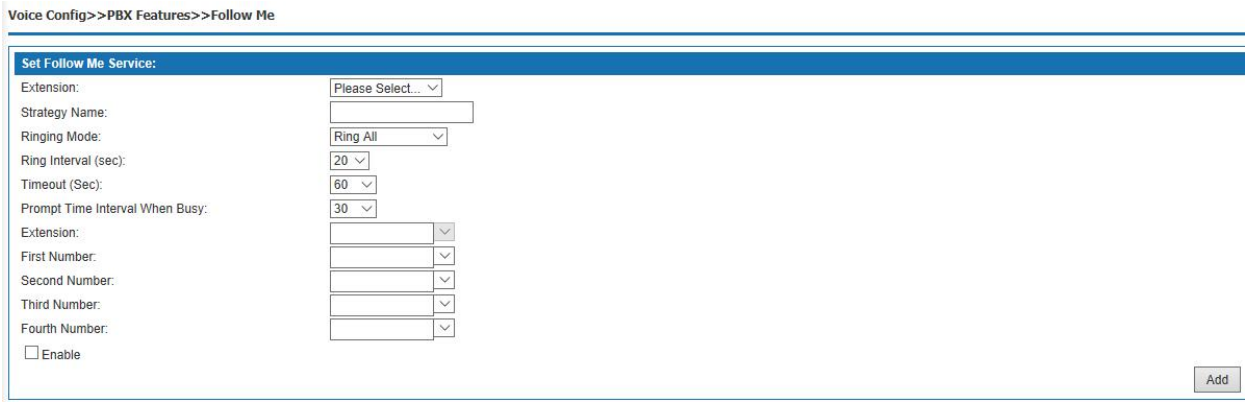


Figure 6-86 Follow Me

Interface items are described as follows:

Table 6-34 Follow Me

Items	Description
Extension	Extension number
Strategy Name	Name of this strategy
Ringing Mode	Options: Ring All, Ring one by one, RR with memory
Ringing Interval	Ringing duration of each phone
Timeout	Total ringing time
Extension	Extension number

6.3.20 Voice Mail

Voice to Email breaks traditional method of checking voice message, which provides users good mobility. Wherever you are – on vacation, a business trip or just traveling in your hometown; you'll never miss any voice message.

Functions of voice mail are as follows:

1) Transfer to voice mail box when call failed
2) Voice messages can be saved in system's voice mail box
3) Send voice message to specific email box
4) Supports locally and remotely listen to the voice message

Select "Voice Config>>PBX Features>>Voice Maill" to open the page as shown in the following figure.

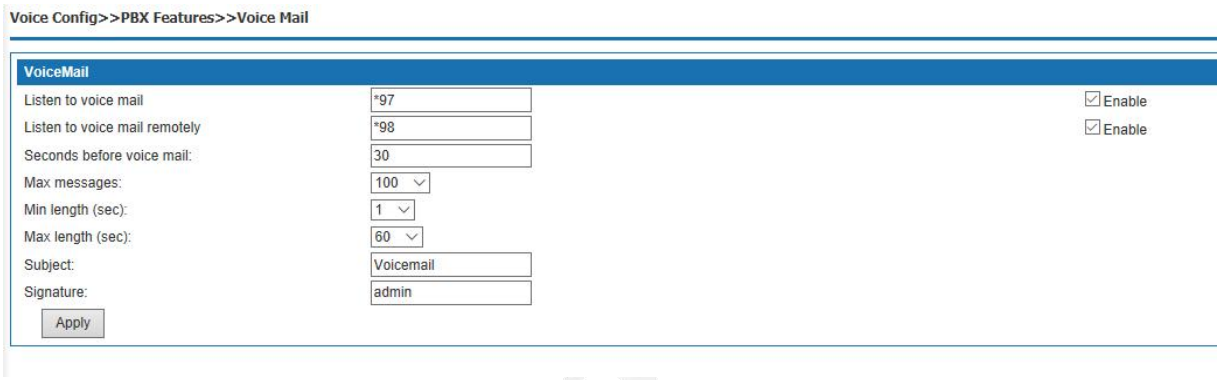


Figure 6-87 Voice Mail

Interface items are described as follows:

Table 6-35 Voice Mail

Items	Description
Listen to voicemail	Dial *97 on extension to listen to local voice message
Listen to voicemail	Dial *98 on extension to listen to voice message remotely
Seconds before Voicemail	The call will be forwarded to the voice mail if the destination user does not

Items	Description
	answer for the defined time.
Max Messages	The maximum pieces of message can be 1000
Min Length (sec)	The minimum length of the message can be from 1 to 60 seconds
Max Length (sec)	The maximum length of the message can be from 1 to 60 seconds
Subject	The destination users can receive the message in the voice mail with the subject
Signature	The signature of the sender

(1) when listening to the voice message, the system may prompt you to input the password, the password is the PIN code in the voice message, the initial password is "0000", please contact the administrator for details, please refer to 6.2.1.1 to add the voice mail box Settings of a single user.

(2) before setting up voice mail, SMTP server needs to be set up first. See 6.6.9 SMTP setting for details

6.3.21 IVR

Device uses convenient auto-answer system. Users can customize IVR flow according to their needs. Through in-house software platform, the unit can provide IVR service, and users don't need additional IVR server and related boards, which can reduce investment. Through Graphical User Interface, users can easily customize the IVR flow, and modify IVR flow according to the change of services.

Enterprise attendant functions as follow:

1) Play greetings and announcements when there're incoming calls
2) Customize IVR, and supports nesting IVRs
3) Enterprise attendant can trigger events as follows: IVR, extension, play greeting, group call, queue, hang up, audio conferencing, etc.

Select " Voice Config>>PBX Features>>IVR" to open the page as shown in the following figure.

Figure 6-88 IVR Setting

Add a New IVR

1. Click <Add> button to open the page as shown in the following figure.

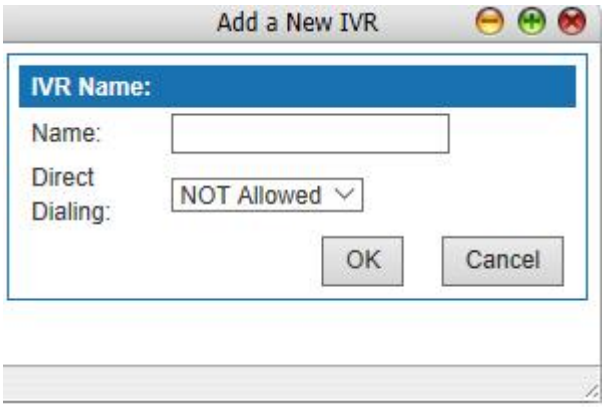


Figure 6-89 New IVR Setting

2. Enter the name of new IVR, then click <OK> button to open the page as shown in the following figure.

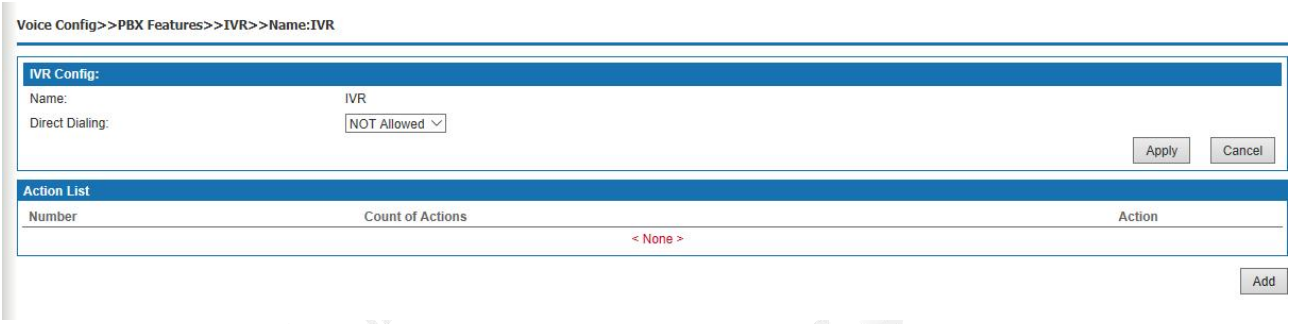


Figure 6-90 New IVR

IVR Setting

1. Click <Add> button to open the page as shown in the following figure.

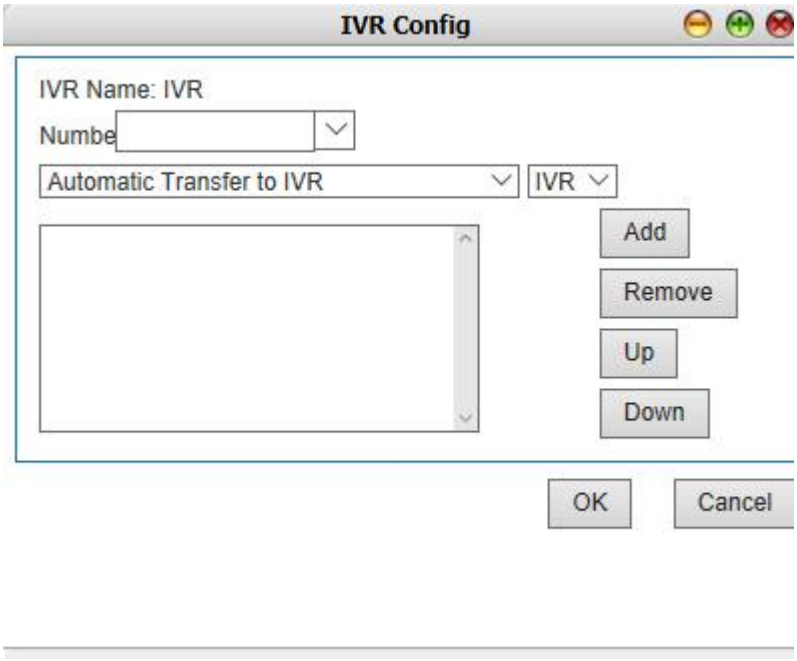


Figure 6-91 IVR Setting

Interface items are described as follows:

Table 6-36 IVR Setting

Items	Description
Number	It is the number dialed by the external user after connecting to the system switchboard. It can be used to trigger a special event of the process. “1”, means start, stands for the IVR event triggered by the users when they put through the external switchboard. “2”, means invalid, represents the IVR event triggered by the users when the number they dialed is invalid. “0”, means timeout, refers to the IVR event triggered by the users when there is no operation carried out in the specified time after they put it through to the switchboard.
Action	The selection boxes under the number are the action selection box and the selection box of action content, which represents the action triggered in the number and its content. The options of the action include automatic transfer to IVR, extension number, play prompt tone (cannot be interrupted), play prompt tone (interrupted), voice mail, group call, queue, hang up, answer and conference.
Action list	After selecting the action and the content of the action Click the< add > button and the selected action will be added to the action list box. If there are more than one actions, they will take place according to the order. The order is from the top to down. The order of the action list can be adjusted by clicking the < up > and < down > buttons Click the< delete > button to remove unwanted actions from the action list.

Complete the settings, click <OK> button to add a new IVR.

Search Enterprise Attendant

Click <Search> button to open the page as shown in the following figure.

Figure 6-92 Search IVR Setting

Users can search enterprise attendant by name.

6.3.22 SoftConsole

Select " Voice Config>>PBX Features>>SoftConsle" to open the page as shown in the following figure.

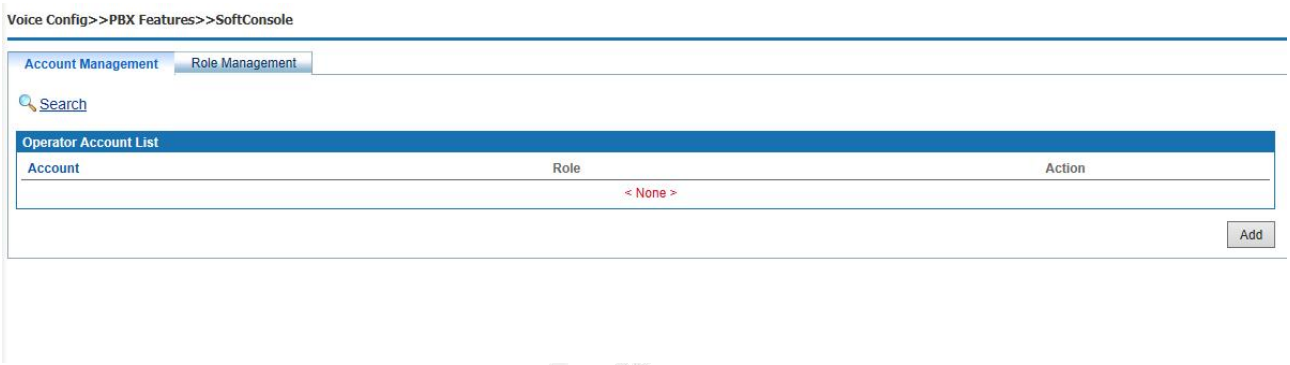


Figure 6-93 SoftConsole

Add a Role

Click <Role Management> to pop up the figure below.

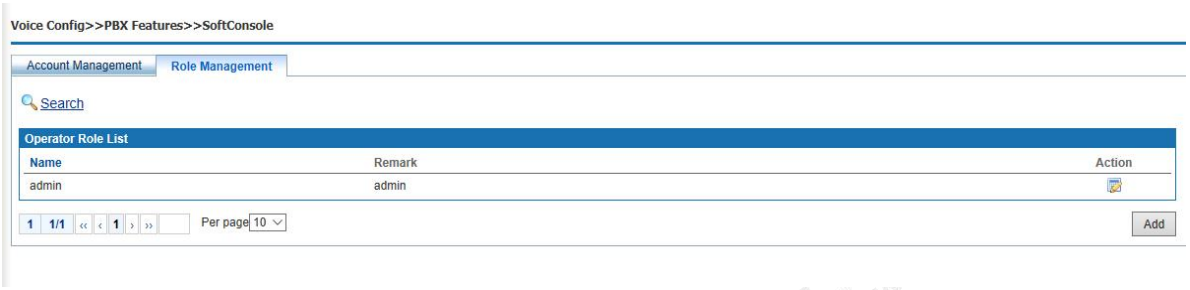


Figure 6-94 SoftConsole – Role Management

Click <Add> button to open the page as shown in the following figure.

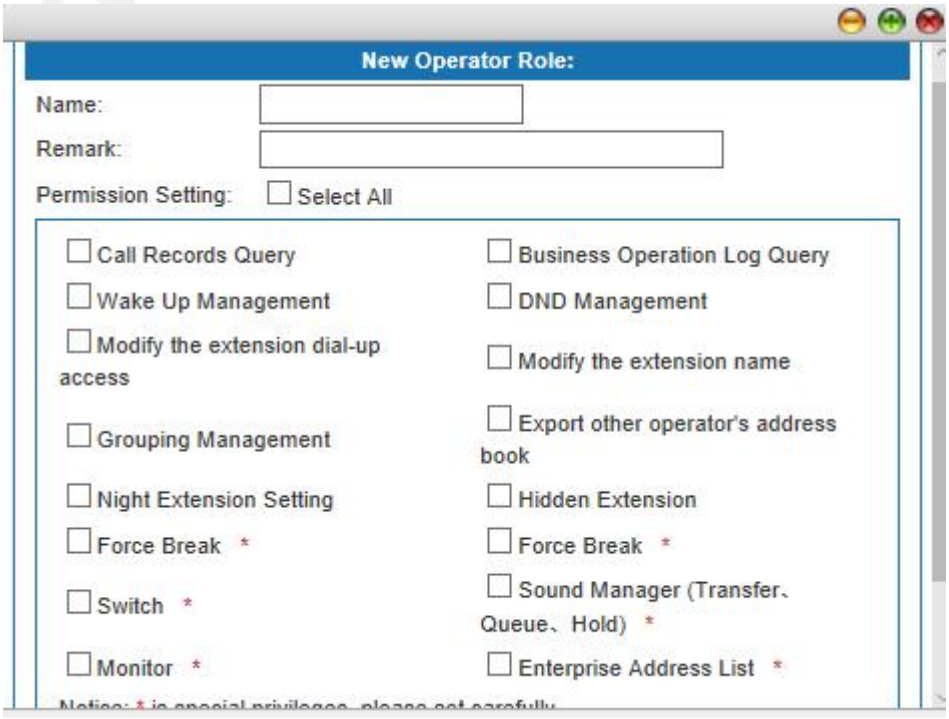


Figure 6-95Add New Operator

Interface items are described as follows:

Table 6-37 Operator Role

Items	Description
Name	Name of operator
Remark	Description of role
Permission Setting	Select operator permission

Add a account

Click <Account Management> to pop up the figure below.

Figure 6-96 SoftConsole – Account Management

Click <Add> button to open the page as shown in the following figure.

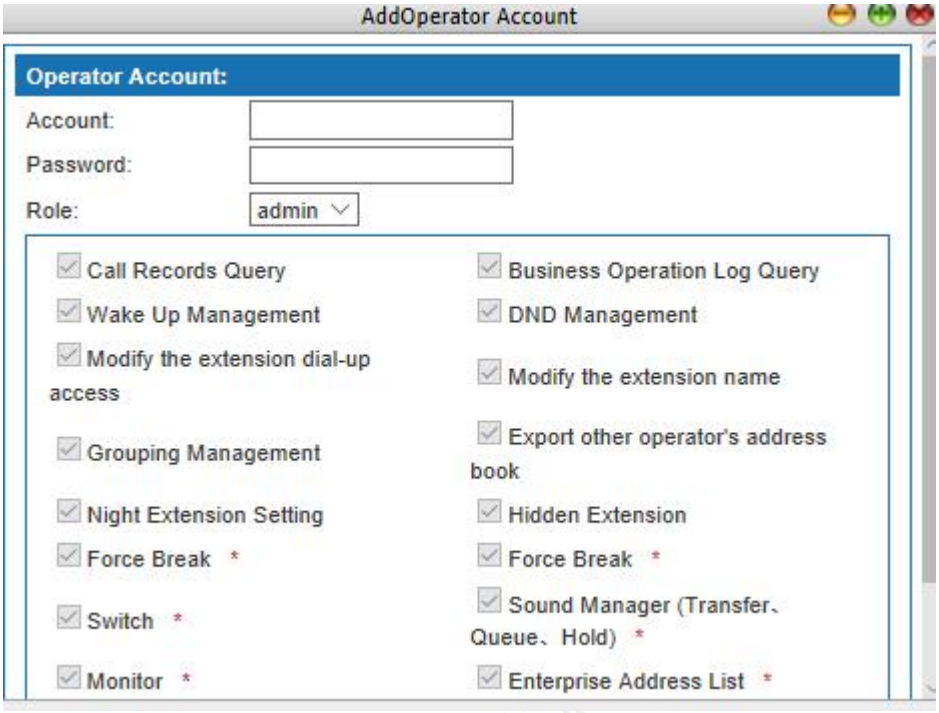


Figure 6-97 Add Operator Account

Interface items are described as follows:

Figure 6-38 Add Operator Account

Items	Description
Account	Name of operator account
Password	Password of operator account
Role	Select relevant role
Permission Setting	Show operator permission

6.3.23 Queue

This function is widely used in call center. Usually, the extensions of the operators are set in a queue; while only one extension number is used. When the subscriber dials the number, all the extensions in the queue will ring according to the ringing policy, such as simultaneous ringing, circular ringing, etc.

Select " Voice Config>>PBX Features>>Queue" to open the page as shown in the following figure.

Figure6-98 Queue

Add a New Queue

1. Click <Add> button to open the page as shown in the following figure.

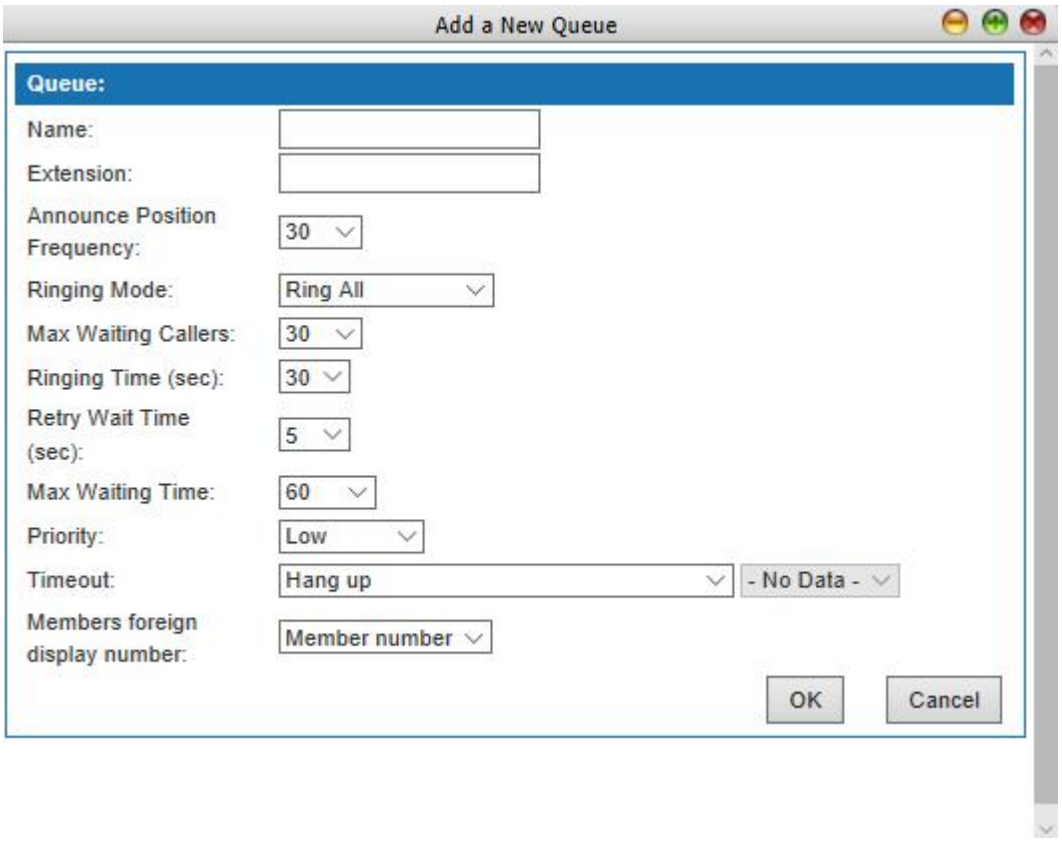


Figure 6-99 Add a New Queue

Interface items are described as follows:

Table 6-39 Add New Queue

Items	Description
Name	Name of this queue
Extension Number	Extension number of this queue
Announce Position Frequency (sec)	When the line is busy, prompt time interval, default value is 30 seconds
Ringing Mode	Options: Ring All, Round Robin, Least Recent, Fewest Calls, Random and RR with memory Ring all:All extensions in the queue ring together,default value is “ring all” Round robin:The extension takes turns to ring Least Recent:The most recently least answered extension has priority ringing Fewest calls:The extension with the least answering should ring first Random :Randomly select the extension to ring RR with memory:Remember the last extension which rings and the extension which not ring last time has the priority.
Max Waiting Callers	Maximum number of calls in the queue can hold simultaneously
Ringing Time	Time duration of the ring when there is no answer from the agent
Retry Wait Time (sec)	When all the lines are busy, the call in users can select waiting. Hearing the prompt tone after the waiting time, users can select to continue waiting or hang up
Max Waiting Time (sec)	Maximum waiting time for users who select continue waiting
Priority	The priority level compared to other queues.Low,medium,high and very high four levels.
Timeout	Options: Extension, Play prompt tone (can be interrupted), Play prompt tone (cannot be interrupted), Queue and Hang up
Member Display Number	Member number ,queue number or customized number Member number:When the queue member make outline calls,the number displayed as member extension numbers. Queue number: It displays the queue number when the queue member dials out . Customized number:It displays the customized number when dials out.It can fill in the text box.

Click <OK> button, and click <Add> button to add queue member, the page as shown in the following figure.

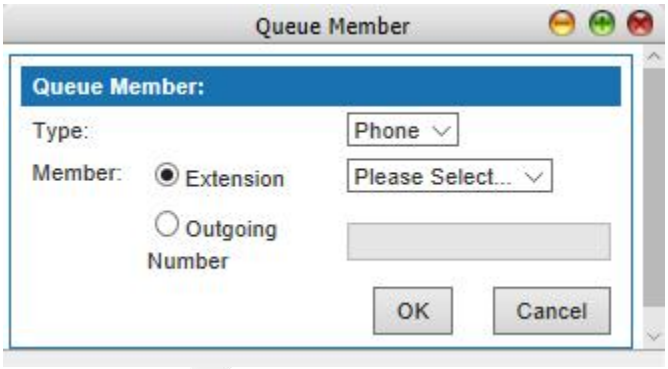


Figure 6-100 Queue Member

Interface items are described as follows:

Figure 6-40 Add Queue Member

Items	Description
Type	Options: Agent or Phone
Member	Select the member according to the type.

Search Queue

Click <Search> button to open the page as shown in the following figure.

Figure 6-101 Search Queue

Users can search the queue by name and extension number.

Note: The queue number cannot be repeated with the existing user extension number or conference call number or other business Numbers.

6.3.24 Call Recording

Select "Voice Config>>PBX Features>>Call Recording" to open the page as shown in the following figure.

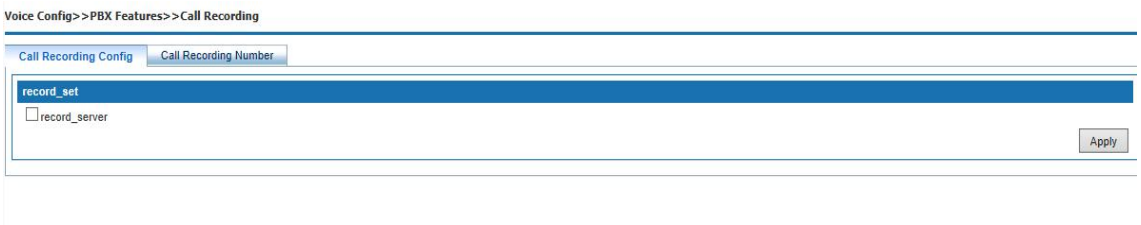


Figure 6-102 Call Recording

Interface items are described as follows:

Figure 6-41 Call Recording

Call Reording	
Enable Record	Click to enable record
Service IP/Port	IP address and port of record server

Click <Edit> button to open the page as shown in the following figure.

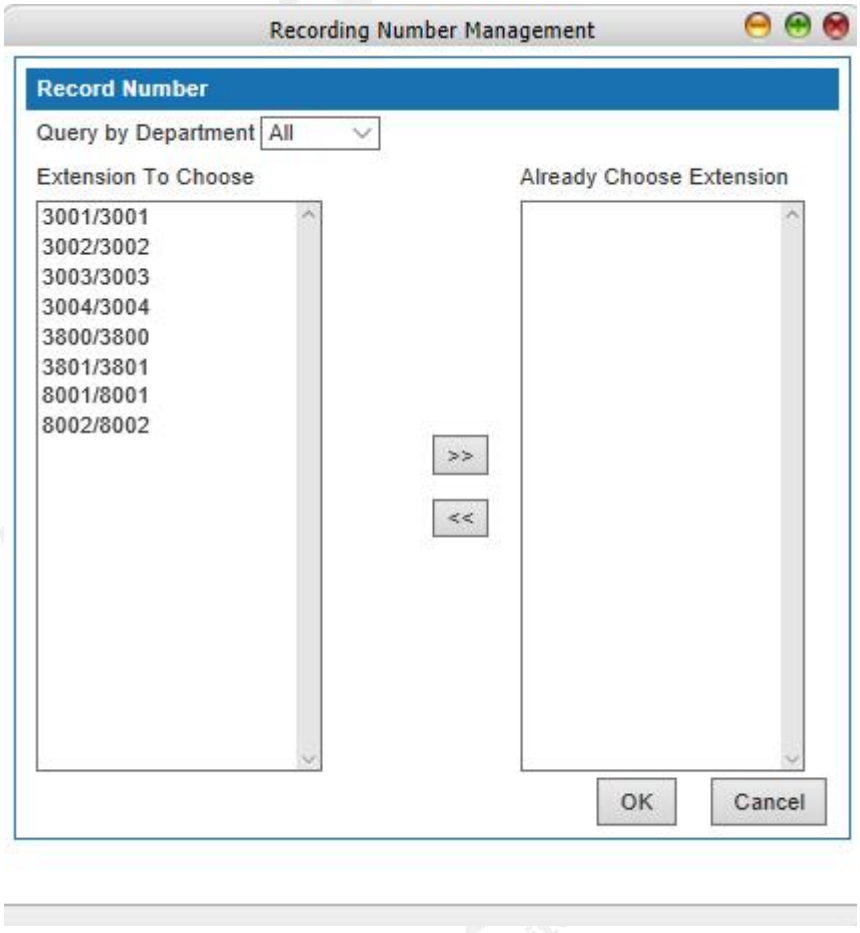


Figure 6-103 Recording Number Management

Interface items are described as follows:

Table 6-42 Recording Number Management

Items	Description
Query by Department	Select extensions according to departments
Extension	Select extensions

Recording server and IP PBX device must configure docking information at the same time. After successful docking, recording function can be used.

Recording server can be a single computer installed with Linux system and recording software, then connected through IP and equipment, through the web browser login to view, play, download recording and so on.

If you don't have a recording server, you can also install the "setup.exe" attached to the CD with installation instructions. After installation, you need to run "Recording Management System", log in with the default password of "admin", fill in the IP address of IP PBX, and click on "Start Receiving". Most of the functions of the recording software will be shut down after 30 days'trial, and it can continue to be used. If you want to continue full-featured use, please contact the vendor for payment.

6.3.25 Billing Setting

Select "Voice Config>>PBX Features>>Billing Setting" to open the page as shown in the following figure.

Figure 6-104 Billing Setting

Interface items are described as follows:

Table 6-43 Billing Setting

Items	Description
Docking Server Setting	
Billing interface setting	Default is V1.0; if users select V2.0, following items should be configured
Billing server IP address	IP address of billing server
Billing server port	Port of billing server
Username/password	Username and pswword of billing server
Card Access Control	Set local, domestic long distance, international long distance

6.3.26 Conference bridge

Select<PBX feature> and<conference bridge>,the conference bridge page pops out as follow:

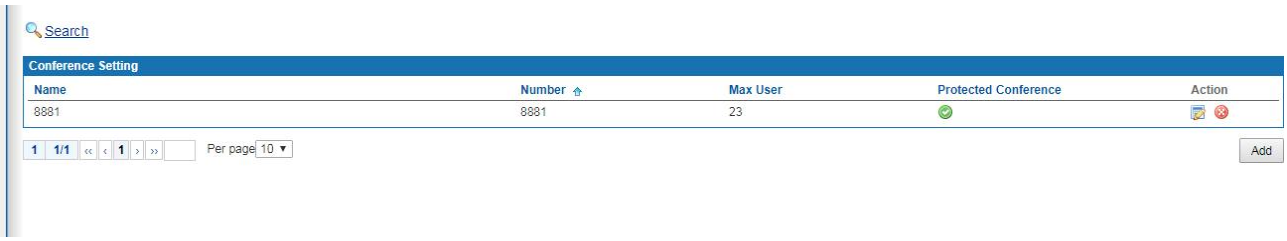


Figure 6-105 Conference Bridge setting page

Add a meeting

Click the add button and it pops up the page as following:

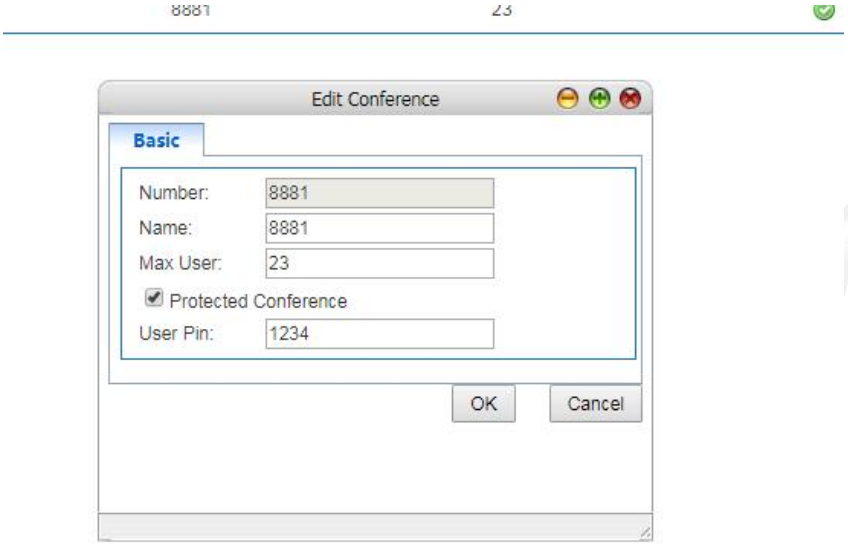


Figure 6-106 Edit a conference

The interface terms as following:

Table 6-44 Edit a conference

Name	Description
Number	Set the conference number

Name	Set the conference name
Max user	Set the maximum users that can attend this meeting
User pin	When enable the protected conference,it needs to fill in the user pin.When connects through the conference,it needs to dial the pin to enter the conference.

6.4 PBX Setting

PBX Setting includes Global setting, route group, VoIP setting, DSP setting, analog setting, prompt tone, etc

6.4.1 Global Setting

Select "Voice Config>>PBX Settings>>Global Setting" to open the page as shown in the following figure.

Figure 6-107 Global Setting

Interface items are described as follows:

Table 6-45 Global Setting

Items	Description
Global Reloading	Reload all voice configurations
PCM	This device supports A-law and μ-law; default value is A-law. A-law: A-law is the ITU-T (International Telecommunication Bureau of Standards) defined on a pulse code compression / decompression algorithm. A majority of the world countries have adopted laws compression algorithm. μ-law: μ-law is a standard digital multimedia codec's (compression / decompression) algorithms by the International Telephone and Telegraph promulgated Advisory Committee.
Region Code Setting	Select users' country, system default values will follow national standards.
Voice Prompt Language	Chinese or English
Ring Time	Type the value of the ring time, the range is 1~200s, and the default value is 30s.
Enable Service	Select "open" to enable self-switch Select "closed" to disable sel-switch
Enable Basic Service	VIP: Select "Open" to enable VIP function. DNS SRV: Select "Open" to enable DNS SRV function. Whether to Send Ponder: Select "Open" to send "#" to upper switch.
Max Forward Times	Default "0"
RTP Timeout Setting	Default value: 30 seconds
Outgoing Call - Quick Setting	National Long Distance: 0 International Long Distance: 00
Incoming call display settings	Default "anonymous"
Area Code Setting	Enter area code, for example, Suzhou is "0512"
Display source caller when relay incoming and forwarding	Outgoing number A calls from FXO\E1\SIP relay to extension B, B: blind transfer and inquiry transfer to extension C, the caller id of extension C is A B transfers unconditionally, in case of busy transfer, no answer transfer to extension C, the caller id of extension C is outgoing number A

Items	Description
Memory callback switch	IPPBX switchboard outside set up the inbound IVR process, normal outside call switchboard number enter into IVR voice prompt.When cell phone A calls IPPBX switchboard number, IPPBX will check whether there is cell phone B as the called record in the call log form within 1 week. If it is found that the last extension B called cell phone A, the call will be directly transferred to extension B. If there are no call logs for a week, the IVR process is entered.

6.4.2 Route Group

Route group can classify the users and trunks on device, and control the call through binding routes; route group has the following features:

1. a user can only correspond to one route group, and the user and the routing group can only one to one relationship.

2. a route group can bind multiple routes, and a route can also be classified into multiple routing groups. Route group and routing are multi to many relations. Route is grouped into routing groups to take effect.

3.a route can bind multiple trunks, and a trunk can also belong to multiple routes.

Select "Voice Config>>PBX Settings>>Route Group" to open the page as shown in the following figure.

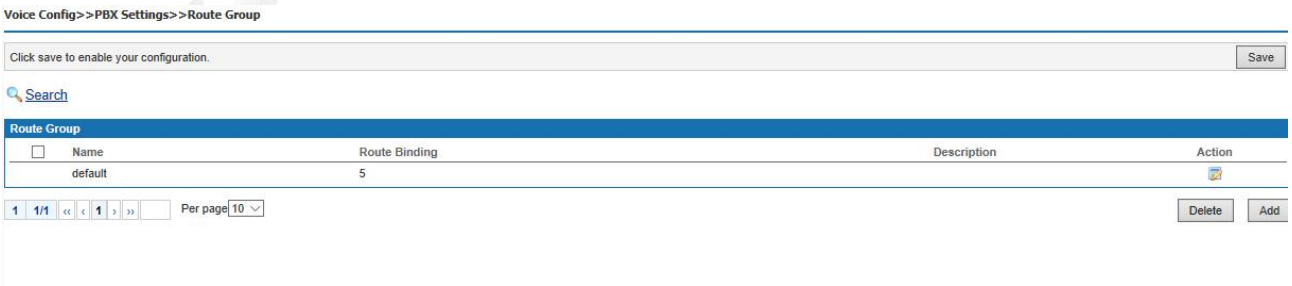


Figure 6-108 Route Group

1. Click <Add> button to open the page as shown in the following figure.

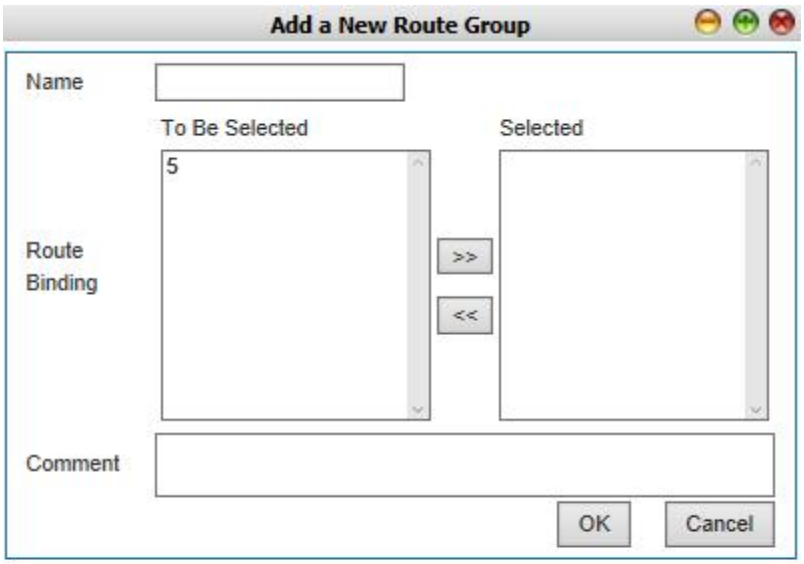


Figure 6-109 Add a New Route Group

Interface items are described as follows:

Table 6-46 Add a New Route Group

Items	Description
Name	Name of route group.
Route Binding	"To Be Select" or "Selected". Select the route from the to be selected box, click" >>" to select the routes, click " <<" to remove the selected routes.
Comment	Description of the route group.

Click<OK> button to finish configuration.

Delete Route Group

Delete a route group from this list. After selecting the entry, click < > button to delete it from this list.

Edit Route Group

This option allows user to change a route group configuration. Select an entry from the list, click < > button.

Search Route Group

Click <Search> button in search/export page to open the page as shown in the following figure.

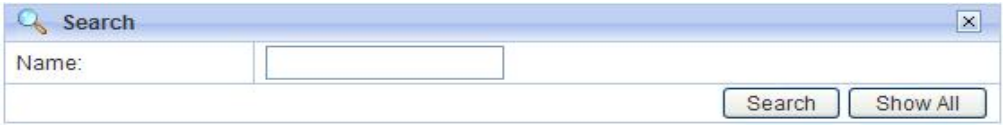


Figure 6-110 Search Route Group

Users can search route group by name.

6.5.3 PCM Settings

Select Voice config>>PBX settings>>PCM Config to open the page as 6-130.China adopts E1 standard, the default is E1, which needs to be consistent with the opposite end.

<Usage situation>Tag

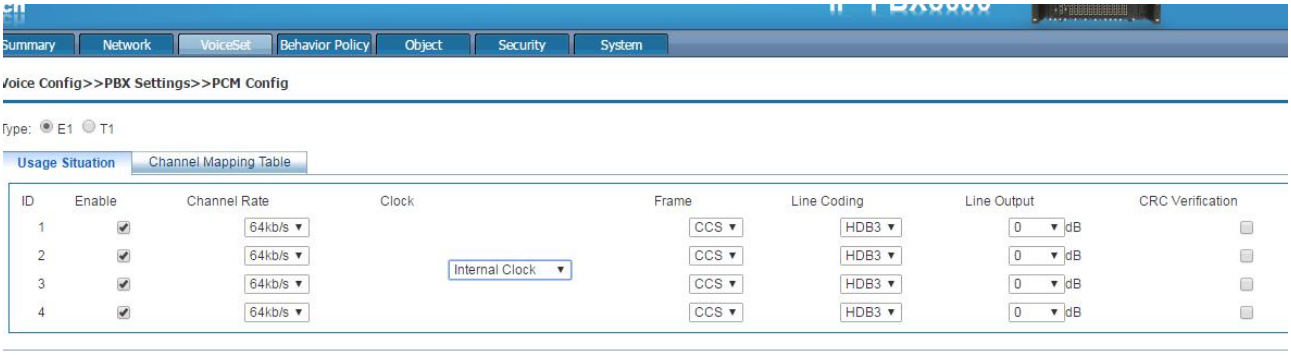


Figure 6-130 PCM Settings - Usage Situation

The "Usage Situation " interface is described as follows:

Table 6-52 PCM Settings - Usage Situation

name	Function Description
Enable	Default is not enabled。When you need to use this interface, enable the cable after docking。If the interface is not enabled and is only enabled on the NMS, a fault alarm will be generated.。
Channel rate	Select and set the slot rate。Optional 56kb/s, 64kb/s, default value "64kb/s"。
clock	External clock / internal clock，Default "external clock"。An external clock is generally used when accessing the PSTN。When the upper-level office is not connected, but only the lower-level office is connected, when the clock refers to the local office, all clocks are internal clocks.。In general, an external clock must be used to interface with the higher-level office.
frame	Optional CCS when PCM is E1(Common Channel Signaling)，CAS(Column Address Strobe)，Default "CCS"。 Where PRI or SS7 relay uses "CCS"，R2 trunk uses "CAS"。 Optional D4 for T1，ESF(Extended Super Frame)，Default "ESF"。 This parameter must be negotiated with the peer.。Both parties must be identical in interface parameters.，Inconsistent due to individual characteristic parameters，No warnings on the indicator or alarm station，But it will cause data channel failure, error code, slip code, out of synchronization, etc。
Line coding	Optional AMI when PCM is E1(Alternate Mark Inversion)，HDB3(High-density Bipolar Three)，Default "HDB3"。 Optional AMI for T1，B8ZS(Bipolar 8 Zeros Substitution)，Default "B8ZS"。This parameter must be negotiated with the peer.

name	Function Description
Line output	This parameter is used to adjust the signal strength，Optional is 0/-7.5/-15/-22.5 dB，Default "0dB"，In general, you can use the default value.。
CRC Verify	Default not verified。This parameter must be negotiated with the peer device.。

<Channel mapping table> tag

Select the Channel Map Table tab，As shown in Figure 6-131，Channel maps can view and edit the purpose of each channel。In some cases, the user divides the channels in E1/T1 into data channels and voice channels。

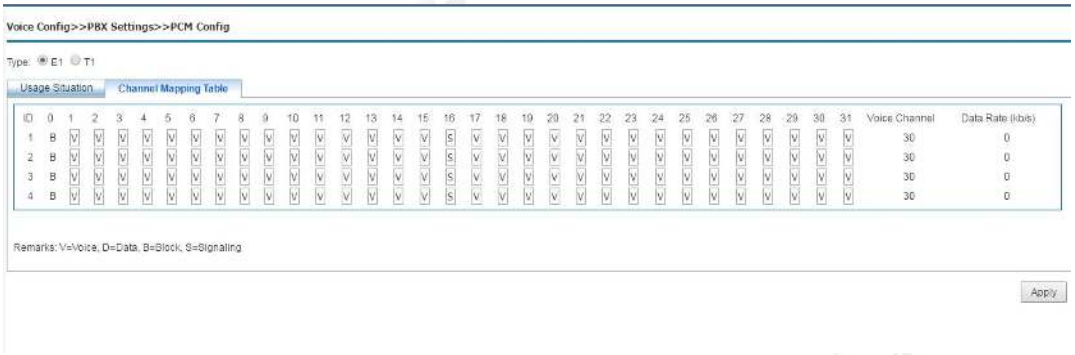


Figure 6-131 PCM Settings - Channel Mapping Table

In the case of E1：

- PRI： 16 channels are dedicated signaling channels。
- SS7：You can use the 1 to 31 channel according to the peer negotiation.。

📖Description：

When the E1/T1 interface is connected，Both parties must be identical on the E1/T1 interface parameters.，Because both E1/T1 cannot have signal loss/frame out-of-synchronization/multiframe out-of-synchronization/slip code conditions， Because the inconsistency of individual characteristic parameters will cause data channel failure / error code / slip code / out of step, etc.。 These characteristic parameters are: impedance / frame / line coding / CRC check,The above parameters need to be negotiated with the peer when docking.

6.4.3 Prompt Tone

All prompt tones used in system are managed in this page. Select "Voice Config>>PBX Settings>>Prompt Tone" to open the page as shown in the following figure.

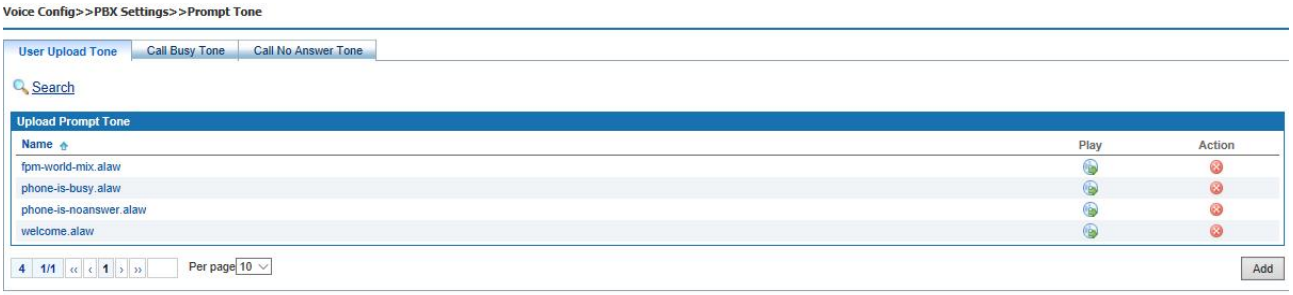


Figure 6-111 Prompt Tone

Add a new voice prompt file

Click <Add> button to open the page as shown in the following figure.

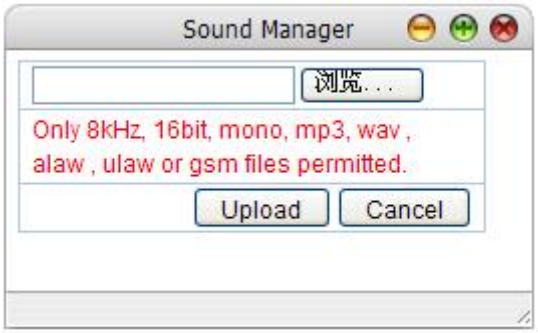


Figure 6- 112 Add a Voice Prompt File

Click the <Browser> button to select local file, and then click the <Upload> button to upload the voice file.

2. Search voice prompt tone

Click <Search> button to open the page as shown in the following figure.

Figure6- 113 Search Voice Prompt Tone

6.4.4 Record File

You can dial “*77” on the dial panel to record, and dial “#” to finish the recording. Select "Voice Config>>PBX Settings>>Record File" to open the page as shown in the following figure.

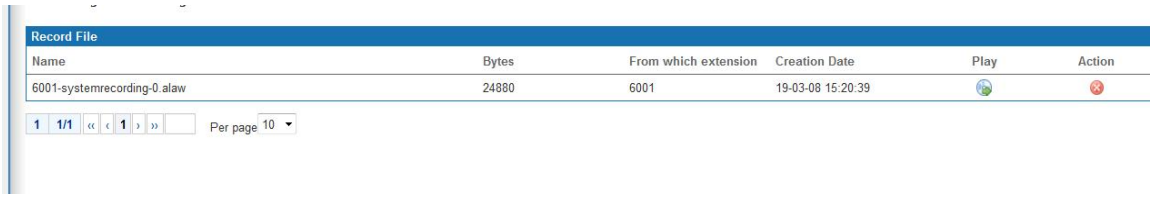


Figure 6-114 Record File

sers can manage the generated voice record in this page, click < > button to play it. After playing, there will be a popup window. If users want to transfer it into prompt tone, rename it and click <Transfer> button. Then the transferred file will be forwarded to the prompt tone, and the original record will be deleted.

6.4.5 VoIP Security

Select " Voice Config>>PBX Settings>>VOIP Security" to open the page as shown in the following figure.

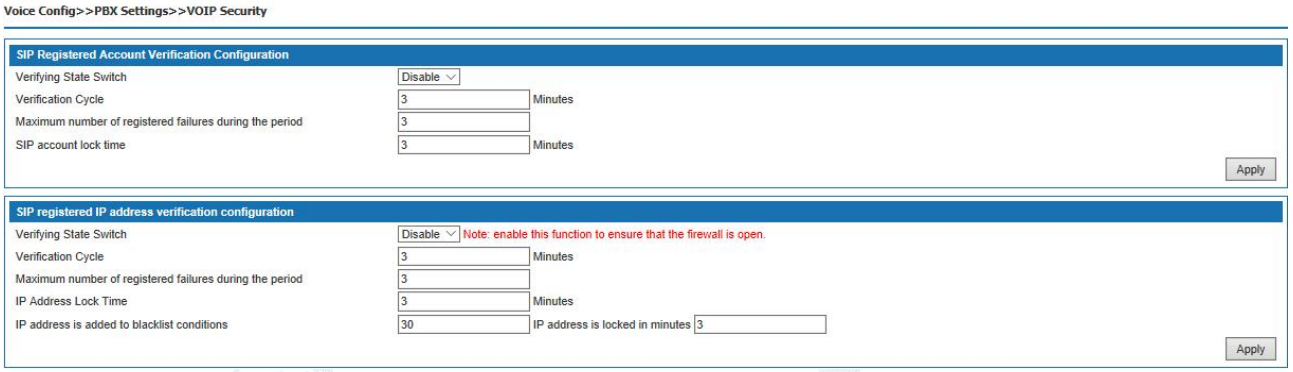


Figure 6-115 VoIP Security

Interface items are described as follows:

Table 6-47 VoIP Security

Items	Description
Verifying State Switch	If enabled, system will lock SIP account if SIP registry not accord with security policy. Default enabled
Verification Cycle	Default 3 minutes
Maximum number of registered failures during the period	Default 3
SIP account lock time	Default 3 minutes
SIP registered IP address verification configuration	
Verifying State Switch	If enabled, system will lock SIP account if SIP registry not accord with security policy. Default enabled
Verification Cycle	Default 3 minutes
Maximum number of registered failures during the period	Default 3

Items	Description
IP Address Lock Time	Default 3 minutes
IP address is added to blacklist conditions	If the IP address is locked over the set value within the set time, the system adds the IP address to the blacklist. The default is that the same IP address is locked in more than 3 times in "30 minutes", and the system adds the IP address to the blacklist.

Figure 6-116 VoIP Security

Total Call Duration Limitation	Select the "call time limit" radio box to enable the long - day long - distance traffic function to be limited. Administrators need to set the daily warning time and outage value for long distance traffic. The outage value needs to be greater than the warning value. The unit is: minute / day, the range is 0~9999 minutes / day, of which 0 indicates no time limit. Early warning value: when the daily toll traffic total length reached early warning value when the user answers after dialing the first voice warning system. Interrupt value: the user will not be able to make long distance calls when the daily long distance traffic is always up to the interrupt value. The default values are as follows: Domestic long distance: the early warning value is 3600 minutes / day, and the interruption value is 3700 minutes / day. International Distance: the early-warning value is 10 minutes / day, and the interruption value is 20 minutes / day. Query remainder long: The user can dial the business code *204 for the long query of the remaining calls.

6.4.6 VoIP Config

Select "Voice Config>>PBX Settings>>VoIP Config" to open the page as shown in the following figure.

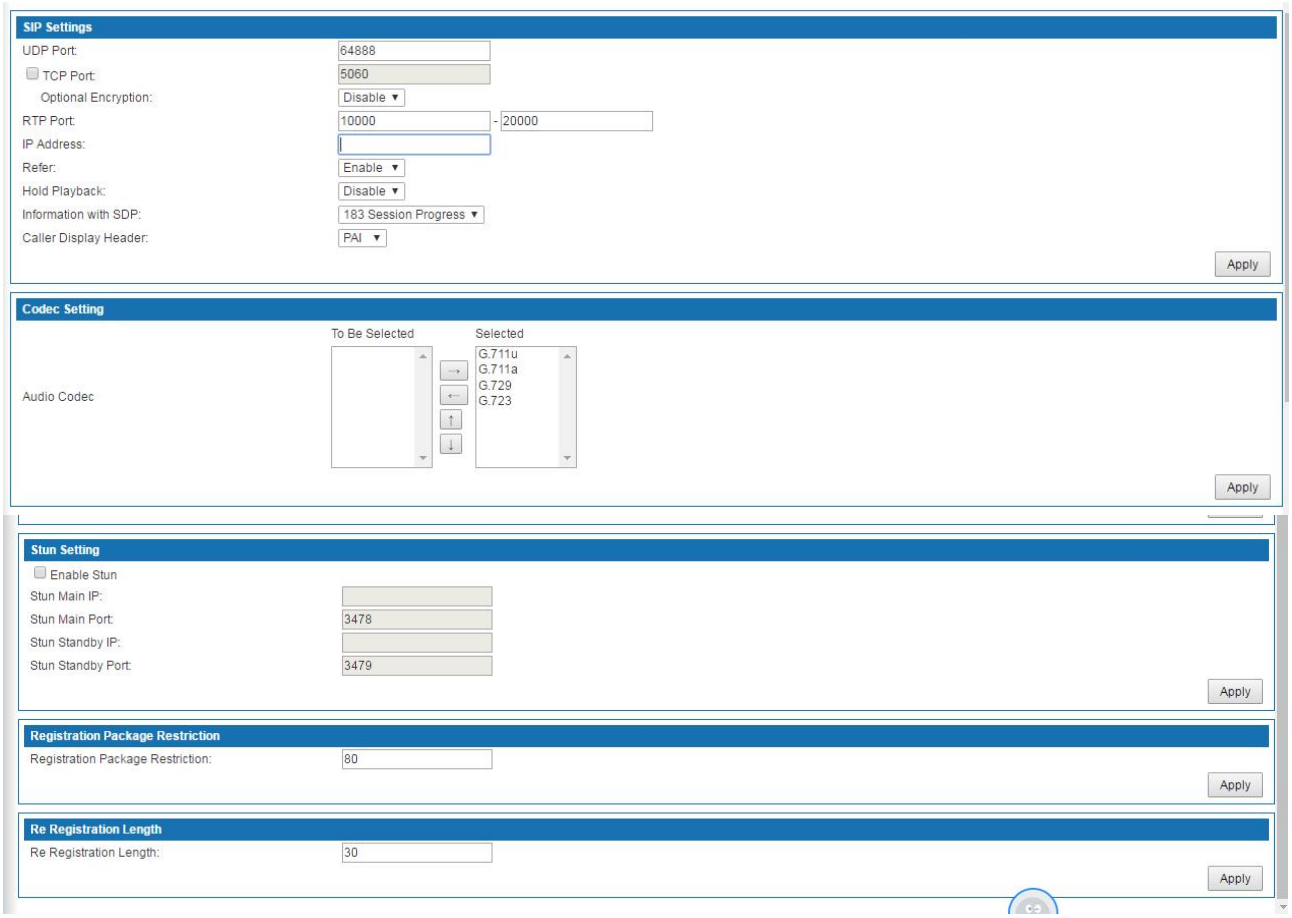


Figure 6-117 VoIP Config

Interface items are described as follows:

Table 6-48 VoIP Config

Items	Description
SIP Port	Default value is 64888
RTP Port	10000-20000
IP Address	WAN IP address of device
Enable STUN	Enable STUN service
STUN Main IP	IP address of main STUN server
STUN Main Port	Port of main STUN server
STUN Standby IP	IP address of standby STUN server
STUN Standby Port	Port of main STUN server

6.4.7 Analog Setting

FXS - Foreign eXchange Subscriber interface (the plug on the wall) delivers POTS service from the local phone company's Central Office (CO) and must be connected to subscriber equipment (telephones, modems, and fax machines). In other words an FXS interface points to the subscriber.

Basic Setting

Select "Voice Config>>PBX Settings>>Analog Setting" to open the page as shown in following figure.

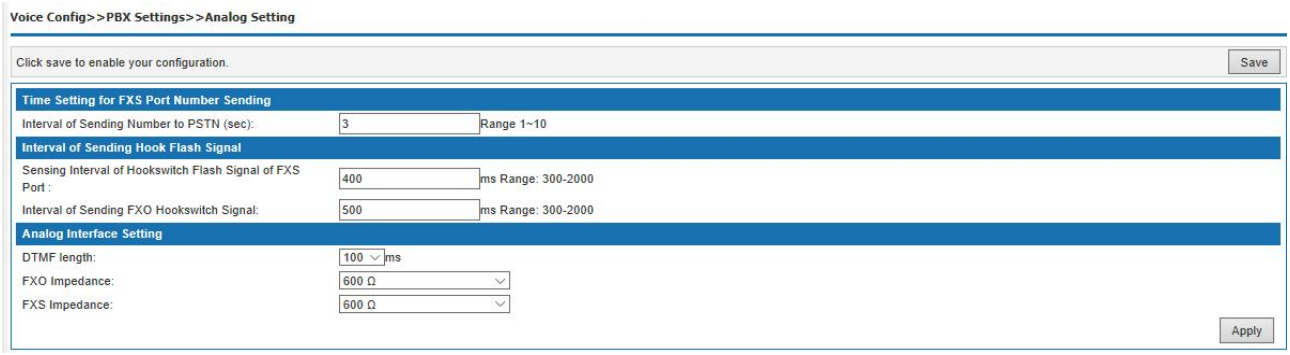


Figure 6-118 Analog Interface – Basic Setting

Interface items are described as follows:

Table 6-48 Analog Interface Configuration-Basic Settings

Items	Description
Time Setting for FXS Port Number Sending	
Interval of Sending Number to PSTN	Default value is 3 seconds
Interval of Sending Hook Flash Signal	
Sensing Interval of Hook switch Flash Signal of FXS Port	Range of 300 ~ 2000ms, default value is 400ms.
Interval of Sending FXO Hook switch Signal	Range of 300 ~ 2000ms, default value is 400ms.
Analog Setting	
DTMF Length	Time of sending number to remote equipment
FXO/FXS Impedance	Multiple options
Sensing Interval of Hook switch Flash Signal of FXS Port	Range of 300 ~ 2000ms, default value is 400ms.

Batch Edit FXO/FXS Ports

The page is shown in the following figure.

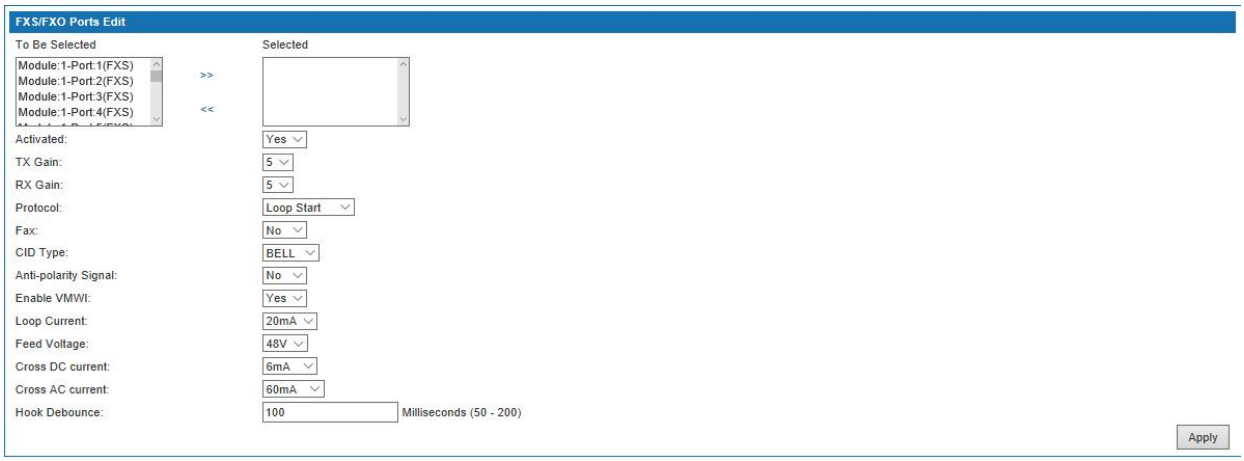


Figure 6-119 Batch Edit FXO/FXS Ports

Interface items are described as follows:

Table 6-49 Batch Edit FXO/FXS Ports

Items	Description
Activate	Activate FXO/FXS interface.
Gain	Adjustment of the strength of the emission signal with the effective parameter set from 0 dB to 9 db. The default setting is 5 dB.
Protocol	Select from Loop Start, Ground Start and Kool start
Fax	The parameter of this item decides the flow available in the circuit. The parameter options include the single options of language and fax.
CID Type	Options: BELL, V32, and DTMF.
Anti-polarity Signal	Select this item; the polarity check determines whether the analog trunk is connected.
Enable VMWI	Choose "yes", light the voice mail message lamp of the analog phone (the premise analog phone has a voice mail message light), the default value is "yes".
Look Current	The default "20mA" provides options for 20mA, 25mA, 30mA, 35mA, and 40mA.
Feed Voltage	When the telephone is automatically ringing, the parameter can be adjusted. The default "48V" provides options for 38V, 43V, 48V, 53V, and 58V
Cross DC Current	The current interception current defaults to "6mA". Available options 4mA, 6mA, 8mA, 10mA, 12mA.
Cross AC Current	The current interception AC current acquiescence the "60mA". Available options 40mA, 60mA, 80mA, 100mA, 120mA.
Hook Debounce	The default value is "100 ms". The range of value is 50ms-200ms

FXS/FXO Information

FXO - Foreign eXchange Office interface (the plug on the phone) receives POTS service, typically from a Central Office of the Public Switched Telephone Network (PSTN). In other words an FXO interface points to the Telco office.

FXS - Foreign eXchange Subscriber interface (the plug on the wall) delivers POTS service from the local phone company's Central Office (CO) and must be connected to subscriber equipment (telephones, modems, and fax machines). In other words an FXS interface points to the subscriber.

The page is shown as in the following figure. The FXO port list is automatically generated according to the hardware configuration.

FXO

Port	Activated	TX Gain	RX Gain	Protocol	Fax	Anti-polarity Signal	CID Type	Action
Frame:1 Port:201	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:202	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:203	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:204	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:205	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:206	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:207	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:208	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:209	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:210	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:211	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:212	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:213	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:214	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:215	Yes	5	5	FXS Loop Start	No	No	BELL	
Frame:1 Port:216	Yes	5	5	FXS Loop Start	No	No	BELL	

FXS

Port	Activated	TX Gain	RX Gain	Protocol	Fax	Anti-polarity Signal	CID Type	Action
Frame:1 Port:1	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:2	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:3	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:4	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:5	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:6	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:7	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:8	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:9	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:10	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:11	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:12	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:13	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:14	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:15	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:16	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:17	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:18	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:19	Yes	5	5	FXO Loop Start	No	No	BELL	
Frame:1 Port:20	Yes	5	5	FXO Loop Start	No	No	BELL	

Figure 6-120 FXS/FXO Information

Click <> button to open the page as shown in the following figure.

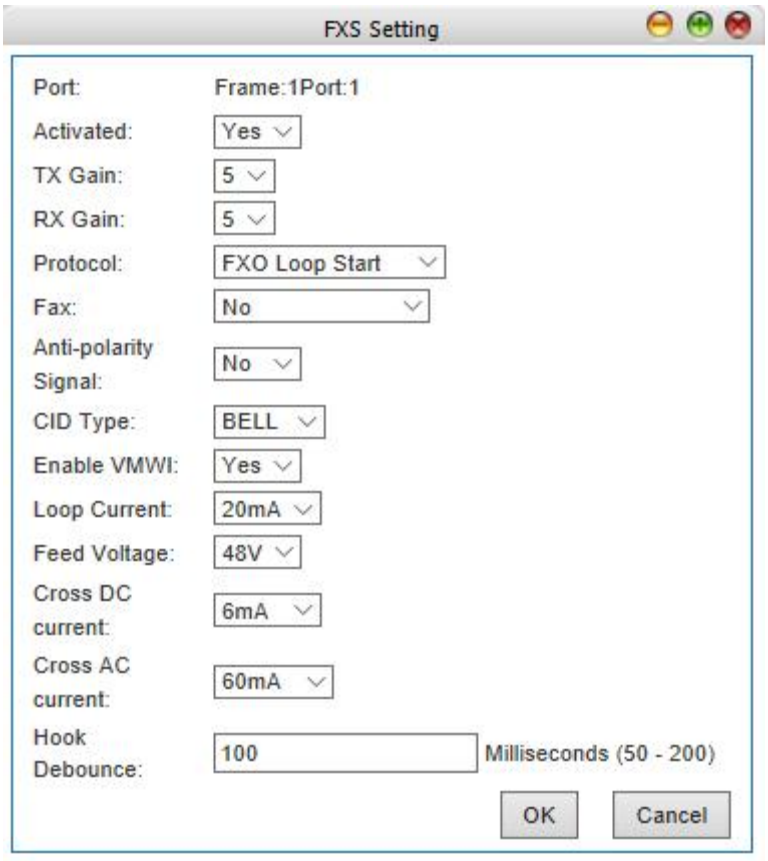


Figure 6-121 FXS Setting

6.4.8 DSP Setting

Select "Voice Config>>PBX Settings>>DSP Setting" to open the page as shown in the following figure.

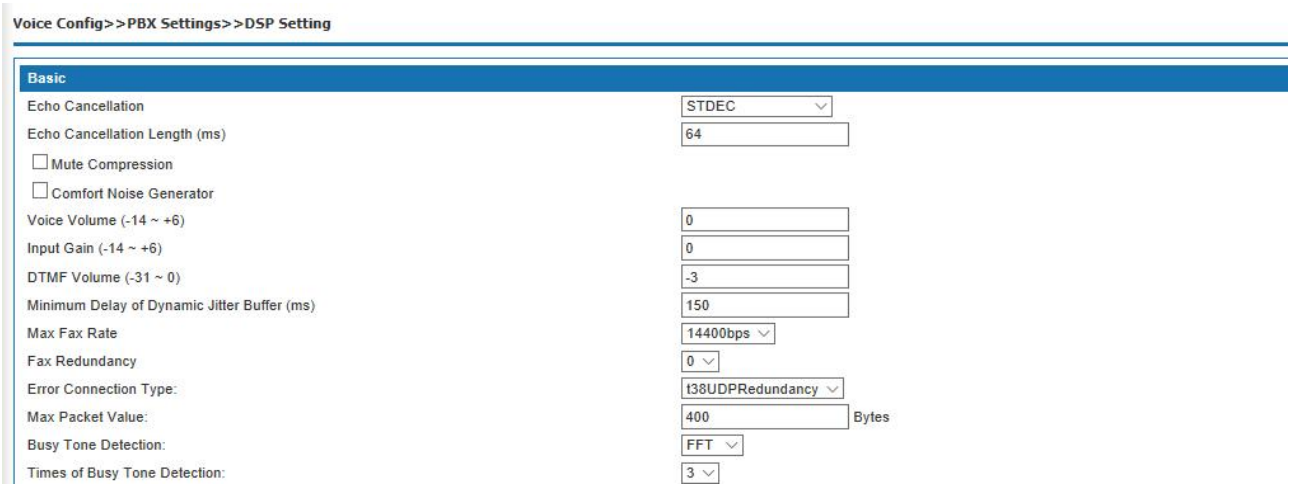


Figure 6-122 DSP Setting – Basic Setting

Interface items are described as follows:

Table 6-50 DSP Setting – Basic Setting

Items	Description
Echo Cancellation	Select echo cancellation, option: STDEC, Std-EC with ECPD, and DFEC
Echo Cancellation Length (ms)	Set echo cancellation length, default value: 64ms
Mute Compression	Enable mute compression can save network bandwidth
Comfort Noise Generator	CNG is synthetic background noise used in radio and wireless communications to fill the artificial silence in a transmission resulting from voice activity detection or from the audio clarity of modern digital lines
Voice Volume	Telephone voice volume size of receiver. Range is from-14dB to 6db; default value is 0dB.
Input Gain	Telephone voice volume size of caller. Range is from -14dB to 6dB; default value is 0dB.
DTMF Volume	Sound level of the user's keys. Range is from -63dB to 0dB.
Minimum Delay of Dynamic Jitter Buffer (ms)	Range is from 0ms to 280ms, default value is 150ms.
Maximum Fax Rate	Options: 2400bps, 4800bps, 7200 bps, 9600 bps, and 12000 bps, 14400 bps. Default value is 14400bps
Fax Redundancy	Set the number of redundant packets, providing four types 0,1,2,3.
Error Correction Type	Set error correction type of T.38.
Max Packet Value	Set maximum packet value of T.38 fax; range is from 200 to 600 bytes, default value is 400 bytes.
Busy Tone Detection	Provide BQD and FFT, default use FFT
Times of Busy Tone Detection	Option: 1, 2, 3, default value is 3

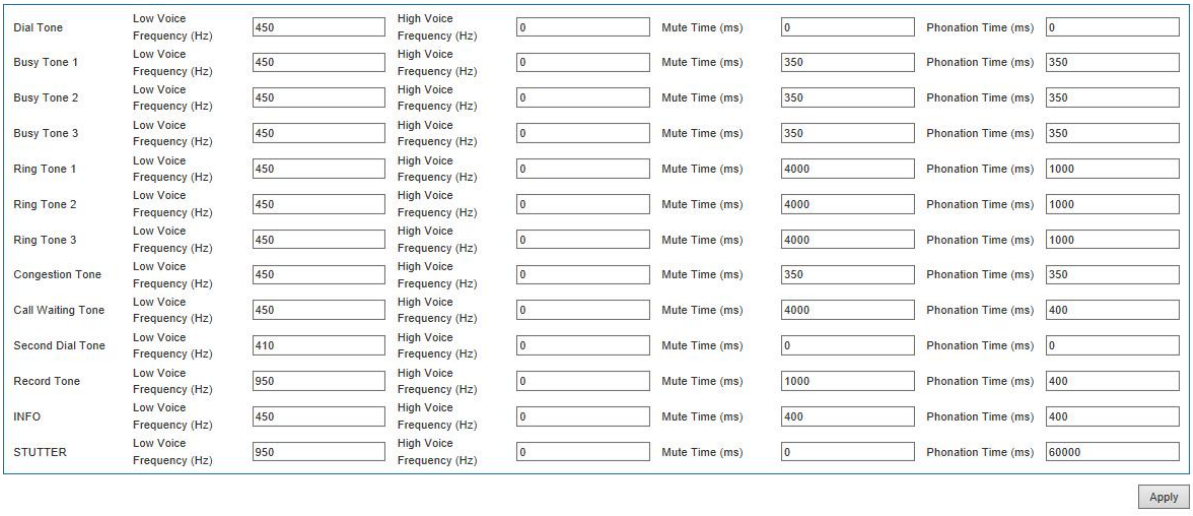


Figure 6-123 DSP Setting – Basic Setting

Interface items are described as follows:

Table 6-51 DSP Setting – Basic Setting

Items	Description
Dial Tone	Dial tone is a continuous sound. The range 400~450hz is composed of single frequency or multiple frequencies (up to three, the interval between different frequencies is at least 25Hz). The level of the dial tone should be -10dBm + 5dB. The Chinese standard dial-up sounds are composed of a single frequency of 450hz, and the duration is generally 10 seconds. Default value: voice low frequency "450" HZ, voice high frequency "0" HZ, mute time "0" Ms, the pronunciation time "0" ms.
Busy Tone	The busy tone is periodic sounds fast-paced, produced by tone and mute alternately, and the signal is equal to the basic tone cycle of the silent period. The duration of signal tone and mute is relatively short, and the complete cycle time composed of a single tone and mute is 300~1100 milliseconds, and the ratio between signal duration and silent time should be between 0.67~1.5. Generally use the single tone frequency range is 400~500hz, Chinese using single frequency 450hz signal China standard; busy for 350 milliseconds, mute for 350 milliseconds complete busy period of 700 Ms. Default value: voice low frequency "450" HZ, voice high frequency "0" HZ, mute time "350" Ms, the pronunciation time "350" ms.
Ring Tone	Ring back tone is a slow rhythmic periodic voice, which is generated alternately by tone and mute, and the period of signal tone is shorter than that of mute. The period of signal tone is in 0.67~1.5 sec, and the period of silence is 3~6 seconds, and a complete ringing period is between 3.67~7.5 second. The user first heard the signal cycle, followed by the mute cycle. Back tone usually uses a single frequency, and the frequency range is between 400~500hz. Chinese standard ring back tone and bell sound is 1 second stop 4 seconds, ringback tone using a single frequency 450hz. Default value: voice low frequency "450" HZ, voice high frequency "0" HZ, mute time "4000" ms, the pronunciation time "1000" ms.
Congestion Tone	Busy rhythm can also slower than congestion tone rhythm. Default value: voice low frequency "450" HZ, voice high frequency "0" HZ, mute time "350" ms, the pronunciation time "350" ms.
Call Waiting Tone	Call waiting tone is a slow rhythm. There are two kinds of voice: one is the duration of signal tone in 300~500 milliseconds, the second is 8~10 100~200, the other is the signal tone lasts for 100~200 milliseconds, and then the mute 8~10 seconds after mute 100~200 milliseconds. The Chinese standard waits, in which the sound of the signal lasts for 0.4 seconds, and the mute is 4 seconds. The signal sounds usually use a single frequency 450hz. The call waiting tone is played in the two directions of the call and the call, and the characteristics of the play are slightly different in different directions. Default value: voice low frequency "450" HZ, voice high frequency "0" HZ, mute time "4000" ms, the pronunciation time "400" ms.
Second Dial Tone	Default value: voice low frequency "410" HZ, voice high frequency "0" HZ, mute time "0" ms, the pronunciation time "0" ms.
Recordtone	Default value: voice low frequency "950" HZ, voice high frequency "0" HZ, mute time "1000" ms, the pronunciation time "400" ms.
Info	Default value: voice low frequency "450" HZ, voice high frequency "0" HZ, mute time "400" ms, the pronunciation time "400" ms.

Items	Description
Stutter	Default value: voice low frequency "410" HZ, voice high frequency "450" HZ, mute time "0" ms, the pronunciation time "0" ms.

The signal sound is composed of four tuples, including low frequency of speech, high frequency of voice, time of silence and time of pronunciation.

1. in addition to the high frequency value of "0", the low frequency value should be less than the high frequency value. The high frequency value is "0", which means that the signal does not use high frequency. The unit of high frequency and low frequency is Hz.

2. the four tuples can not be all the same between different signals.

3. the unit of the mute time and the pronunciation time is MS, such as the silence time and the pronunciation time set to "0", indicating the continuous signal sound.

6.4.9 SMTP Setting

Select "Voice Config>>PBX Settings>>SMTP Setting" to open the page as shown in the following figure.

Figure 6-124 SMTP Setting

Interface items are described as follows:

Table 6-52 SMTP Setting

Items	Description
SMTP settings: when using voicemail and sending mail, users need to configure SMTP information	
SMTP Server Address	Enter server address or domain name
SMTP Server Name	SMTP name, for example abcd@163.com
SMTP Server Password	Password of SMTP server

6.4.10 License

Select “Voice Config>>PBX Settings>>License” to open the page as shown in the following figure.

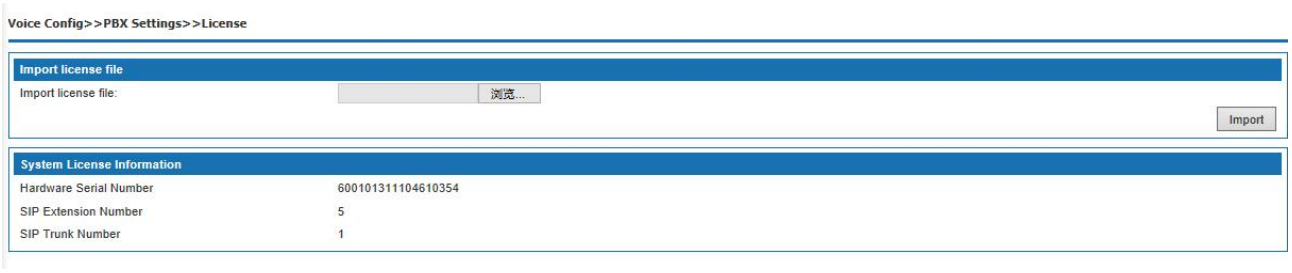


Figure6-125 License Update

Click <Browse> button to open "Choose File" dialog box, select the License file; click <Import> button to import license file.

Note:

Please contact supplier to get License file.

6.5 Stat Report

6.5.1 Call Log

Select “Voice Config>>Stat Report>>Call Log” to open the page as shown in the following figure.

Figure 6-126 Call Log

interface items are described as follows:

Table 6-53 Call Log

Items	Description
Caller Number	Display caller number
Called Number	Display called number
Trunk	Display trunk type and name
Call Length	Call from start to end
Call Type	Display call type
Result	Not answered means ringing but not answered; answered means call successful; call busy means called number is busy and not answered
Report	Export log information to excel file
Search	Serarch calls by time, phone number, trunk, call type, call duration, service type and department.

6.5.2 Service Voice Status

Select “Voice Config>>Stat Report>>Call Log” to open the page as shown in the following figure.

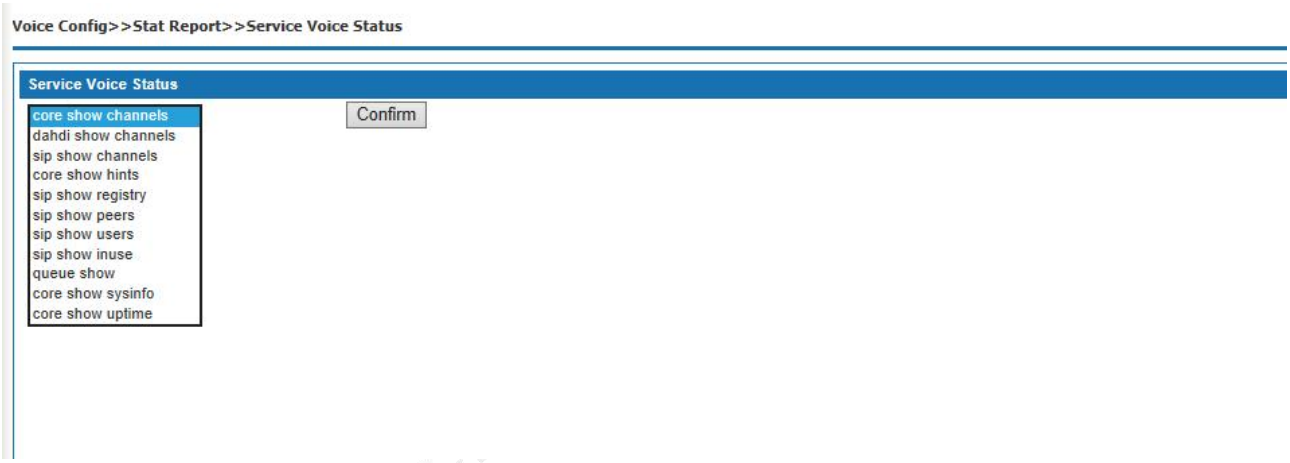


Figure 6-127 Service Voice Status

6.5.3 Data capture

Select <Voiceset>Start report>Data capture,it shows the capture interface as Figure 6-123,to fill in the content click start capture to start capture, then the device starts to work.Click stop and download it pops up the page as Figure 6-124 and to save the file.This document is for the analysis of engineers. Do not open directly for non-engineers.

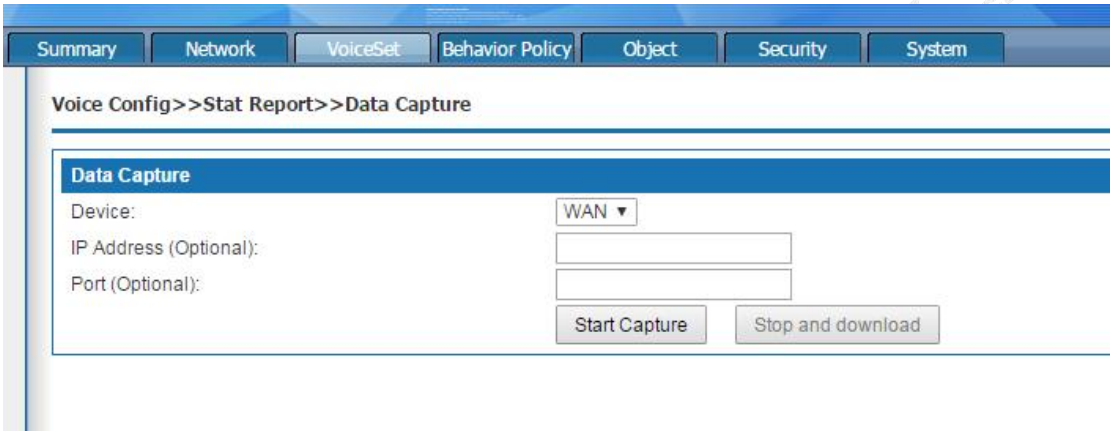


Figure 6-123 Data capture

Figure 6-124 Data packet saving

The data capture interface items are described below:

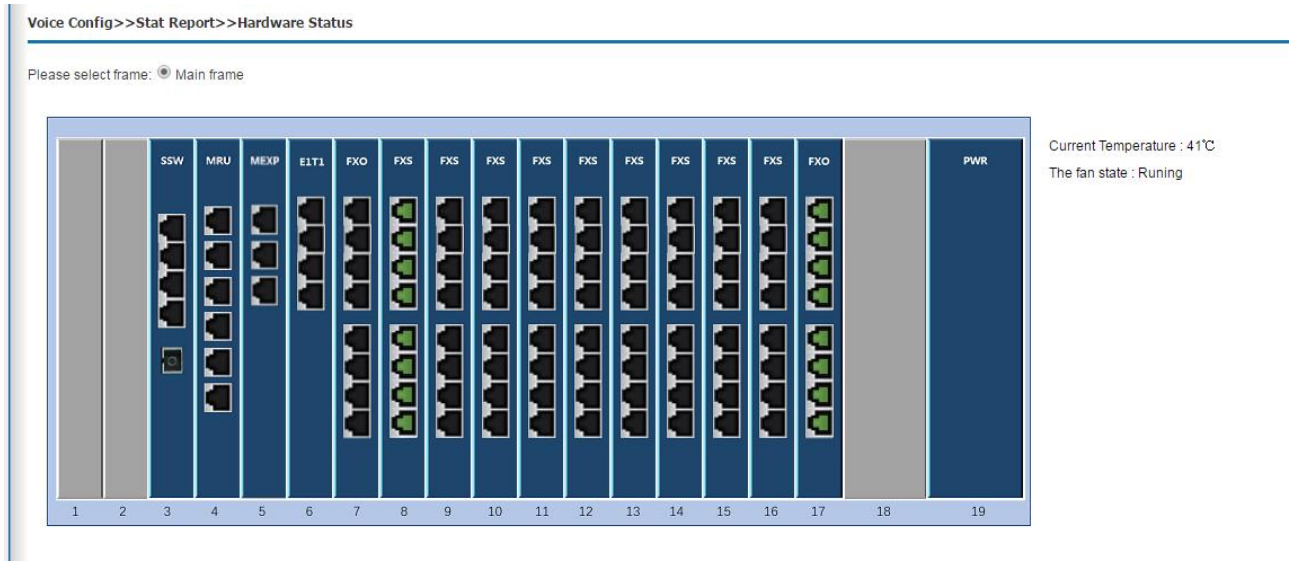
Table 6-49 Data capture

Terms	Description

Network interface	Select the network WAN or LAN port that you want to capture。
IP address(optional)	Fill in the ip address(optional)
Port(optional)	Fill in the port(optional)
Start capture	Click and start capture
Stop and download	Click and to stop capture

6.5.4 Hardware status

Select "voice configuration >> status report >> status hardware status", pop up the hardware status page, and the simulation diagram shows the current loaded slot board card information, temperature and fan status.



7.Behavior Policy

Internet behavior management is used to restrict access to the Internet by users accessing the Internet through this product. Behavior management strategy and flow management.

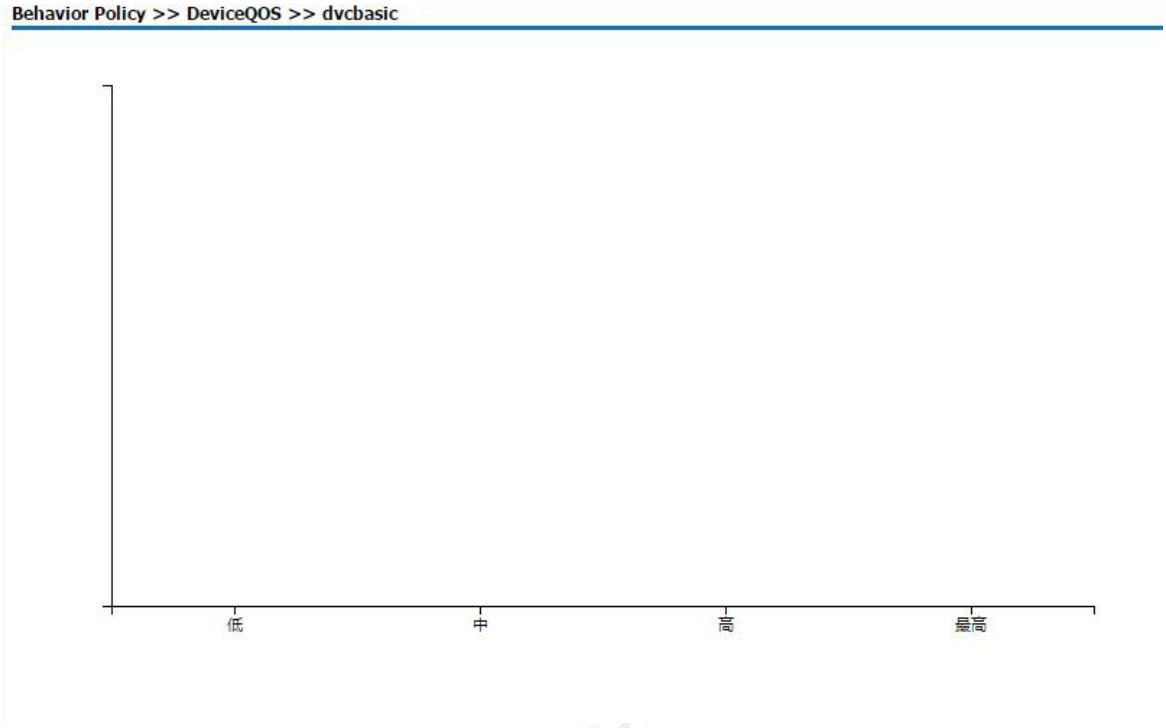
Before configuration, please click "Behavior policy" at the top of the page to enter the Internet behavior management page.

7.1 Device QOS

When the device is at the exit of enterprise network as a router, hardware QoS needs to be set to guarantee VoIP call quality. The uplinking Ethernet of the WAN port of the equipment is connected to the Internet of the operator. The equipment needs to adopt routing mode, and the LAN port can be connected to enterprise side network switches, computers, IP phones, etc.

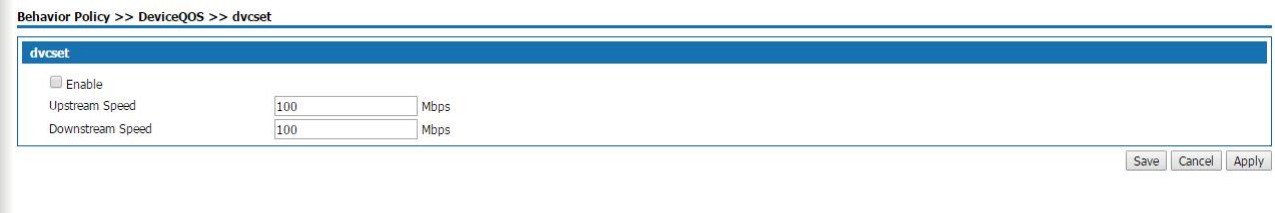
7.1.1 Hardware QOS state

QoS state can display the flow histogram of the current four queue priorities in real time.



7.1.2 Basic setting

WAN port upstream and downstream speed is not enabled by default, which requires users to set according to the actual rate. Using hardware QoS, the rate limit of WAN port must be set to the actual bandwidth allocated by operator or uplink network device.



Upstream speed:set the max upstream speed of the Wan port,unit:Mbps

7.1.3 Advanced setting

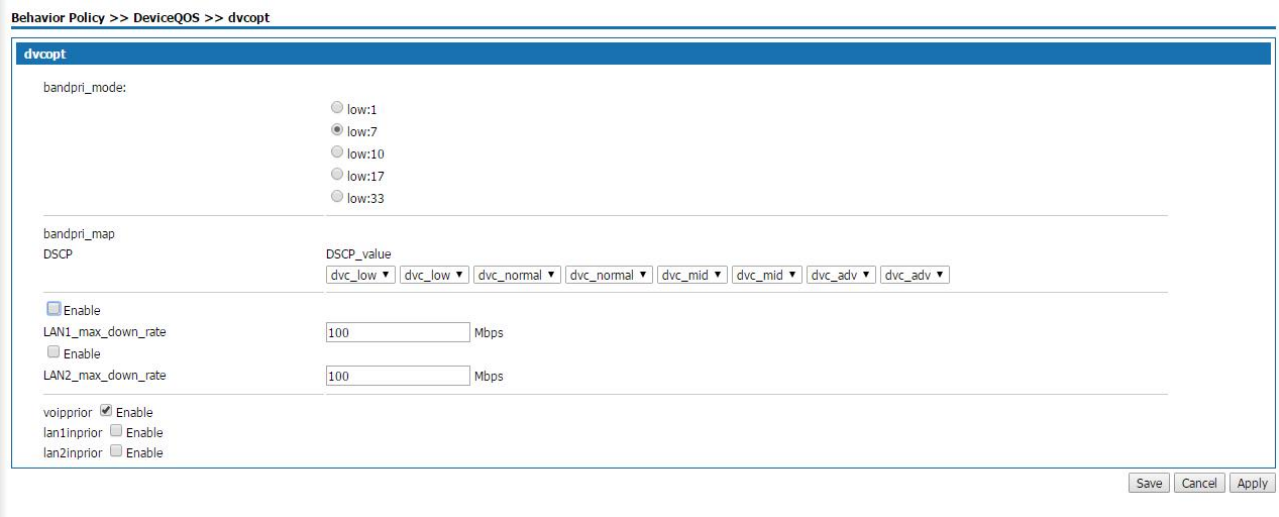
The default traffic priority template used by the system is: low priority occupies 7% of WAN speed limit bandwidth, medium priority occupies 13% of WAN speed limit bandwidth, high priority occupies 27% of WAN speed limit bandwidth, and the highest priority occupies 53% of WAN speed limit bandwidth.

Mapping of traffic priority and DSCP: the packet marked by default 56-63dscp has the highest priority and is forwarded first. The system supports speed limit of downlink bandwidth of 2 LAN ports, which can be set by users themselves.

Internal VoIP packet priority forwarding: enabled by default, all FXS phone calls generated by the packet system default on high quality DSCP mark of first grade, priority forwarding.

LAN1 gateway high priority forwarding: not enabled by default, after enabled, packets from LAN1 port are marked with high priority DSCP.

LAN2 gateway high priority forwarding: not enabled by default, after enabled, packets from LAN2 port are marked with high priority DSCP.



7.2 Behavior policy

Behavioral management strategies include Internet access limits, connection limits, IP quintuple filtering, and MAC address filtering.

7.2.1 Internet access limit

This is a macro control of the number of Internet access, there are three options: do not enable business, mode 1, mode 2. Mode 1 is simply targeted at the number limit, mode 2 is targeted at specific terminals, including set-top box, camera, computer and phone.

7.2.2 Total devices linked limits

Select behavior policy>behavior policy>link limit,the page pops up as the figure7-1

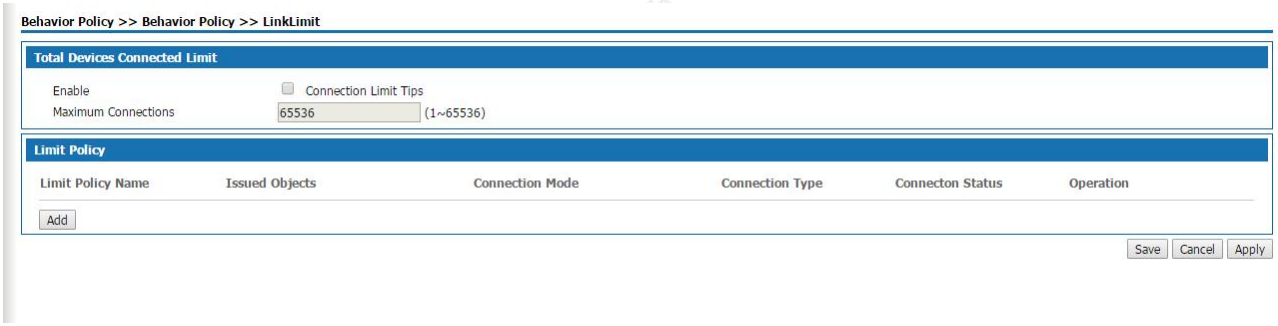


Figure 7-1 linked limits

Total devices connected limit:Set the total number of connections of the device, the value range is 1-65536, and the default value of the system is 65536. With this feature enabled, the total number of connections on the current device exceeds the set value, and you must wait for a connection to break somewhere before you can establish a new connection.

Click the < add > button, and the add policy page will pop up as shown in figure 7-2.

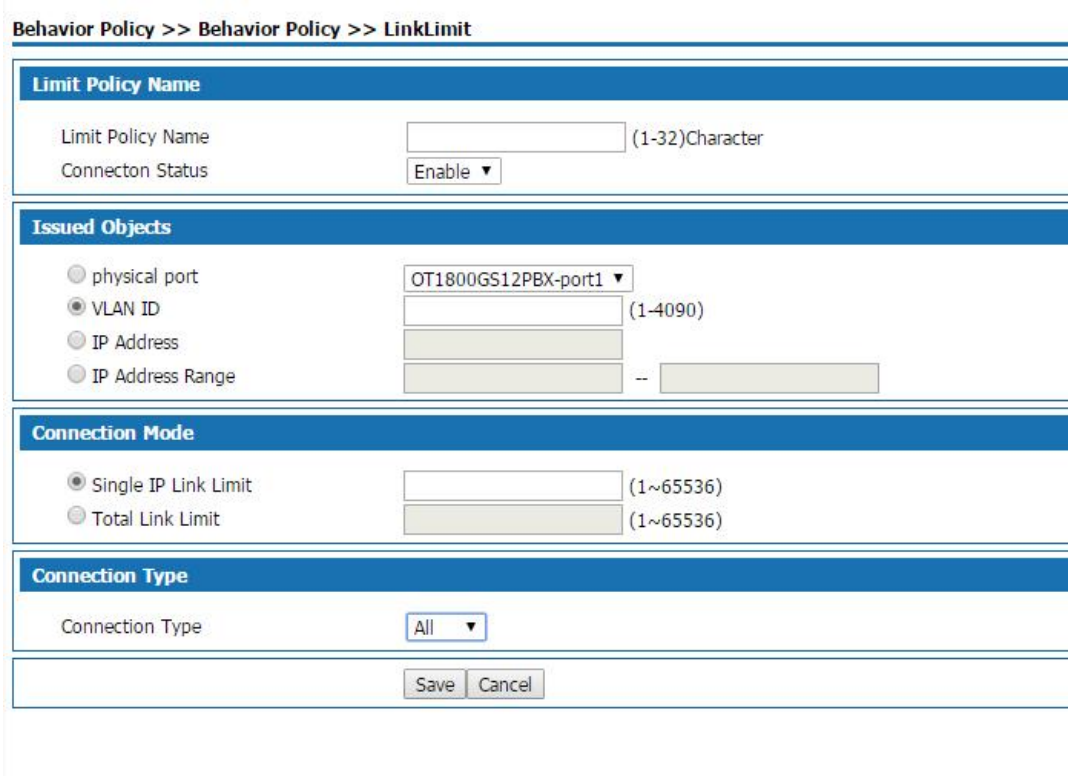


Figure 7-2 Add connection limit policy

Add connection limit policy description as follows:

Table 7-1 add connection numbers restriction policies

Terms	Description
Limit policy name	define a policy name by entering 1-32 characters. Status: select "enable", the policy is in effect; select "disable", the policy is not in effect.
Connection status	Select enable or disable
Issued objects	Physical port: Select physical ports and set the physical ports that are limited by this policy VLAN ID:Select "VLAN ID" and set the VLAN network segment limited by this policy. For the network segment corresponding to VLAN ID, please refer to "Lan setting >VLAN setting for LAN interface". IP address: select "IP address" and set the IP address restricted by this policy. IP range: select "IP range" and set the IP range restricted by this policy.
Connection mode	Single IP connection limit: limit the number of connections of each user in the distribution object. When the number of connections of a single user exceeds the set value, it must wait until the connection is broken to establish a new connection. Total connection limit: limits the number of connections for all users in the distribution object
Connection type	Select "all" to limit all connections and "TCP" to limit TCP connections. Select "UDP" to limit UDP connections, and select "other" to limit other connections.
Save	Click the < save > button to add a policy to the page

After successfully adding the policy, click the < edit > button to modify the policy; Click the < delete > button to delete the policy. Match the strategy according to the order from the top down, and adjust the strategy order by < move > up, < move > down.

7.2.3 5-Turple Filter

When a quintuple filtering strategy is added, the device will filter the data message matching the quintuple strategy, that is, the data message matching the quintuple strategy is discarded.

Select <behavior policy> and <5-turple filter>,it pops up the 5-turple filter page as following:

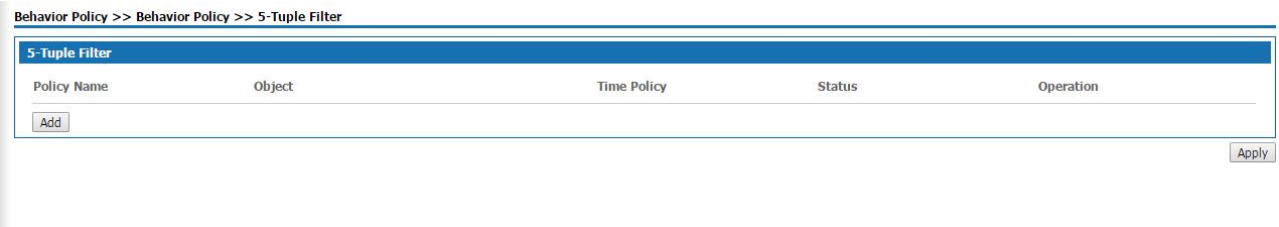


Figure7-3 5-tuple filter page

Click < add > button, and the "add IP five-tuple filter" page will pop up, as shown in figure 7-4.

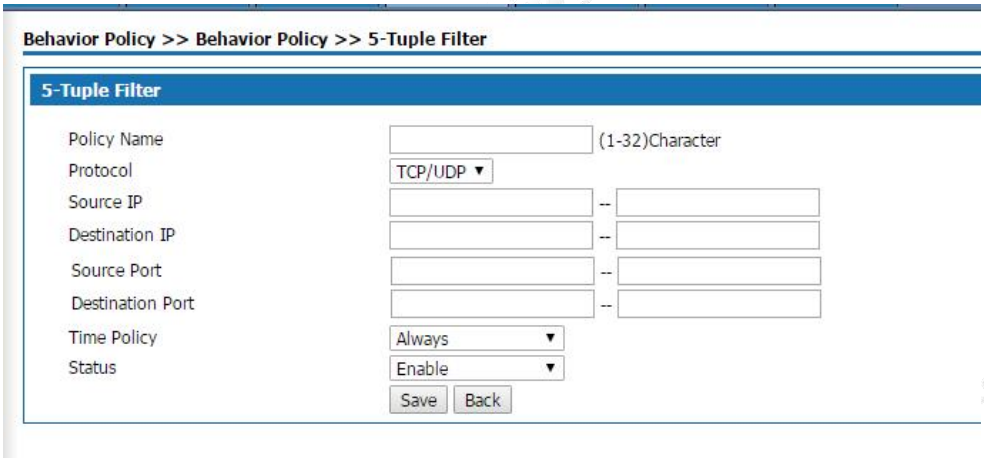


Figure 7-4 Adding IP 5-turple filter

Add IP quintuple filtering instructions below

Table 7-2 add the IP quintuple filtering strategy

Terms	Description
Policy name	Set the quintuple policy name.
Protocol	Set the protocol needed to be filtered ,selected TCP/UDP、TCP、UDP、ICMP
Source IP	Set the source IP address or IP range needed to be filtered
Destination IP	Set the destination IP address or IP range needed to be filtered
Source port	Set the source ports to be filtered, and you can set a single port or a port range
Destination port	Set the destination port to be filtered, and you can set a single port or a port range

Time policy	Set the valid time of the five-tuple filtering policy from the drop-down box. "Always" means that any time works, see "object management > time group" for setting the time policy.
Status	Select "enable", the policy is effective; Select disable, the policy is invalid

7.2.4 Mac filter

Add a MAC address filtering strategy, and the device will filter the datagram that matches the MAC address, i.e., the matched datagram is discarded. Select "behavior policy >MAC address filtering", and the "MAC address filtering" page pops up, as shown in figure 7-5.

Figure 7-5 MAC address filtering

Click < add > button, and the "add MAC address filtering" page will pop up, as shown in figure 7-6.

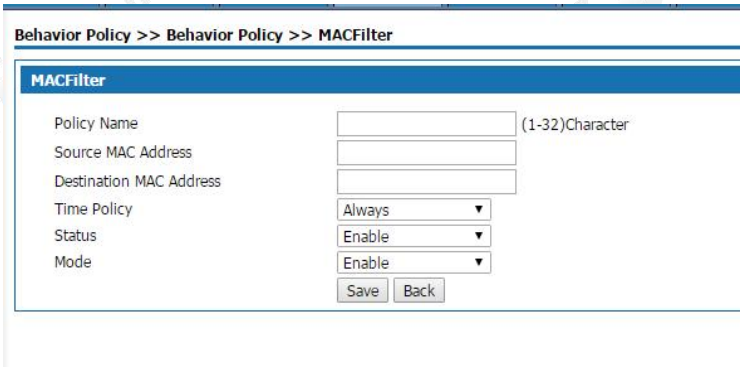


Figure 7-6 Add Mac address filter

Add MAC address filtering instructions below:

Table 7-3 Add Mac address filter

Terms	Description
Name	Set Mac address filter name
Source MAC address	Set the source MAC address to be filtered.
Destination MAC address	Set the destination MAC address to filter。
Time policy	Set the effective time of the MAC address filtering policy from the drop-down box. "Always" means that any time works, see "object management > time group" for setting the time policy.
Status	Select enable, the policy is effective, and select disable, the policy is not

Mode	Engineering staff background use, the customer can not use.

8.Object management

Abstract

Object management manage time groups, user management, common ports. Before configuration, click "object management" at the top of the page to enter the object management page.

8.1 Object management

8.1.1 Scheduler

Select<object management> <scheduler> and enters the page as following figure 8-1

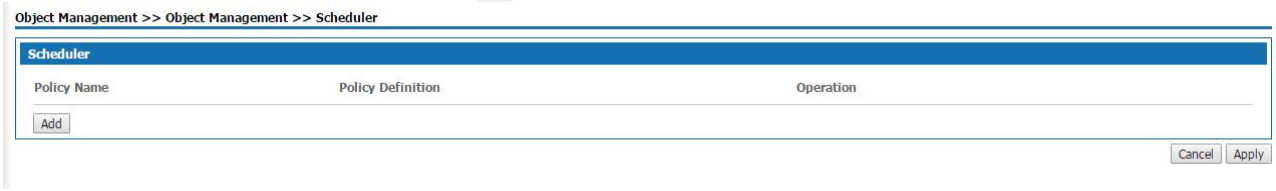


Figure 8-1 scheduler

Click<add>button,it pops out the page as following figure 8-2

FIgure 8-2 Adding scheduler policy

Table 8-1 add time group policies

Terms	Description
Policy name	Set the time group policy name; When adding an application control policy in the application control, or adding a firewall rule in the firewall setting, the defined policy is displayed in the "time policy" drop-down box.
The policy definition	Set the scheduler policy time, select the corresponding radio box.

8.1.2 Account

Add users in user management, and give users relevant business permissions. When using VPN service, users with corresponding permissions can use the service after authentication. Select "object management >account" and enter the "account" page as shown in figure 8-3.

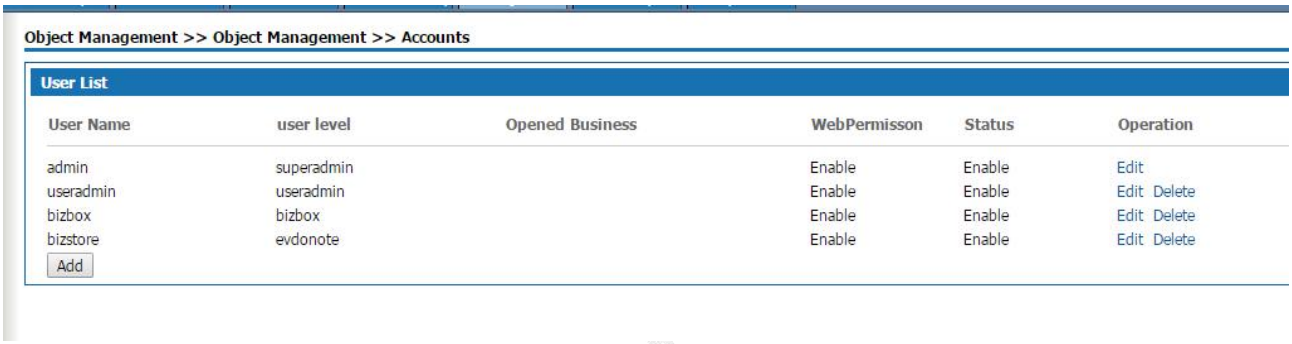


Figure 8-3 USER management page

Click < add > button, and the "add user management" page will pop up, as shown in figure 8-4.

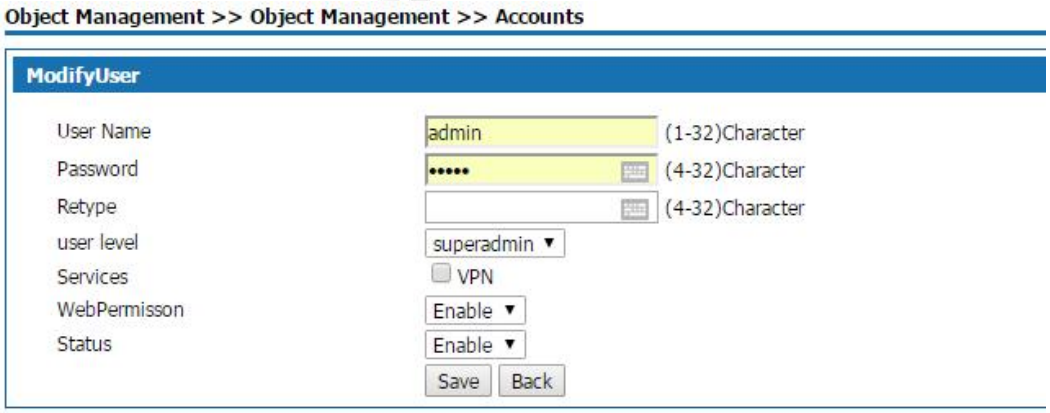


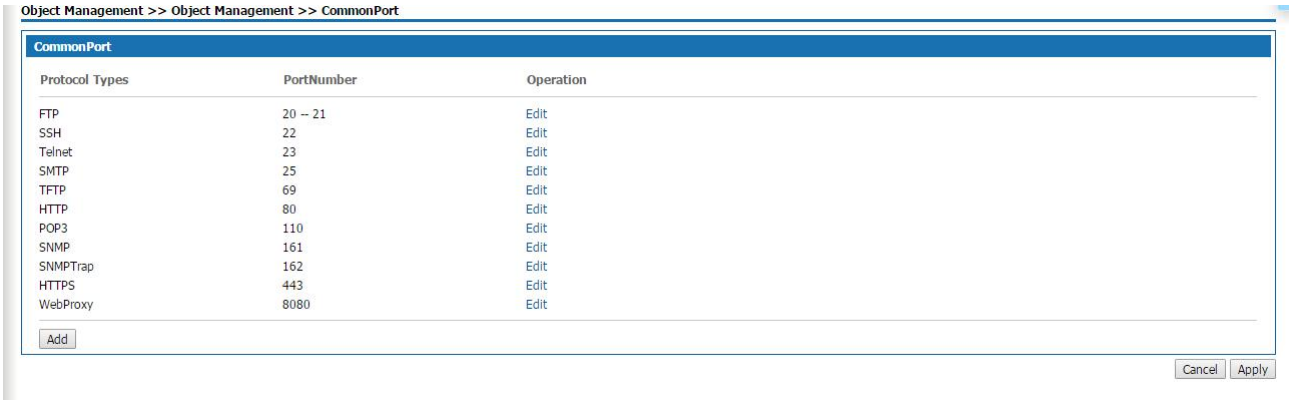
Figure 8-4 Add user management page

Table 8-2 add user management

Terms	Description
User name	Set the user name
Password	Set the password
Retype	Retype the password
User level	Select "superadmin"and “useradmin” to log into the device as an ordinary user, and the device can be configured; Select business admin. After logging into the device, you can only see the business configured for this account.
Services	The business the user can use, select the radio box。
Web permission	Select "enable" to allow log on to the device through the Web management page; Select "disable" and "this user has no access to the page" will pop up.
Status	Select "enable" and the user can use it normally; Select disable, currently unavailable for this user.

8.1.3 Common ports

Standard protocol port Numbers can be edited through the management of common ports.



9.Security

Summary

Security includes Basic Settings,Firewall, ARP Defense,DDoS and Interauth.

Before the configuration, please first click the function button on the top of the Web Configuration page < Security> to enter into the Security page.

9.1 Basic Settings

Select "Security > Basic Settings " to open the page as shown in Figure9- 1

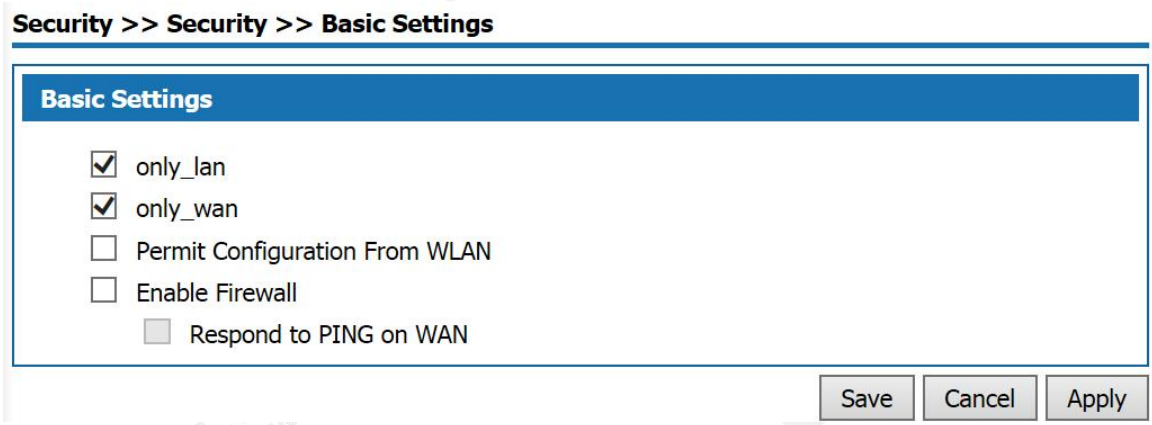


Figure9- 1 Basic Settings

Basic Settings Description：

Table 9- 1 Basic Settings

Item	Description
Only_wan	Whether to allow the administrator to log in web management page of this product from the WAN port, the default value is off. Port: The port number of the product, ranging from 1 to 65535. The default value is 443.
Only_lan	Whether to allow the administrator to log in web management page of this product from the WLAN port, the default value is off.
Enable Firewall	Whether enable the firewall function or not, enable is the default status
Respond to PING on WAN	Whether to allow the device on Internet to ping the WAN port address of LvSwitch IPPBX, the default value is off.

9.2 Firewall

Firewall is applicable to users in various industries such as enterprises, governments and schools. Users can create diversified security policies based on the functions of Firewall. Choose “Security> Firewall” to enter the Firewall page as shown in Figure 6-2.

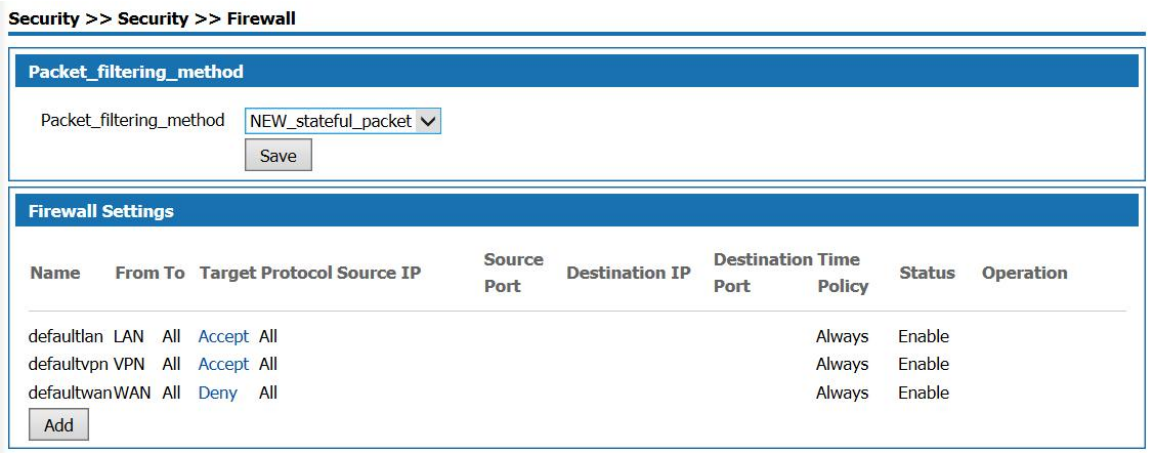


Figure7- 2 Firewall

This product has predefined Firewall policies for packets originating from the basic interface. Users can modify the policy by clicking the target item.

Click <Add>. The“Firewall Settings” page displayed as shown in Figure 6-3.

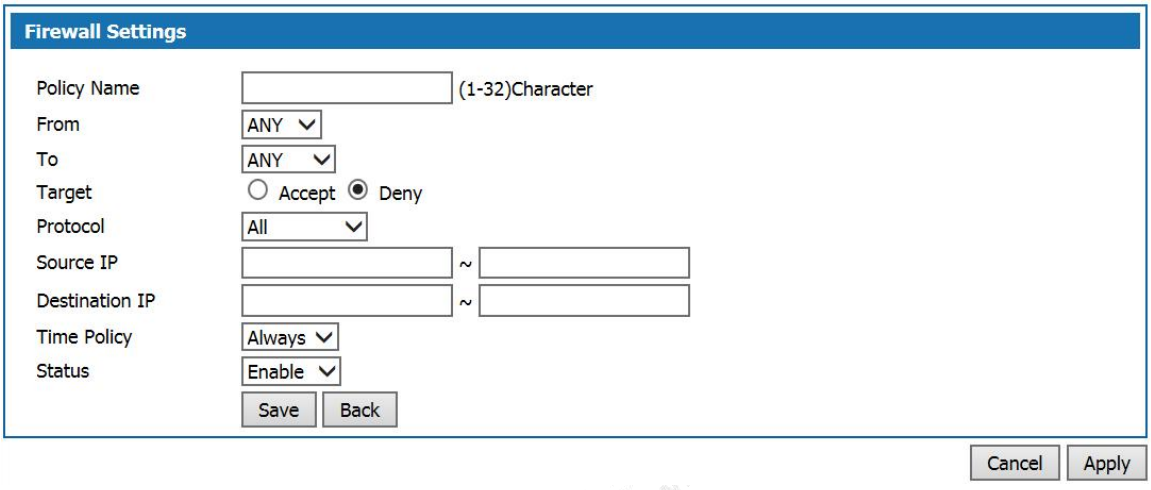


Figure7- 3 Firewall Settings

Add Firewall Rule Settings description：

Table 7- 2 Firewall Settings

Item	Description
Policy Name	Define the policy name, enter 1-32 characters.
From--to--	From the data packet source interface to the destination interface. Options: ANY, LAN, WAN, ANY refers to any interface

Item	Description
Target	Set the action of packet matching the rules: Allowed: Allows matched packets to pass. Prohibited: Prohibit the matching of data packets.
Protocol	Set the protocol that needs to be controlled. The value is: TCP UDP All：This rule applies to any protocol.
Source IP	Set the source IP address of data packet that matches this rule. When this parameter is not set by the user, this rule applies to any source IP address.
Destination IP	Set the destination IP address of data packet that matches the rule. When this parameter is not set by the user, this rule applies to any destination IP address.
Time Policy	Set the effective time of the rule, select from the drop-down box. “Always” means that it works at any time. For details on time policy, see “Object Management> Time Group”.
Status	Optional, Enable or Disable.

After the rules are successfully added, the rules are sequentially matched from top to bottom. Users can change the order of access control rules by using the< Up >and< Down> buttons.

9.3 ARP Defense

The ARP Defense function mainly used to prevent a large number of invalid ARP request packets in the LAN which causing the ARP entry of the device to fill up, so that the normal computer can not access the device or the external network. This function is used in conjunction with IP / MAC binding. After this function is enabled, the system only processes ARP packets that match the IP / MAC binding rules and directly discards other ARP packets to prevent malicious ARP attacks. Therefore, before enabling ARP Defense, you need to bind a valid IP / MAC address to the IP / MAC binding table first.

9.3.1IP/MAC Binding

Select “Security> ARP Defense” to enter the “IP / MAC Binding” page as shown in Figure 7-4

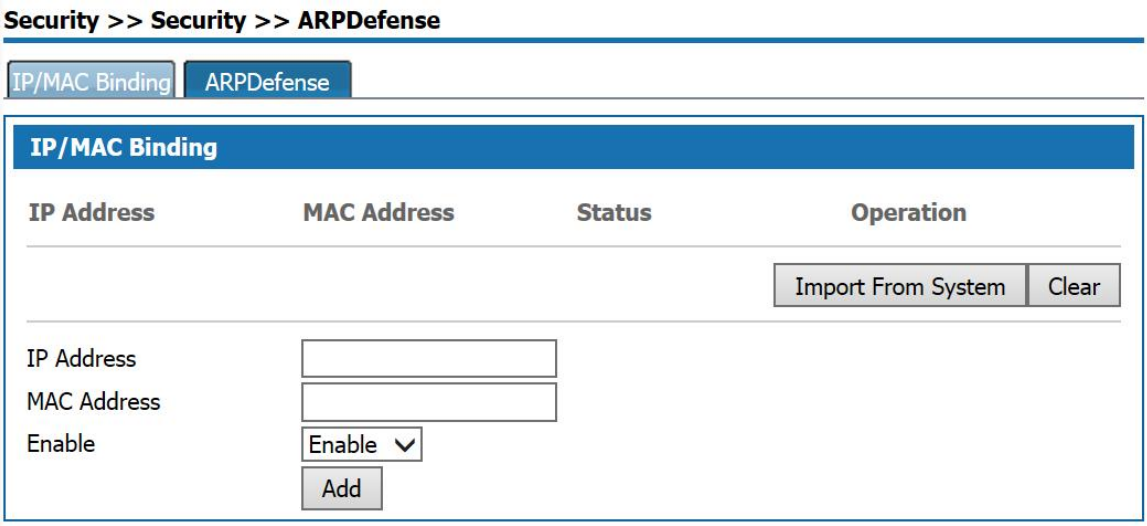


Figure7- 4 IP/MAC Binding

Click <Import From System>. The device automatically learns the IP / MAC binding information in the ARP list and displays it on the IP / MAC binding page.

You can also add IP / MAC binding information manually, set IP address and MAC address and then clicking <Add> button to add IP / MAC binding information in IP / MAC binding page.

The intranet LAN IP / MAC binding table can be easily obtained by importing from the system. However, due to ARP aging and other reasons,it can not be guaranteed to import all the computer information. After importing in this method, it is recommended to check whether the computers you want to bind are in the binding table. If not, add them manually.

9.3.2 ARP Defense

Click <ARP Defense > to enter “ARP Defense” page as shown in Figure7- 5.

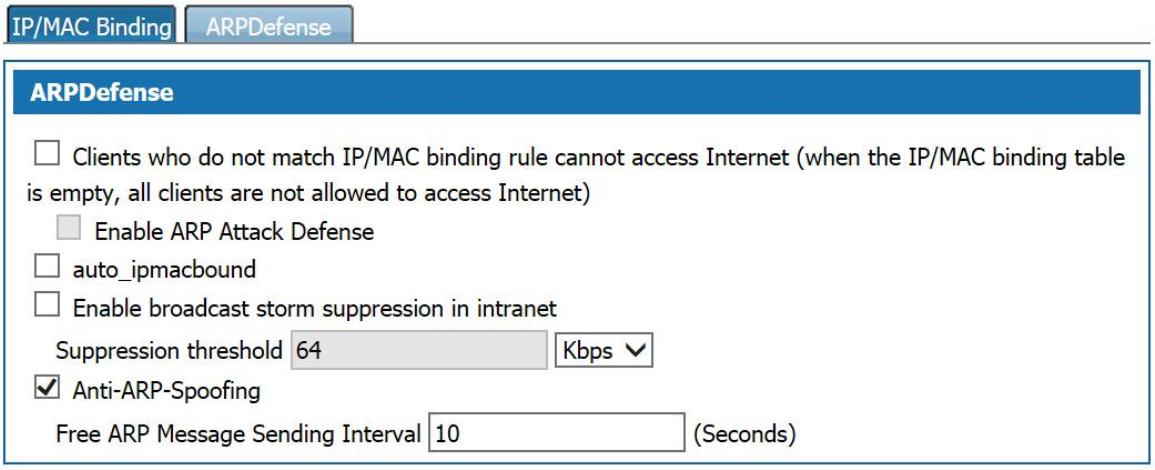


Figure7- 5 ARP Defense

ARP Defense Configuration description：

Table 7- 3 ARP Defense

Item	Description

Item	Description
Clients who do not match IP / MAC binding rule can not access Internet	Set whether users in the IP / MAC list can access external networks or not. Selected to indicate that only the addresses enabled in the IP / MAC list can access the external network.
Enable ARP Attack Defense	ARP Defense can be enabled when "Prohibit Clients that do Not Meet IP / MAC Bonding Rules to Access External Networks." is enabled When this function is enabled, ARP packets that do not conform to the IP / MAC list will be discarded.
Auto_ipmacbound	Check the radio button to enable automatic binding.
Enable broadcast storm suppression in intranet	Select the radio button to enable the suppression function of broadcast storm and set the suppression threshold. After the broadcast traffic exceeds the threshold, the system discards the broadcast packets.
Anti-ARP-Spoofing	Check the radio button to enable ARP anti-spoofing. By regularly sending gratuitous ARP packets, all users' ARP tables are updated to prevent ARP spoofing. Sending gratuitous ARP packets Interval: The default is 10 seconds.

Enable the " Clients who do not match IP / MAC binding rule can not access Internet ", please make sure the IP / MAC information is bound to the IP / MAC binding table. Without any binding information, it will not be possible to log in to the device from the WAN / LAN port.

9.4 DDoS

DDoS provides anti-DDOS attacks, which can dynamically filter malicious traffic and prevent heavy traffic attacks based on various protocols, thus effectively ensuring the stable operation of the network. Select “Security > DDoS”, and enter the “DDoS” page as shown in Figure 7-6.

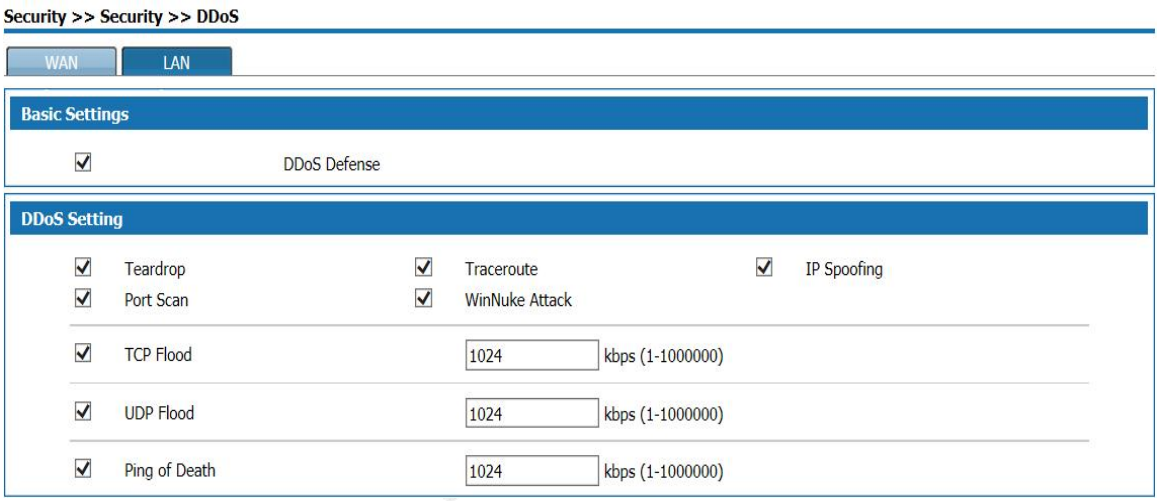


Figure7- 6 DDoS

The WAN page is used to configure defense to DDoS attacks on devices by external users. The LAN page is used to configure defense to DDoS attacks on devices by intranet users.

Select "DdoS Defense" to enable this function. If there are no special requirements, it is recommended to turn on all prevention functions. Enable TCP Flood attack defense, UDP Flood attack defense and ping Of Death attack defense. Users can set the connection limit according to the server's normal traffic, gennerally, keep the default value is ok.

10 System Management

Summary

Before configuring, click “System” at the top of the page to enter the system page.

System is Used to manage the host name, time, password, backup and restore, upgrade, remote management, reboot, factory reset, diagnostic tools, Bypass settings and logs of this product.

10.1 Basic Settings

Select “System >Basic Settings” to enter “Basic Settings”page as shown in Figure10- 1.

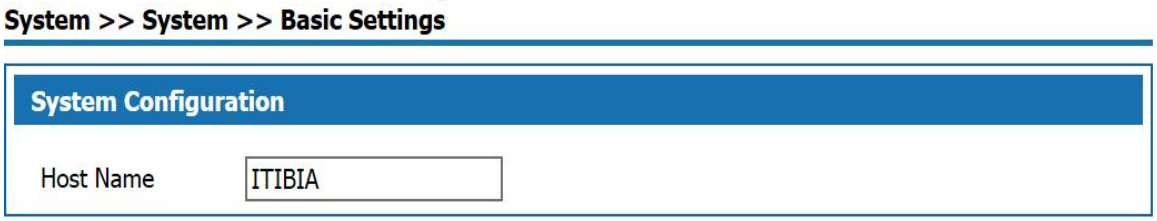


Figure10- 1 Basic Settings

Define the name of this product.

10.2 WebManage

Select “System > Web Manage” to enter “Web Manage ”page as shown in Figure10 - 2.

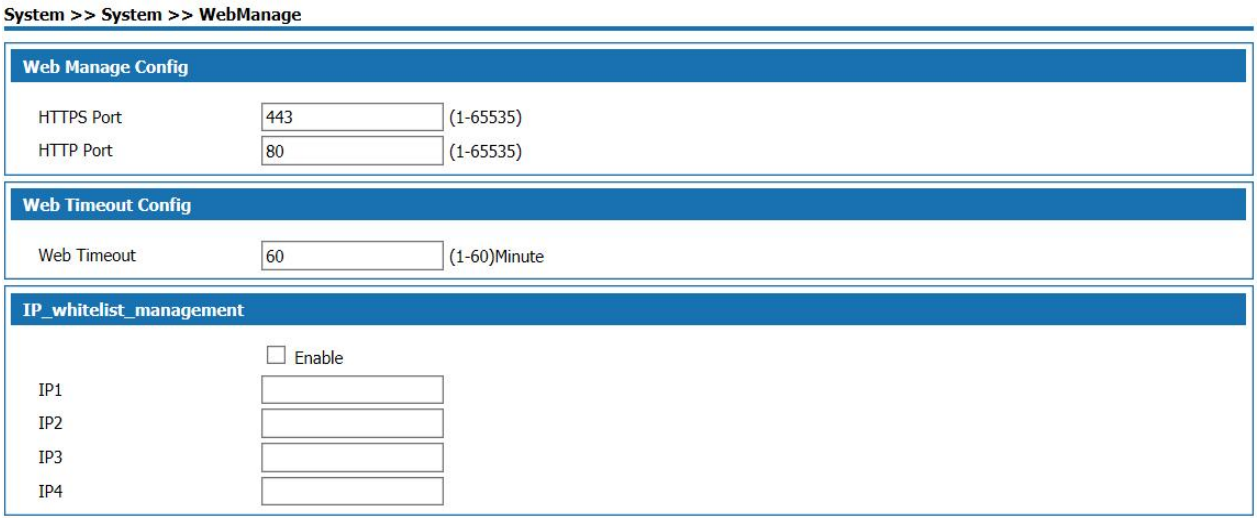


Figure10- 2 Web Manage Page

The System default value of http port is 80, and the one of https port is 443, users can modify the WEB management port according to their needs, modification is not need under normal circumstances. The configuration to the device is not completed during the management timeout period, user need to log in to the device again to continue configuration.

10.3 Maintain

If you have previously backed up the system setup information, you may restore the current configuration to the one you previously backed up in the event of a misoperation or other circumstances that result in the loss of system setup information for this product to ensure proper operation of the product and reduce loss of information loss. Backing up system setup information is also helpful for troubleshooting.

Select “System > Maintain” to enter “Maintain” page is as shown in Figure 10-3.

Figure10- 3 Backup and Restore Configuration

Back up the configuration information to the computer:

Step 1 Select Backup to PC on the “Maintain” page, enter the name of the configuration file to be saved, and click “Backup”,the “Save as” dialog box is displayed.

Step 2 Click <Save> button in the “File Download” dialog box to open the “Save As ”dialog box.

Step 3 Select the path for backup the configuration information in the “Save As” dialog box and click the “Save” button.

Result The configuration information is successfully saved to the computer and the configuration can be restored if needed.

Back up configuration information to USB device:

Step 1 Insert a USB device into the USB port of LvSwitch IPPBX. The USB connection status is displayed as USB connected.

Step 2 Select “Backup to USB” on the “Maintain” page, and then click <Backup> to start the backup.

The result is as shown in Figure10-4.

Figure10- 4 Backup to USB completed

Please do not modify the backed up configuration information file. The configuration file is encrypted and can not be restored to the device if modified.

Restore configuration information via local import is operated as follows:

Step 1 Click “Browse” button on the “Maintain” page,the “Select File” dialog box is displayed.

Step 2 In the “Select File” dialog box, locate the backed up configuration file and click “Open”.

Step 3 Click <Restore> button on the Maintain page, to display the "Restore configuration information successfully" page as shown in Figure 8-5.

Figure10- 5 Restore configuration information successfully

Results The system reboot and returned to the imported configuration information.

Restore configuration information via USB import is operated as follows:

Click <Restore> button after selecting the configurtioation file in the USB device to display the "Configuration information restore successful" page as shown in Figure 8-5. After the system reboots, the system will revert to the imported configuration information.

NOTI The current configuration information will be lost after restoring the configuration information. If you do not want to lose current configuration information, please back it up.

Restore installation configuration:

Click <Start> to save the installation configuration to the device, and the configuration save time will be displayed.

Click <Start> to restore the saved configuration information. After the configuration is restored, all the configuration information from the latest configuration save time to the curLease Time will be lost. Please pay attention to the backup.

10.4 Upgrade

Users of this product can contact the manufacturer for the latest version to upgrade the system for more functions and more stable performance.

Select “System > System Upgrade”,the “System Upgrade” page is displayed as shown in Figure 10-6.

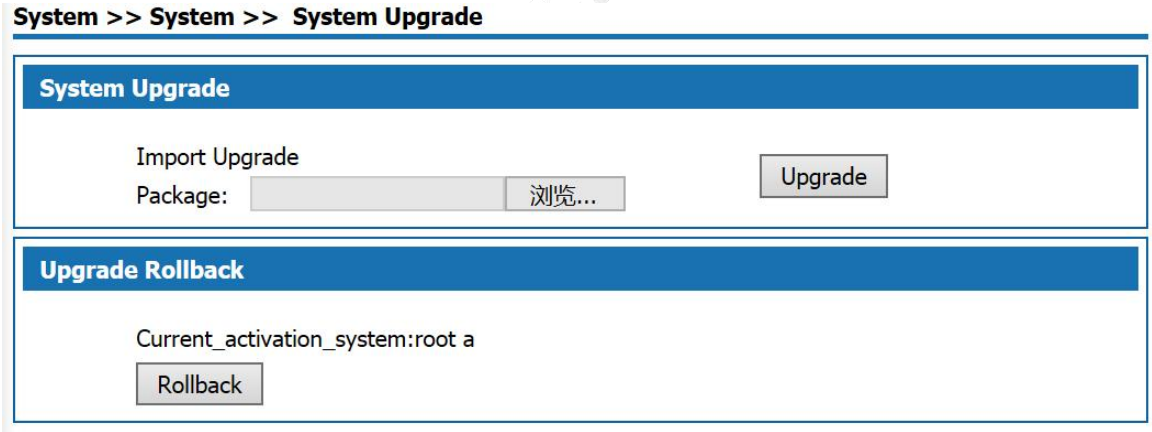


Figure10- 6 System Upgrade

The version upgrade operation is described as follows:

Step 1 Click <Browse> on the “Upgrade” page, the “Select File” dialog box is displayed.

Step 2 Locate the latest version file and click the <Open> button in the “Select File” dialog box.

Step 3 Click <Upgrade> on the “Upgrade” page to start the upgrade. The upgrade process may take some time. Wait patiently. After the upgrade is successful, the upgrade success page is displayed as shown in Figure 8-7.

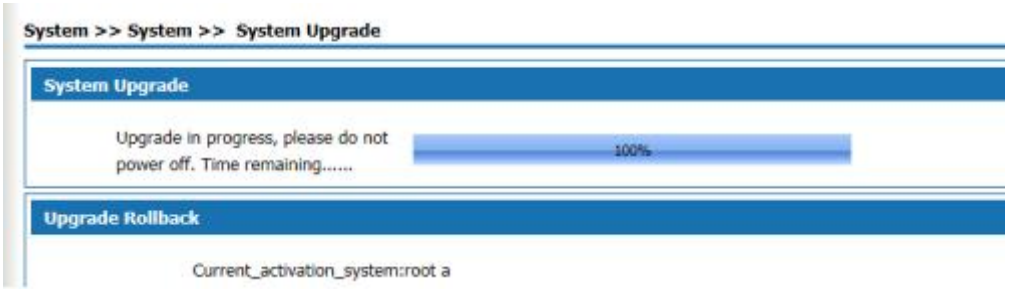


Figure10- 7 System Upgrade Successful

Result The system restart completed, the system upgrade to the latest version.

During the upgrade process, the system indicator blinks red slowly. After the upgrade is completed, the device restarts and the system indicator light flashes green rapidly. After the login page is displayed, the system indicator light flashes green slowly when it is working properly.

10.5 SNMP

SNMP (Simple Network Management Protocol) is the most popular kind of network management protocol. Through this protocol, access and management by the management equipment to the managed equipment can be achieved.

SNMP protocol is based on server and client management, the back-end network management server serves as an SNMP server, the front-end network devices serve as SNMP clients. The front-end and the back-end share the same MIB management library, and communicate through the SNMP protocol.

Select “System > SNMP” to enter “SNMP” page as shown in Figure 10-8.

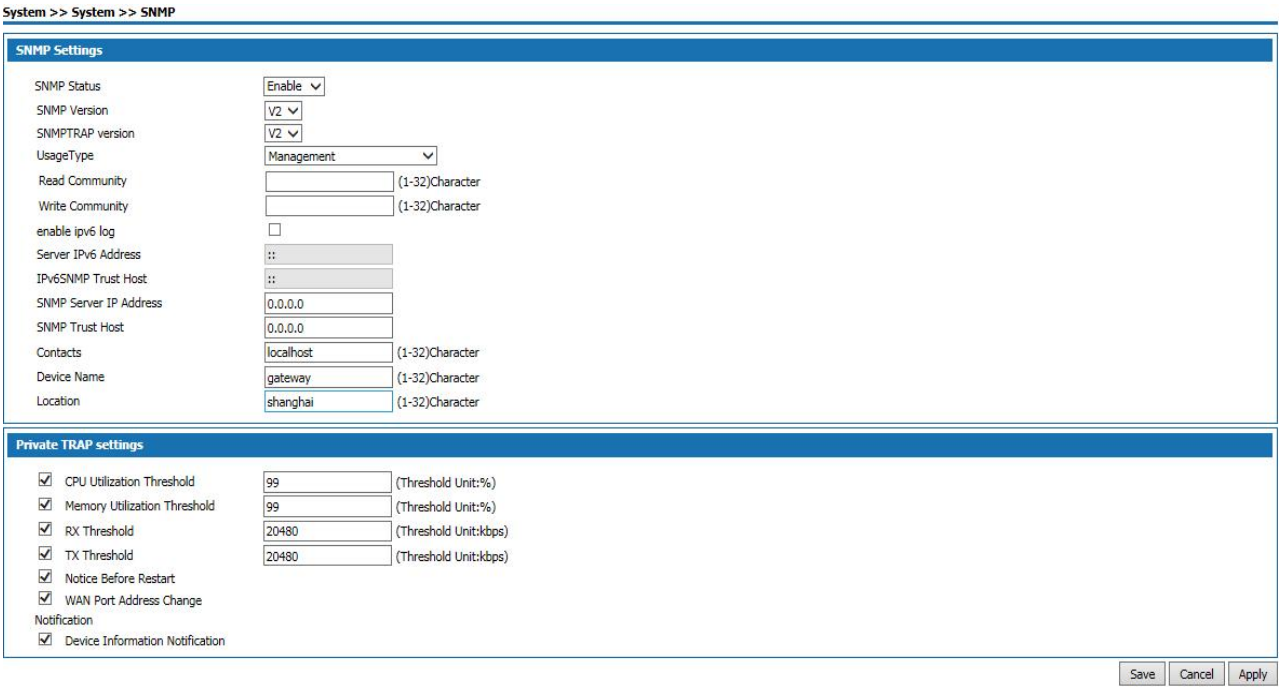


Figure10- 8 SNMP Management

SNMP Configuration：

Table 10- 1 SNMP Configuration

Item	Description
SNMP Configuration	
SNMP Status	SNMP Optional, Enabled or Disabled, default status is Enabled
SNMP Version	SNMP Version is optional,options are V1、V2、V3 and All，default value is V3.
Read Community	
Configuration Community	Set the password used for read / write access when “SNMPV1 & V2” is selected for the SNMP version.
SNMP Server IP Address	The remote SNMP server's IP address, which is the receiving address of TRAP. The default value is 192.168.3.193.
SNMP Trust Host	IP address trusted by this device,the allows only the management device of the specified address allowed to access this device. If not set, the IP address of the management device is not limited.
Private TRAP Setting	
CPU Utilization Threshold	Send TRAP alarms when the device CPU usage exceeds the threshold. Enabled by default, the default value is 99.
Memory Utilization	Send TRAP alarms when the device memory usage exceeds the

Item	Description
Threshold	threshold. Enabled by default, the default value is 99.
RX Threshhold	Send TRAP alarms when the network interface incoming traffic exceeding the threshold. Enabled by default, the default is 20480.
TX Threshhold	Send TRAP alarms when the network interface outgoing traffic exceeding the threshold. Enabled by default, the default is 20480.
Notice Before Restart	The device runs the reboot command, send TRAP alarms before the device restarts. Enabled by default.
WAN Port Address Change Notification	TRAP alarm is sent when WAN port address change, TRAP content includes the new WAN port IP address. Enabled by default.
Device Information Notification	Send TRAP alarm when WAN address change, reboot device, access device or SNMP program is started. Enabled by default.

The configuration on the management device and the one on the managed device need to be the same. Otherwise, the operation can not be performed.

10.6 TR069 Configuration

TR-069 (CPE Wide Area Network Management Protocol) provides a common framework and protocols for managing the configuration of user network devices in next generation networks. The device can be centrally and remotely managed via ACS (Auto Configuration Server) on the network side.

Select “System > TR-069” to enter the “TR-069” page, as shown in Figure 10-9.

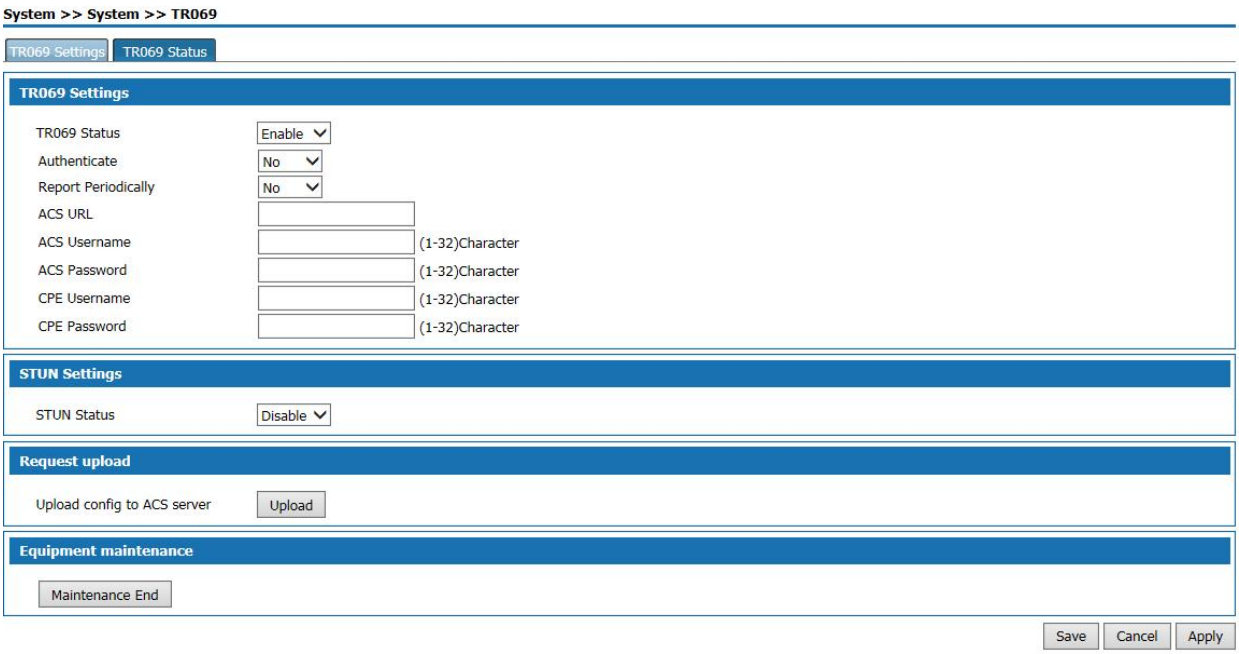


Figure10- 9 TR-069 Settings

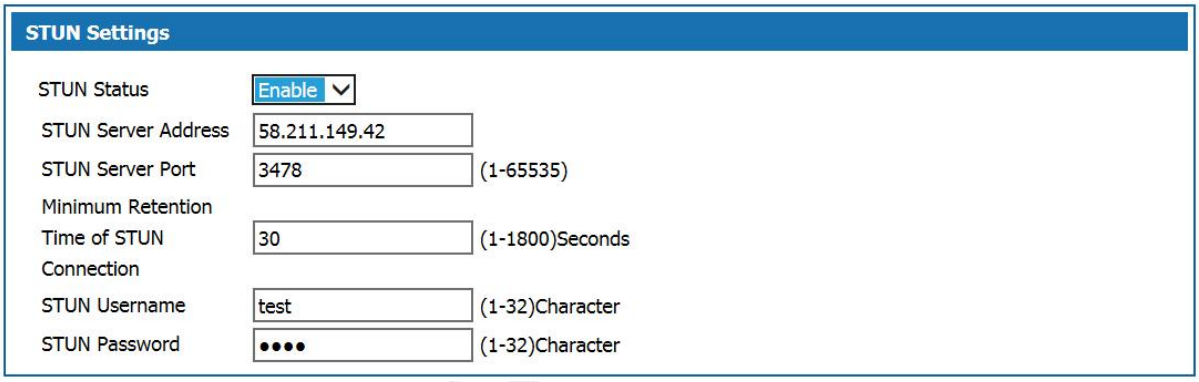


Figure10- 10 STUN Settings

TR-069 Settings Description：

Table10- 2 TR-069 Settings

Item	Description
TR069 Settings	The Setting items are described below.
TR-069 Status	TR-069 Status Options "Enable" or "Disable", Enable by default.
Authenticate	Optional, Yes or No, the default is No.
Report Periodically	Select "No", not report periodically, Select "Yes" and set the interval of periodic report in the text box below.
ACS URL	The URL used when connecting to the ACS (Auto-Confi CPE (Customer Premise Equipment) guration Server), using the CPE WAN Management Protocol. This parameter should be set in valid HTTP or HTTP URL form.
ACS UserName	The user name of CPE when the CPE is connected to the ACS using the CPE WAN Management Protocol. The username is valid only when the CPE uses HTTP-based authentication. Value range: 1 ~ 32 characters.
ACS Password	CPE Password used at the time of authentication when connecting to the ACS using the CPE WAN Management Protocol. The password is valid only when the CPE uses HTTP-based authentication. Value range: 1 ~ 32 characters.
CPE Username	Authentication user name used by the ACS to initiate a connection request to the CPE. Value range: 1 ~ 32 characters
CPE Password	The authentication password used by the ACS to initiate a connection request to the CPE. Value range: 1 ~ 32 characters
STUN Settings	When this product is in a private network, it uses the datagram protocol to establish a port mapping on the product that interacts with the ACS through the STUN

Item	Description
	(Simple Network Address Translation) mechanism, so that the ACS can configure and manage the product. By default, STUN status is “Disable”. After selecting “Enable”, the page shown in Figure 10-10 is displayed. The configuration items are described as follows.
STUN server address	Address of the STUN server
STUN Server Port	The port number of the STUN server.
Minimum Retention Time of STUN Connection	The minimum holding time for the client to establish a connection with the STUN server.
STUN Username	User name used to log in to the STUN server.
STUN Password	Password for logging in the STUN server.
Request Upload	Click <Upload> to request to upload the device configuration to ACS server, The sending result of the request will pop-up on the right side.

The CPE refered in this manual is the 1800 device. ACS server address is provided by the telecommunications, make sure the port number and URL address must be correct.

10.7 Reboot

Select “System > Reboot”. The Reboot page is displayed as shown in Figure 8-11.

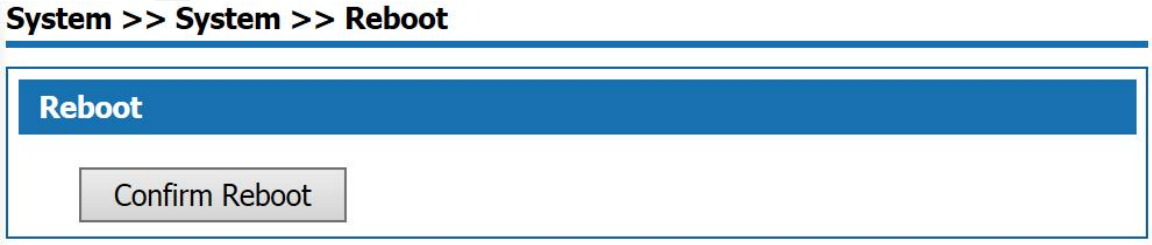


Figure8- 11 Reboot Page

Click <Confirm Reboot> to reboot the system.

- Do not power off during resboot.
- Network communication will be temporarily interrupted during resboot.

10.8 Restore Factory Default

Run Restore Factory Default, all the setting information of the product will be deleted and return to the factory default configuration status. This function is generally used when the equipment is changed from one network environment to another different network environment. The device is restored to the factory default configuration and then reset to better suit the current networking.

Select "System > Restore" and go to " Restore" page as shown in Figure8-12.

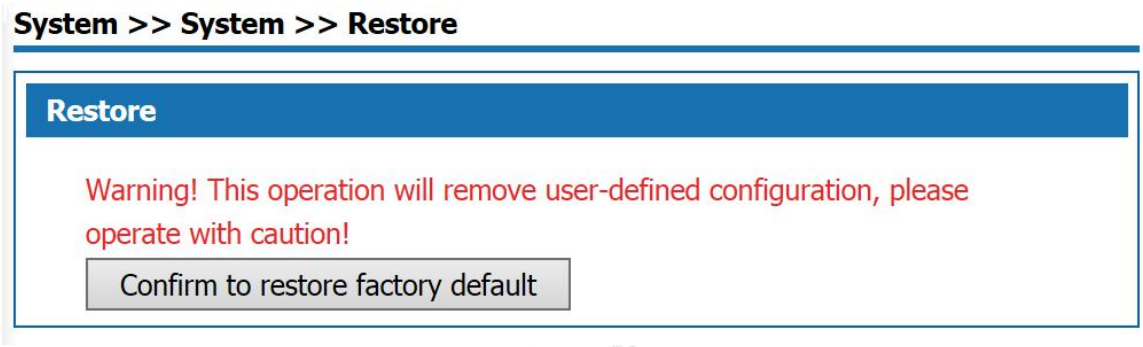


Figure8- 12 Restore Factory Default

- User will lose configuration when restore to the factory default. Please backup before the restore.
- After restoring to the factory default, the system will resboot.

10.9 System Debug

This product provides four kinds of diagnostic tools which include ping communication test, TraceRoute (route tracking), httpGet and DnsQuery. The Ping function is used to test whether the connection between the product and other network devices is normal or not. The TraceRoute function is used to test whether the link between the product and a computer or network device is normal. The HttpGet function is used for testing whether users of this product can access the Internet normally or not; DnsQuery function is used to test whether the DNS server is valid.

Step 1 Select “System > Debug” to enter “Debug” page as shown in Figure 8-13.

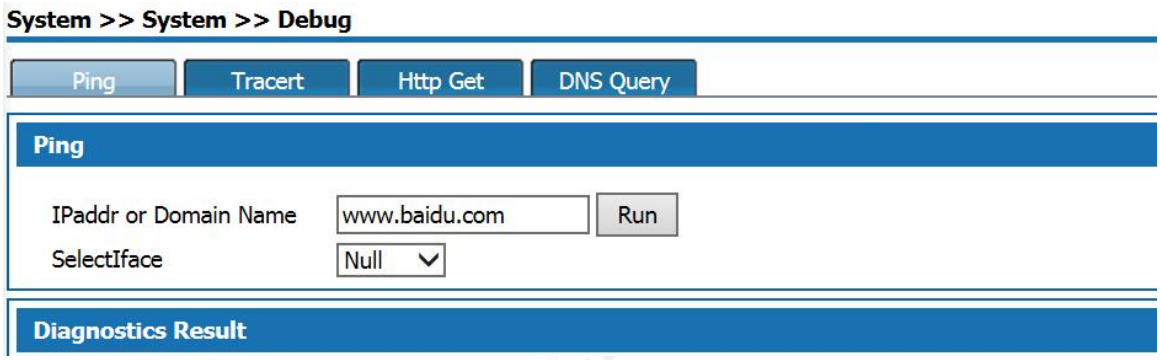


Figure8- 13 Debug

Step 2 Select the diagnostic tool needed and enter the IP addr or Domain Name of the destination device in the Diagnostic Address text box.

Step 3 Click the “Run”button to start the debug.

Result The result will be displayed in the text box below.

10.10 Time Settings

Select “System > Time Settings” to enter “Time Setting” page as shown in Figure 8-14.

There are two ways to set the system time. Obtain time through internet and manually set the system time. By default, the product obtains the time through NTP server.

Network Time Protocol (NTP) is used to provide time synchronization between routers, switches, and workstations. The function of time synchronization is to look at the related event records of multiple network devices to help analyze more complicated faults and security incidents.

NTP server to obtain time in two ways:

- When the product is connected to the Internet, it automatically obtains the time from the default NTP server of the device (this method is adopted by default).
- Enter the specified NTP server address, the product obtains the time from the specified NTP server.

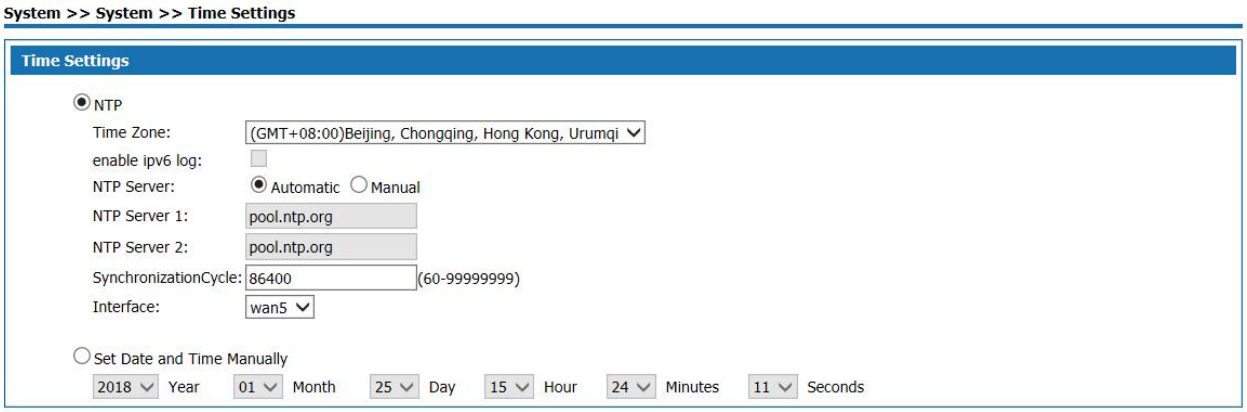


Figure8- 14 Time Settings

System Basic Configuration Page description:

Table8- 3 Time Configuration

Item	Description
Enable NTP Time Zone	Check to enable NTP service function. The default value is Enable.
Time zone	Select the time zone of the product, the default is GMT + 08: 00 China standard time.
Time server	Automatic: Update the time from the default NTP server. Manual: If you need to set other NTP server, select "Manual", set NTP server, the product will update time from the specified NTP server. The default is automatic.
NTP Server 1 / NTP Server 2	In manual mode, you can manually set 2 NTP servers

Item	Description
Manually set the date and time	After selecting, manually set the time, turn off the NTP service function. The default is disabled.

10.11 Log Manage

Select “System > Log Manage” to enter “Log Manage” page as shown in Figure 8-15.

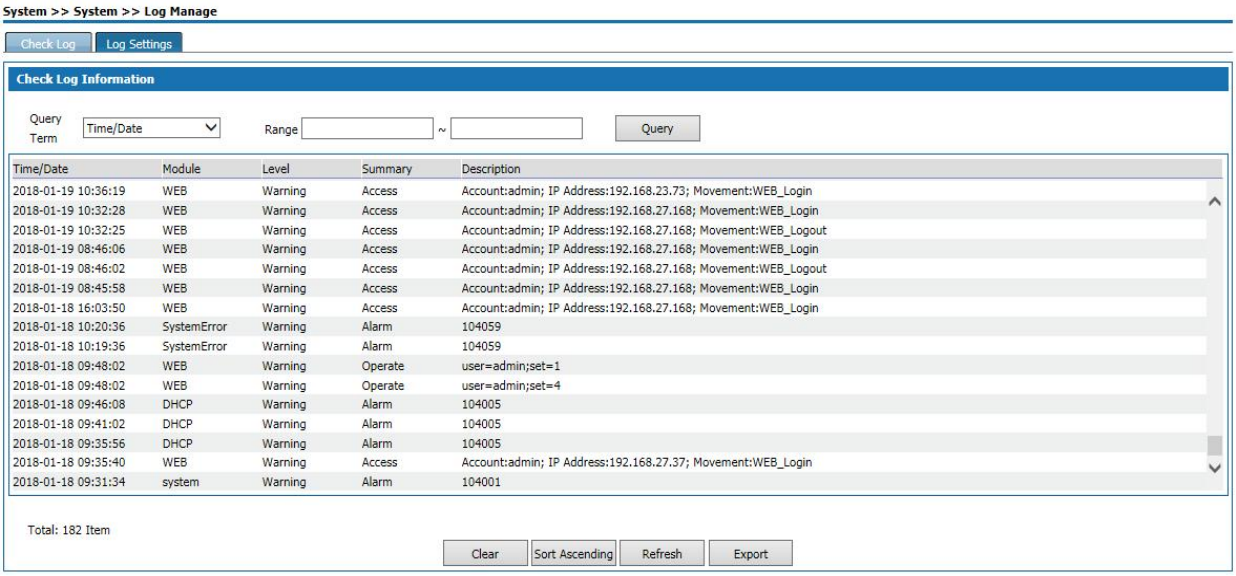


Figure8- 15 Log Manage—Check Log

Check Log description as follows:

Table8- 4 Check Log Information

Item	Description
Query items	The system provides five query items: Time / Date, Module, Level, Summary, Description. Select a query item, set the content need to query. If select "Time", set the time range in the Time Range box and click <Query>, the query result will be shown in the following list.
Log information list	The log information displayed is five query items: Time / date: when the log occurred; Module: the log module; Level: The level of the log, including the five levels which are "warning", "err", "crit", "alert", and "emerg". Summary: The type of the log. “Alarm” is the alarm log. “Access” is the access log. “Operate” is the operation log. “URL-Filter” is the URL filtering log. “Flow” is the traffic log. Description: Displays the log information to analyze the operation.
Button Description	Clear: Click <Clear> to clear all the log information. Positive sequence display: Click the “Positive Sequence” button, the log information is

Item	Description
	displayed in chronological order, and the button is changed to “Reverse Order display”. Refresh: Click the “ Refresh” button to display the latest log information.

In the log page, users can specify the log information to be displayed in "Log Information View" or set the remote log sending function. Click the [Log Settings] tab to enter page shown in Figure 7-16.

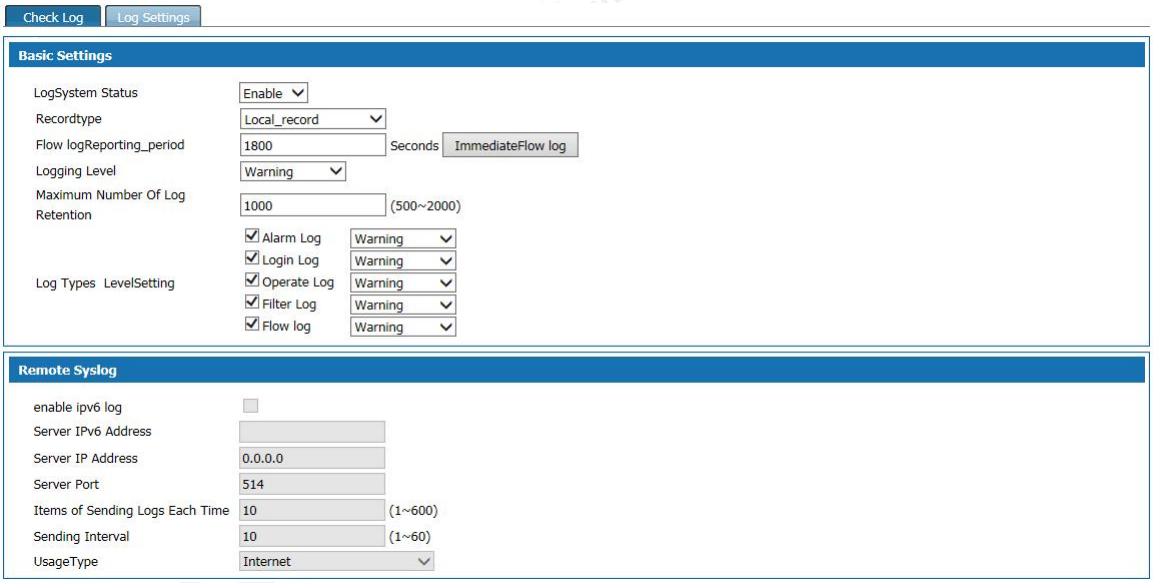


Figure8- 16 Log Manage - Log Settings

Log Settings page:

Table 8- 5 Log Settings

Item	Description
Basic Settings: Specify the log information to be displayed.	
RecordType	Specify the log type to be displayed. Select the radio button to display the corresponding log information.
Logging Level	Select to display the log information level, including "warning", "err", "crit", "alert", "emerg" five levels, the level of severity increases in order. Logs greater than or equal to the setting level are displayed.
Maximum number of log reservations	Set the maximum number of log reservations, the value range: 500 ~ 2000. When the number of system log reaches the set value, it will automatically delete the old log information according to the time of sending the log.
Remote Syslog: Set log upload information of remote server.	

Item	Description
Enable IPv6 Log	Check the radio button to enable IPv6 log function.
Server IPv6 address	IPv6 address of server which receives upload logs.
Server IP address	IP address of server which receives upload logs.
Server Port	Server-defined port which receives log upload. Value range: 0 ~ 65535 integer. Default: 514.
Items of sending logs each time	The number of logs sent to server each time. Value range: 1~ 600 integer.
Sending interval	Time Interval for uploading logs, in seconds. The value ranges from 1 to 60

11. Trouble shooting

Appendix 1 Simple failure and troubleshooting

The fault phenomenon	The cause of the problem	The solution
the indicator light is not on	Power off	Check plug and power supply
The extension of silent	Connection failed	Connect the line or troubleshoot the phone
A noise	Poor contact/improper wiring	Tighten/remove the connection from the source
Poor quality	A mixture of phone	Unified telephone standard
No caller id	Outside line without caller id function	Apply to the telecommunication office to set up bell extension
Silent outside call	A bad connection/outside line	Connect an outside line/check that the wires are connected properly
The call was disconnected regularly	Set the time limit	Remove limit
Unable to log in system	Using the wrong account or password	Use the correct account and password
Extension no dial tone	Crystal head loose/circuit fault (open or short)	Change the crystal head, change the line
Extension doesn't ring	Set the do not disturb function/the phone is damaged	Cancel the DND function and replace the line
Outside dial-in extension does not ring	Turn off the outside line/Connect the phone before the outside line	Turn on the outside line /clear and answer calls
Extension can't dial out	Outside line is ISDN line/or outside line voltage is low set limit outside line class	Some components need permission to change outside line
The switch can’t connect to the	The default network port of the software does not match the	Set software network port is consistent with using network

computer	actual network port	port
	The computer network port has been damaged	Replace the computer
	The switch network port has been damaged	Replace the switch interface card

Appendix 2 technical parameters

Power voltage	AC200V-240V 50/60Hz
Power consumption	≤50VA
Telephone type	Dual tone multiple frequency /IP phone
Electricity lines	All rope way
Feeding voltage	DC48V 20~40mA
Distortion degree	≤10%
Ringing current	AC70V±10% 50Hz
FXO line sound	Telecom office audio source
Internal dial tone	450Hz square wave continuity
Inside ring tone	450Hz square waves pass in one second and break in four seconds
Internal busy signal error	450Hz square wave 0.3 second pass 0.3 second break
Inside voice confirmation	450Hz square wave one second pass
Outside reminder	450Hz square wave passes 2 seconds and breaks 5 seconds