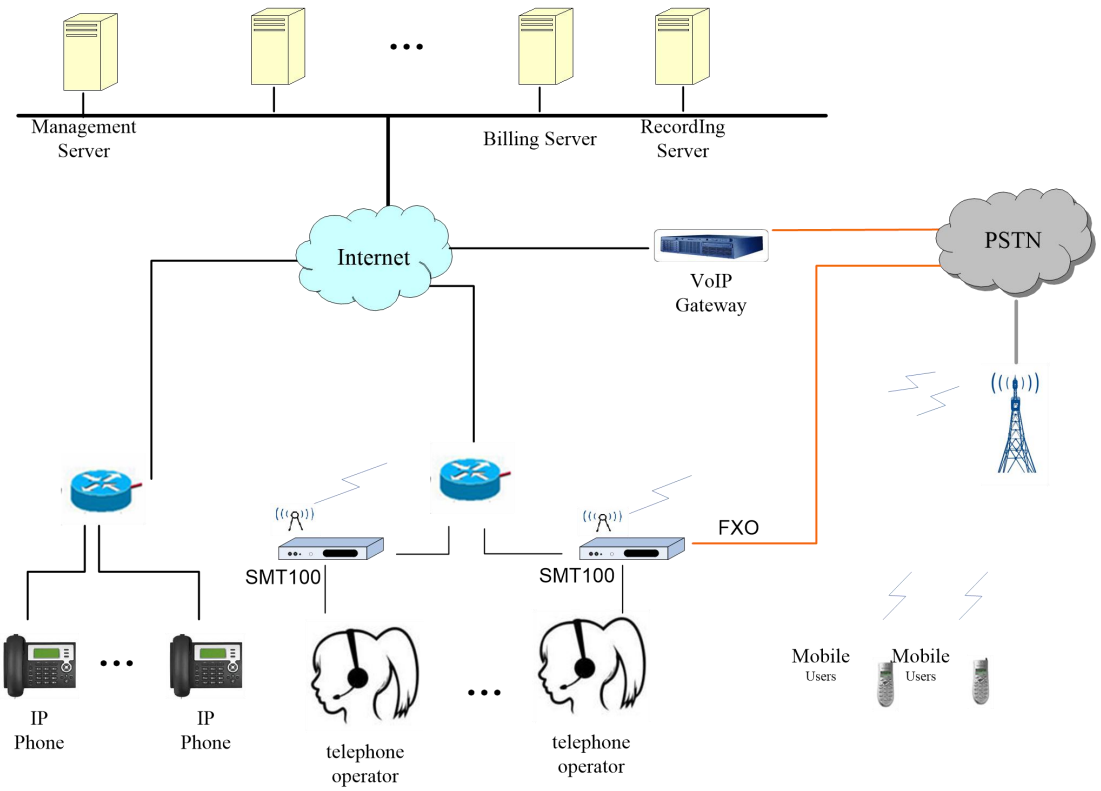
4G Gateway User Guide

Application

1.1.1. Desktop Service Terminal

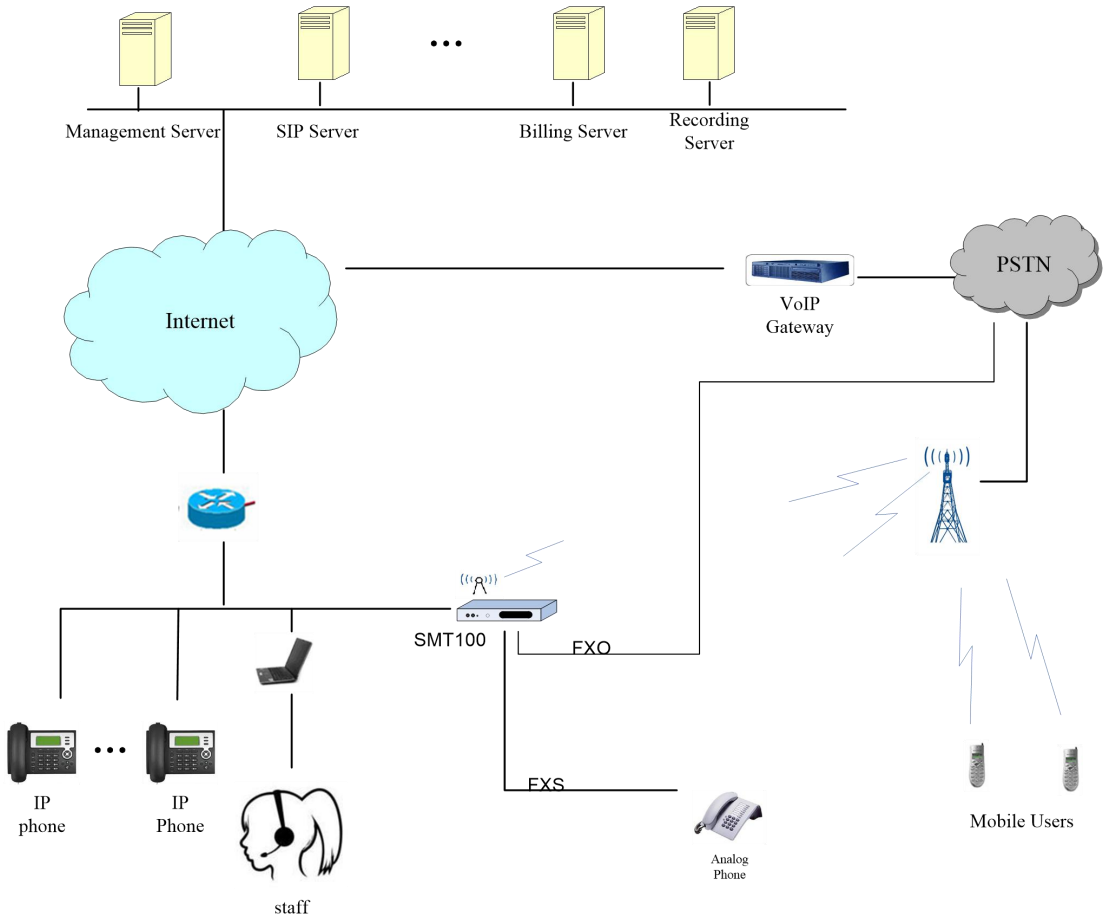
Figure 1-1 Application of Call Center



This application is mainly used for call center. As a desktop telephone terminal, it can realize outbound by IP line and inbound by GSM/CDMA mobile network, flexible calls and cheaper fees. It also can control and manage the call process and analyzed the statistical billing data, perform line recording monitoring.

1.1.2. Unified Communication IPPBX

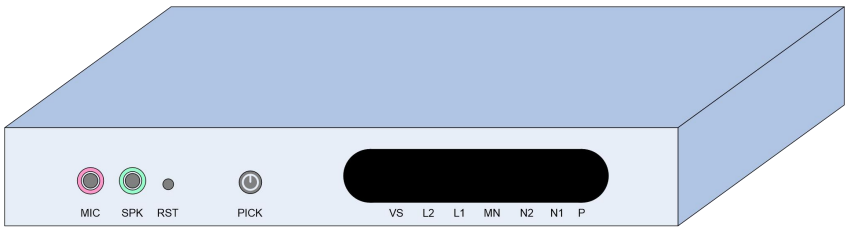
Figure 1-2 Application of Unified Communication IPPBX



This application is mainly used for unified communication of micro and small enterprises. It can serve as the enterprise switchboard service, at the same time solve the company's internal IP extension, and manage the staff's calls, realizing the call recording, statistical analysis and other functions.

1.2. Product Appearance

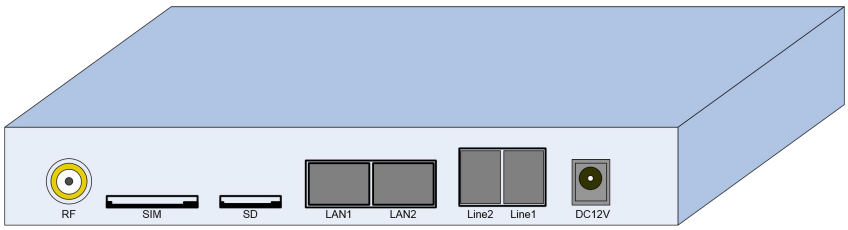
Figure 1-3 Front Panel



Front Panel Interface

- MIC: 3.5mm microphone interface
- SPK: 3.5mm headphone interface
- RST: System restore factory setting and reset interface
- PICK: Local voice channel answering key
- VS: Local audio channel status indicator
- L2: Analog channel2 (FXO) status indicator
- L1: Analog channel1 (FXS) status indicator
- MN: Mobile network (GSM/CDMA) wireless channel status indicator
- N2: Ethernet port2 status indicator
- N1: Ethernet port1 status indicator
- P: Power supply and device operation status indicator

Figure1-4 Back Panel



Back Panel Interface

- RF: Mobile network antenna interface
- SIM: SIM card slot
- SD: SD card (TF card) slot
- LAN1: Ethernet port1, default as WAN port
- LAN2: Ethernet port2
- Line2: Analog channel2
- Line1: Analog channel1
- DC 12V: DC power supply port

1.3. Indicator Description

Indicator	Definition	Status	Description
P	Power status indicator	Shine	The device is powered on and the firmware is starting.
		Blind	The device without electricity.
		Slow flash	The system is running.
N1	LAN1 indicator	Blind	The network is not connected or the network connection is abnormal.
		Fizzle	The network connection is normal.
N2	LAN2 indicator	Blind	The network is not connected or the network connection is abnormal.
		Fizzle	The network connection is normal.
MN	Wireless channel indicator	Slow flash	The channel is on the line.
		Quick flash	The telephone is ringing.
		Shine	The channel is free.
		Blind	The channel is unavailable
L1	Line1 channel indicator	Slow flash	The channel is busy.
		Quick flash	The telephone is ringing out.
		Shine	The channel is free.
		Blind	The channel is unavailable.
L2	Line2 channel indicator	Slow flash	The channel is busy.
		Quick flash	The telephone is ringing out.
		Shine	The channel is free.
		Blind	The channel is unavailable.
VS	Audio channel indicator	Slow flash	The channel is busy.
		Quick flash	The telephone is ringing out.
		Shine	The channel is free.
		Blind	The channel is unavailable.

1.3.1. Main Features

- Single device provides FXS/FXO/GSM access technology
- Initiate/Receive PSTN/PLMN Calls via FXO/GSM
- Flexible dial plan, based on time, number, source, IP and other routing strategies
- Support IVR, user can customize IVR
- Supports high-speed NAT routing and forwarding
- Built-in soft-switch (IP-PBX) function, support 30 SIP extensions, 15 SIP concurrency (G.711A/U) and 5 SIP concurrency (G.729)
- Friendly web user management interface provides multiple management methods

Physical Parameters

- FXS: 1，RJ11 interface
- FXO: 1，RJ11 interface
- SIM slot: 1
- Micro SD slot: 1
- 3.5 Audio interface: 2 (Headphone and microphone)
- Ethernet network interface:
  ① 1 WAN (LAN1) interface (10/100 Base-T RJ45), default as DHCP Client.
  ② 1 LAN (LAN2) interface (10/100 Base-T RJ45), default IP: 10.91.8.1

1.3.2. Voice Feature

- VoIP Protocols: SIP over UDP/TCP/TLS, SDP, RTP/SRTP PPTP VPN
- Supported Codecs: G.711a/μ law, G.723.1, G.729A/B, GSM, G.726, G.722, SPEEX, ADPCM, iLBC
- Silence Suppression
- Comfort Noise Generator (CNG)
- Voice Activity Detection (VAD)
- Echo canceller (G.168), Maximum 128ms
- Adaptive Dynamic Buffering
- Adjustable Gain Control
- Automatic Gain Control
- Call Proceeding Tone: Dial Tone, Ring-back Tone, Busy Tone
- Support NAT Traversal
- DTMF Mode: RFC2833/Signal/Inband

1.3.3. FXS

- Interface Type: RJ11
- Caller ID Signaling: BELL, V23, V23_JP, DTMF
- Hang Up Detection: Off-hook, On-hook, Busy Tone
- Polarity Reverse
- Hooking Detection

1.3.4. FXO

- Interface Type: RJ11
- Caller ID Detection: FSK, DTMF
- Reversed-Polarity Detection
- Delayed Response Off-hook
- Busy Tone Detection
- No Current Hang-up Detection

1.3.5. Software Feature

- Interface Type: RJ11
- Ring Group
- Routes Group
- Calling/Called Number Transform
- Time Condition
- Based on Destination Routing
- Based on Source Routing
- Dial Plan
- Failover Routing
- FXO Impedance Matching
- Customizable Multi-language IVR
- Auto Attendant Function
- Local CDR Storage

1.3.6. Additional Service

- Call Forwarding (Unconditional/No Reply/Busy/Not Reachable)
- Call Waiting/Holding
- Call Transfer
- Intra-group Pickup
- Hotline
- Do Not Disturb (DND)
- Tripartite Meeting

1.3.7. Physical Specification

- Power supply: 12VDC, ≥ 1.5A
- Max power consumption: 10W
- Operation temperature: 0 ℃ ~ 45 ℃
- Storage temperature: -20 ℃ ~ 80 ℃
- Operation Humdity: 10%-90% (Non-condensing)
- Dimension: 160 x 105 x 24 mm (W/D/H)
- Weight: 0.5kg

1.3.8. Management & Maintenance

- Simple and convenient configuration via Web GUI
- CLI Management Config

- Support configuration files backup and upload
- Support Chinese and English page
- Firmware Update by HTTP/TFTP
- Auto Provision Update
- Modify Password via Web
- CDR Query & Export
- Syslog Query & Export
- Ping and Tracer Test
- Traffic Statistics: TCP, UDP, RTP
- Network Capture/Network Quality Test
- Automatic Time synchronization

1.4. Install

1.4.1. Install Caution

- 4G Gateway is equipped with a power adapter and adopts DC 12V input. Please ensure stable and safe power supply.
- When the telephone is wired, please separate from the strong cable to reduce the interference to the telephone.
- To ensure stable operation of the device, make sure the network has sufficient bandwidth.
- Please place the equipment on the horizontal surface. Do not stack the equipment to avoid heat dissipation.

1.4.2. Installation Steps

1. Insert SIM card into the SIM card slot on the back panel of the device. First make sure that the mobile network supported by the device matches with the SIM card

2. Install GSM antenna (external suction dish antenna) at the antenna interface (RF interface) in the back panel of the equipment. (Skip steps 1 and 2 if the device does not have a GSM wireless channel).

3. WAN (LAN1) is connected to the network line and the other end of the network line is connected to the customer specified network.

4. FXS port connects to the phone. (Skip step 4 if the device is not configured with an FXS channel).

5. FXO port connects to PSTN line. (Skip step 5 if the device is not configured with an FXS channel).

6. The power adapter is connected to the power interface (DC 12V) and the adapter is connected to the 220VAC power socket.

7. The internal system of the device has been started normally when it is observed that the device buzzer makes a long sound or the running indicator light begins to flicker regularly and slowly.

8. Refer to the subsequent sections of this document to configure and use this device. (Please refer to section 1.3 of the document for the device interface picture).

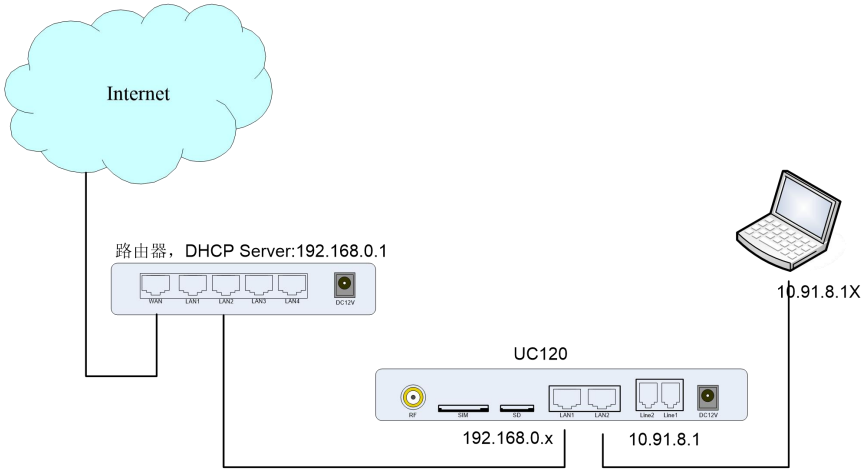
1.5. Network Connection

4G Gateway supports two network working modes: route mode and bridge mode. Under route mode, WAN port address and LAN port address are located in different network segments. Under bridge mode, the WAN port shares an IP address with the LAN port.

1.5.1. Route Mode

Under route mode, WAN port acquires IP address by DHCP default, while the default IP address of LAN port is 10.91.8.1. The default mode is route mode.

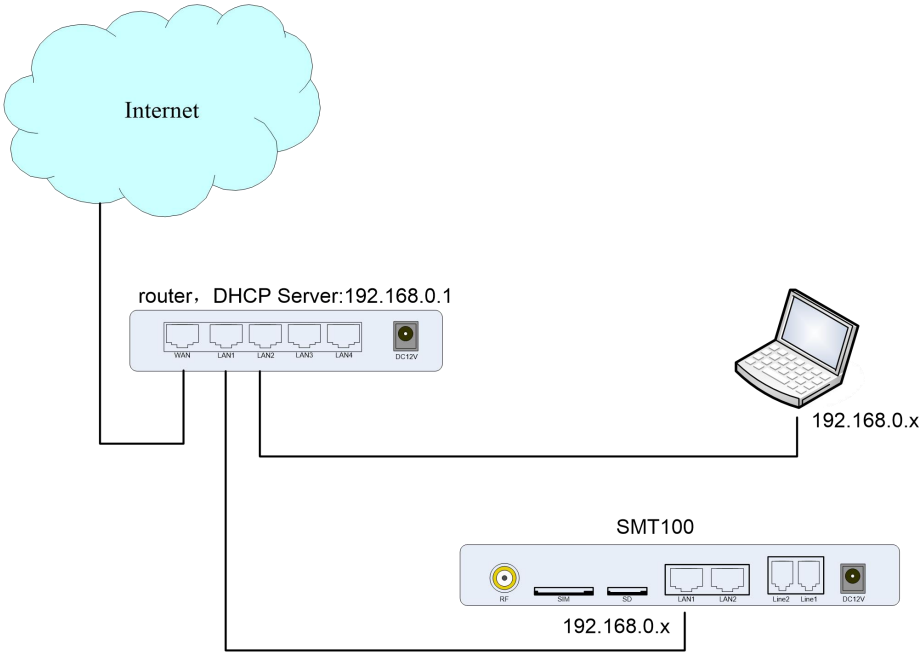
Figure 1-5 Network Connection of Route Mode



1.5.2. Bridge Mode

Under bridge mode, the WAN port shares an IP address with the LAN port. According to the actual situation, when the equipment is under bridge mode, the IP address of the device has been modified in general. In the following network connection diagram, it is assumed that the IP address of the device has been modified to 192.168.0.2, and the IP address of the PC has been modified to 192.168.0.3.

Figure 1-6 Network Connection of Bridge Mode



1.5.3. Connect Device to Network

The above network connection diagram shows that 4G Gateway devices are connected to the network through the network port and users can choose one of them according to the actual situation. When 4G Gateway is under default routing mode, it can also connect to the network by bridge mode. In this case, users should pay attention to the IP address of 4G Gateway service. There are some kinds of confirm ways:

- Through the fixed IP address of LAN2 port: 10.91.8.1, log in the web interface to check WAN (LAN1) and obtain the IP address through DHCP.
- Access the phone through FXS port and query the IP of the device using the feature function code (follow the section 3.6).
- Query the device's IP through the upper router

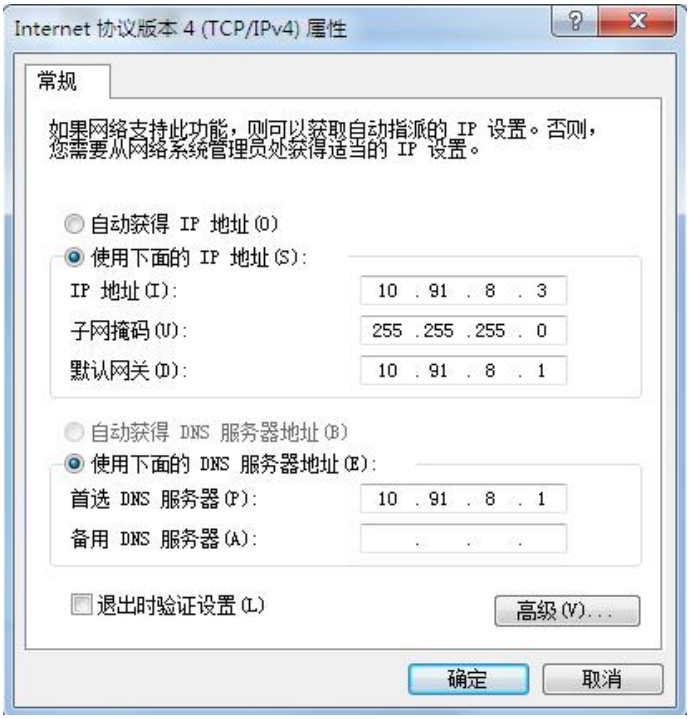
1.5.4. Connect 4G Gateway to Network by Ethernet Port

Connect 4G Gateway to the network according to the network connection diagram and modify the IP address of the PC to make sure the PC and the device are in the same network segment

1.5.5. Preparation

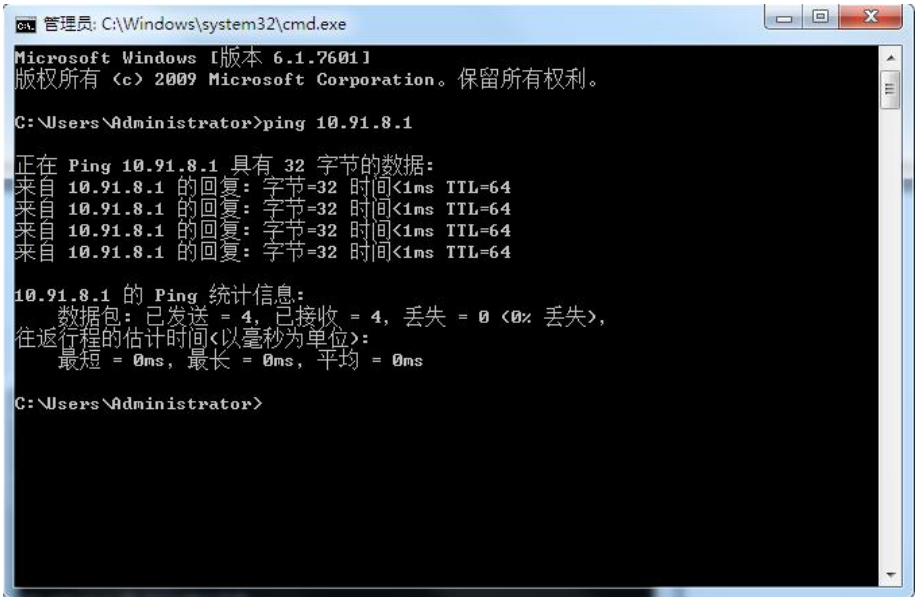
The default IP address of device LAN port is 10.91.8.1. First, modify the IP address of the local computer to ensure that the computer and the device are in the same network segment. Take Windows 7 as an example

Figure 1-7 Modify the Local Computer Address



Check the connectivity between the computer and the device, Click Start, point to Run, type CMD, and execute: ping 10.91.8.1 to check whether the device's IP address is normal.

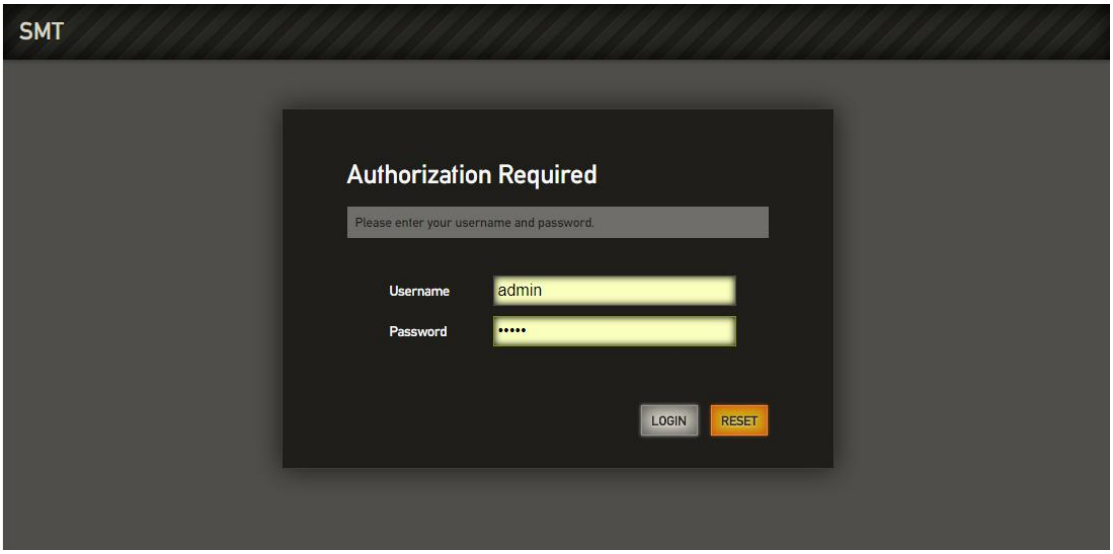
Figure 1-8 Check the Connectivity



1.5.6. Log in the Web

Open the browser, enter the equipment LAN IP address “10.91.8.1" (you can also enter the IP address of the WAN port, but the IP address of the WAN port must be in the same network segment with the local PC IP address), the default user name and password are “admin/admin”. Click "login" button.

Figure 1-9 4G Gateway Login Interface



1.5.7. Web Management Interface

The web management interface of 4G Gateway is divided into a system button area, a menu bar and a configuration area.

Figure 1-10 Web Management Interface

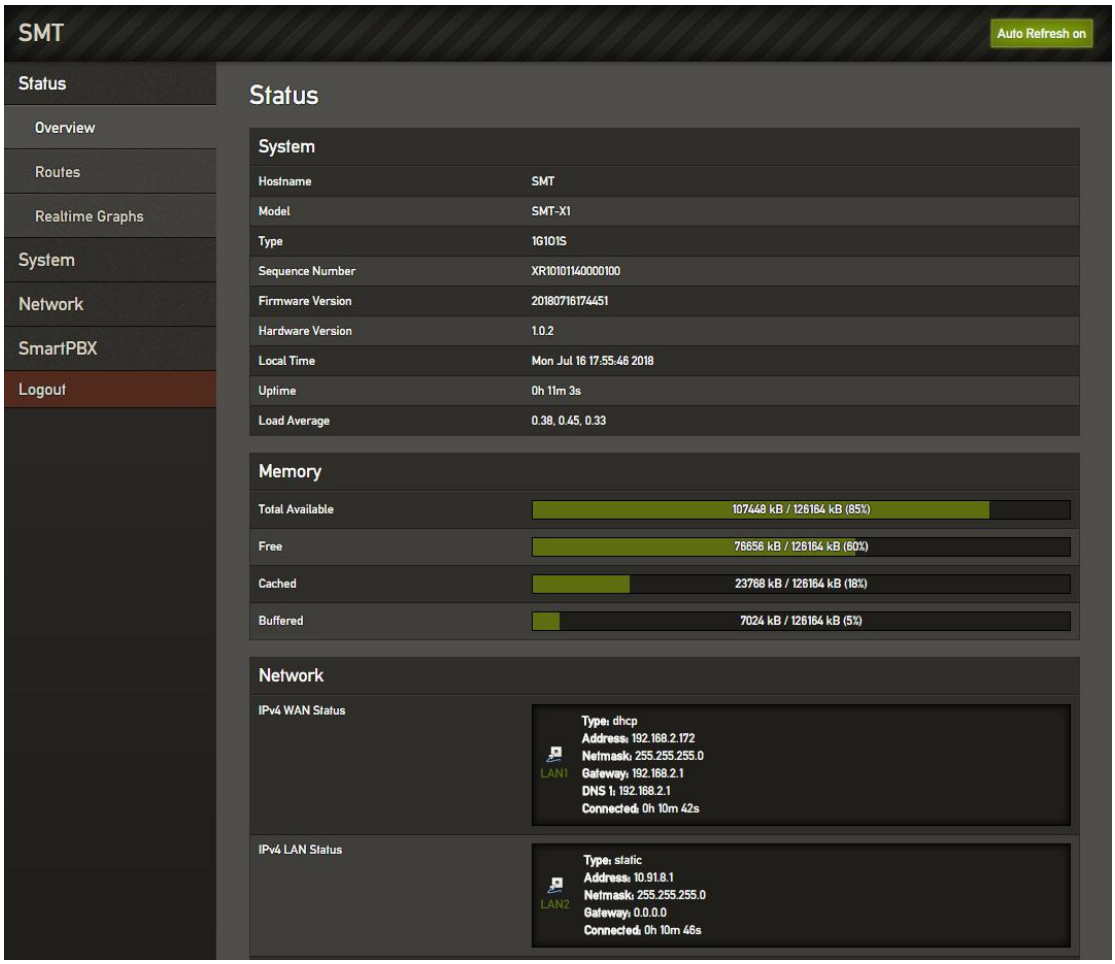


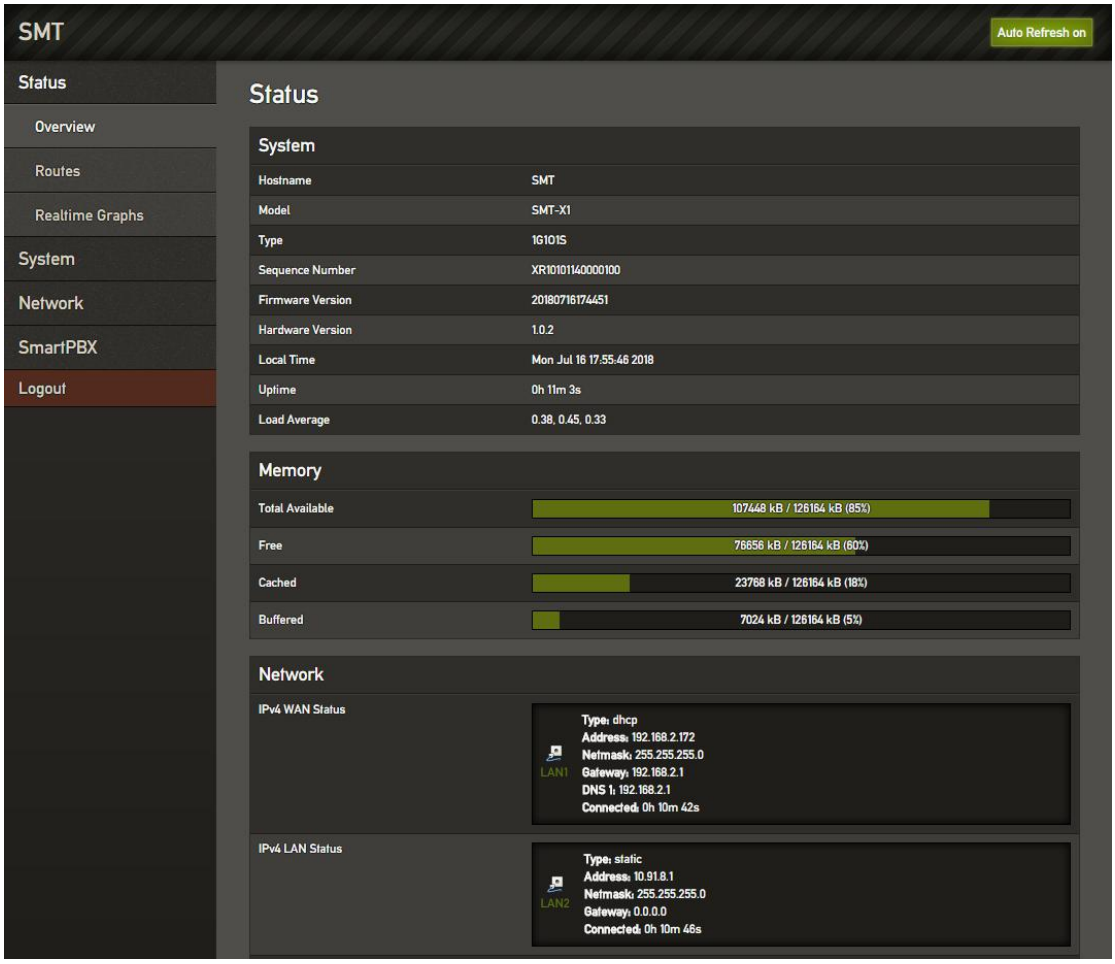
Table 1-3 Web Interface Description

Name	**Description**
System button	Support Auto Refresh Switch button.
Menu Bar	Click the module to expand the lower function menu. The results of your selection are displayed in the configuration area.
Configuration	Used to modify and view configuration.

2. Web Configuration

After logging into the device, the Web interface is shown below.

Figure 2-1 Web Interface



2.1. Status

The status menu includes overview, routes and real-time information, mainly displays device-related information.

2.1.1. Overview

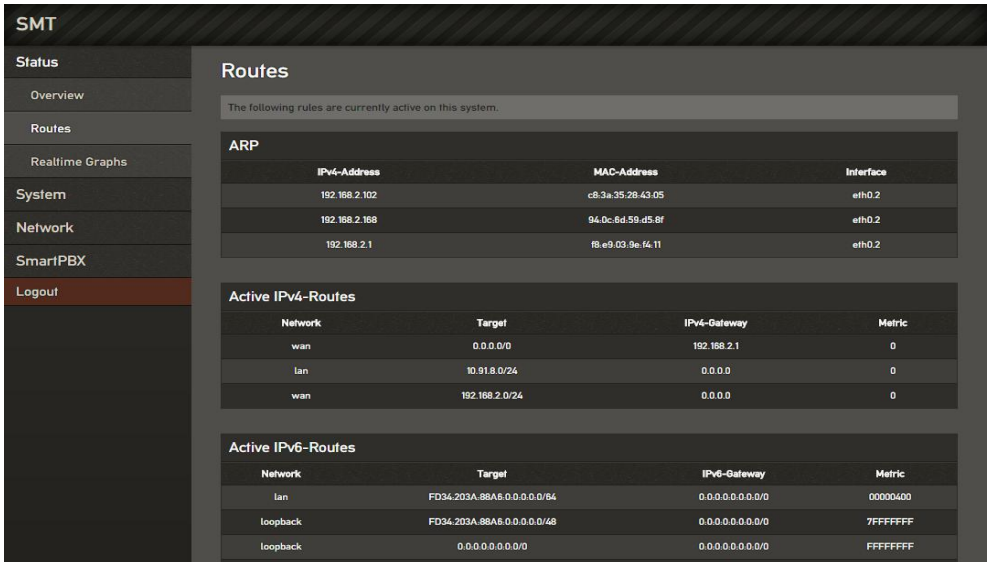
Enter the Web interface, you could see "state - > overview" interface. This page mainly shows the host model, firmware version, device running time, Mac address, IP address and other information.

Figure 2-2 Status

2.1.2. Routes

The route information of device connection is shown on the “Status -> Routes”

page. Figure 2-3 Routes



2.1.3. Realtime Graphs

The “Status -> Realtime Graphs” page shows the load information of CPU, the statistics information of network traffic and the connection information of network.

Figure 2-5 Load Information of CPU

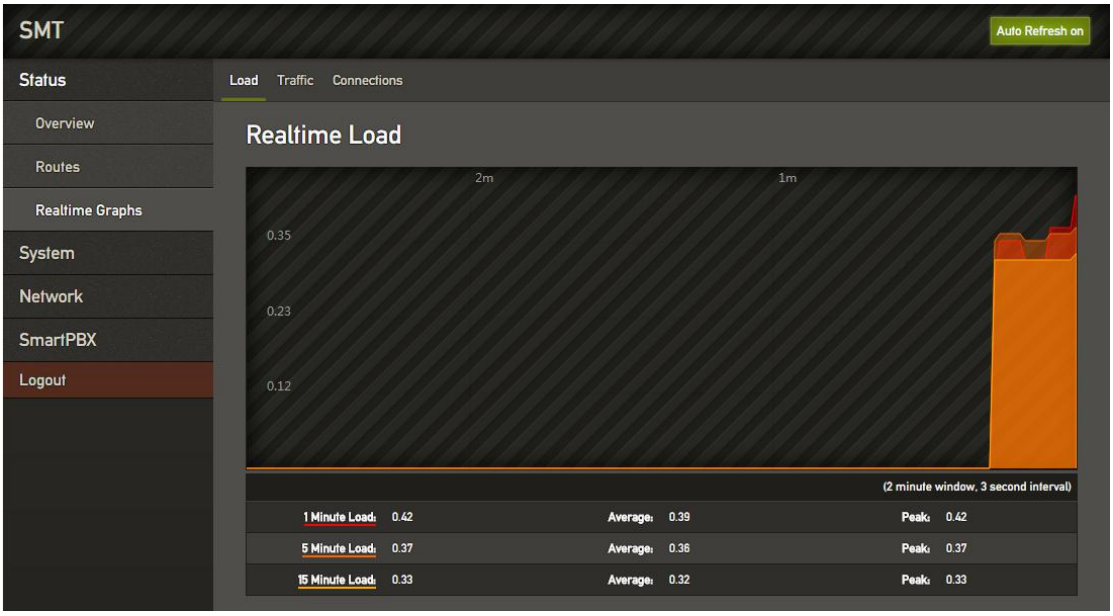


Figure 2-6 Statistics Information

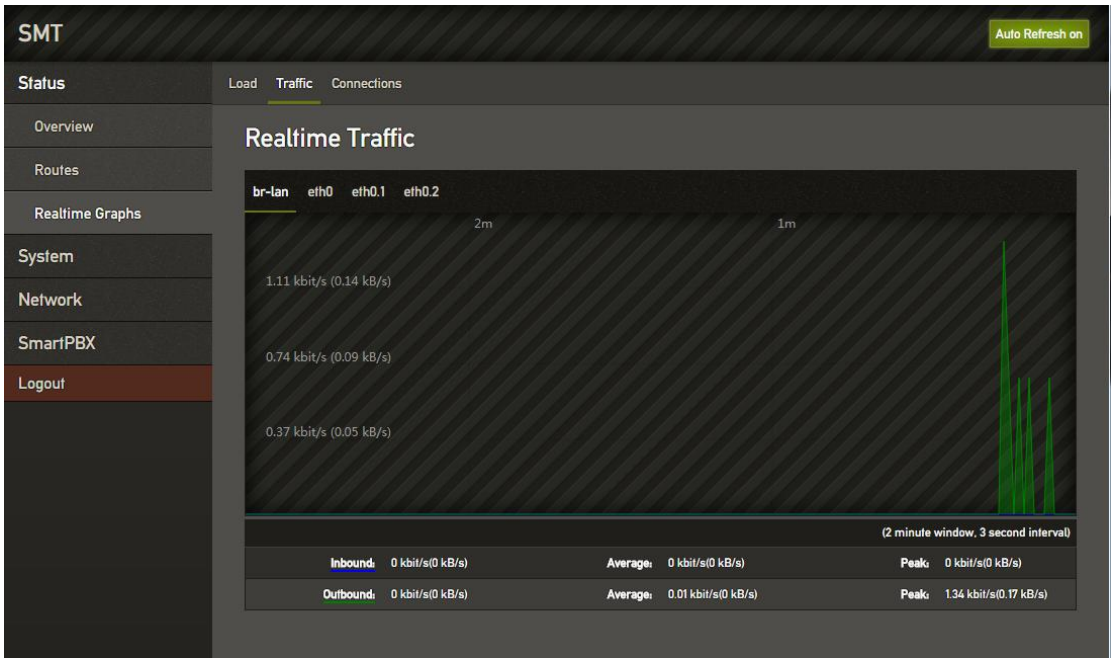
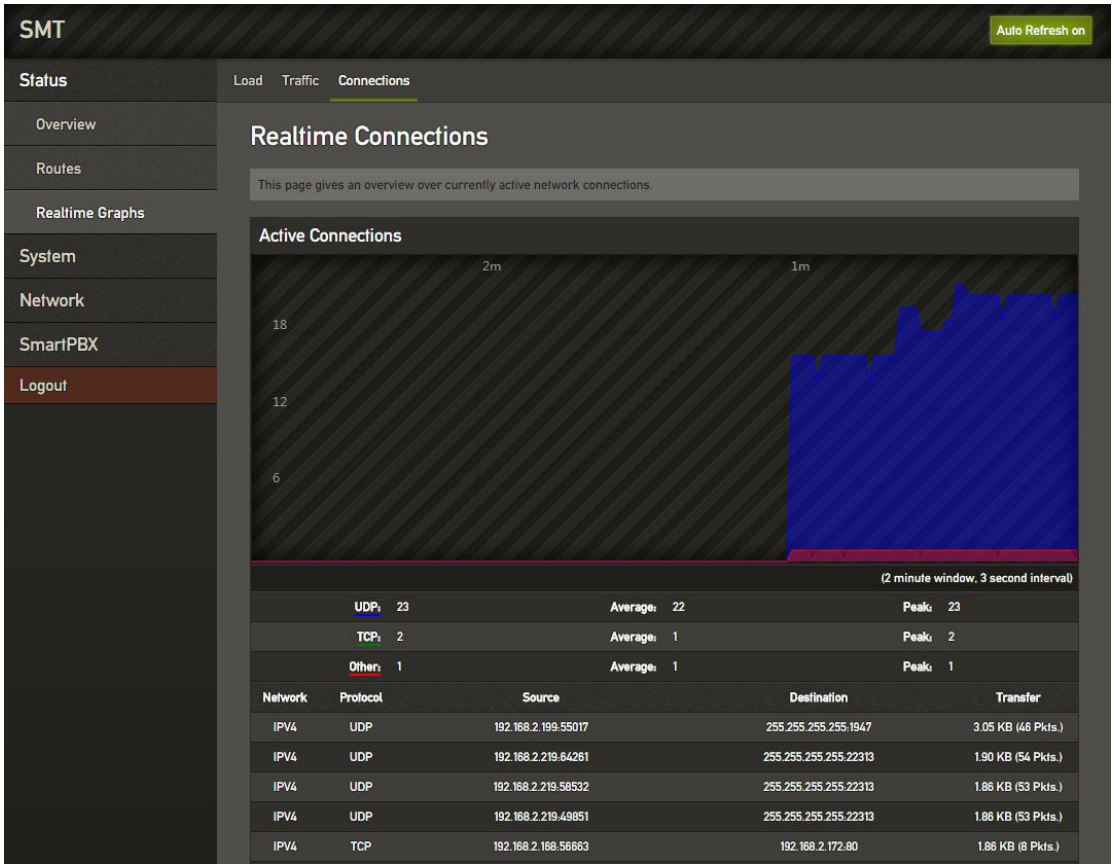


Figure 2-7 Connection Information



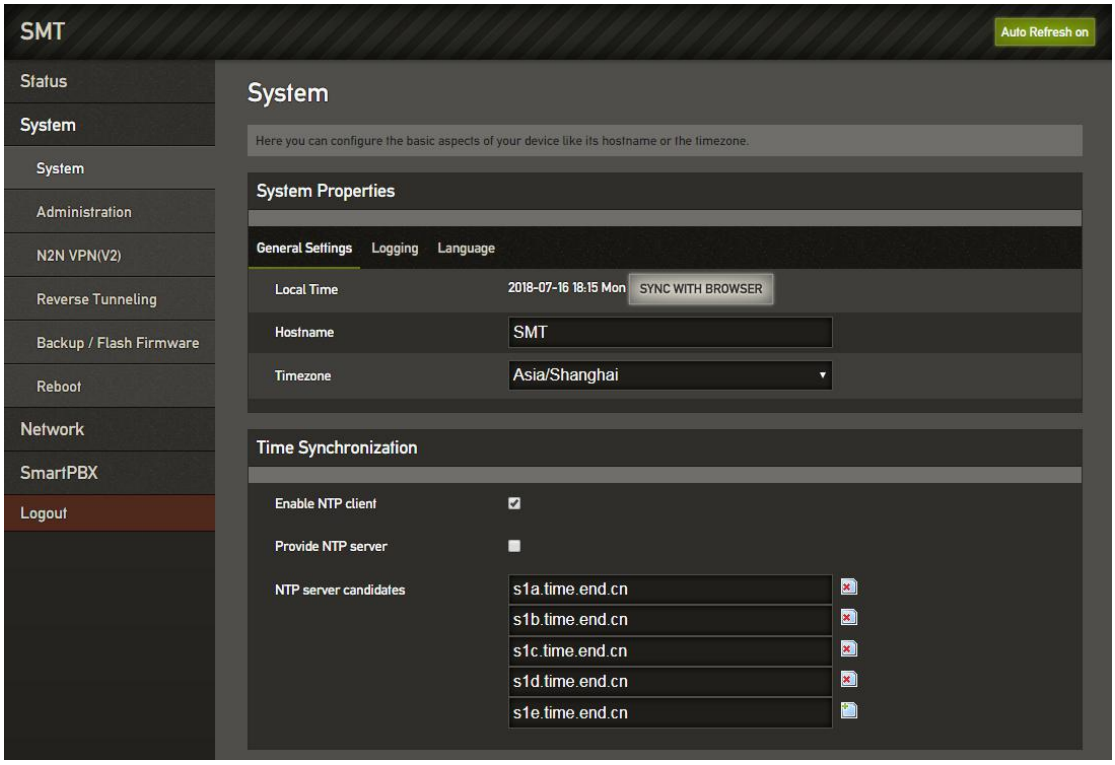
2.2. System

Users could set local time, user name/password and reverse tunneling. You also could check operation log, synchronize time, upgrade system, backup/recover/upgrade data and reboot device.

2.2.1. System

Users could modify the name of device and set time zone, synchronize local time, set log, language and interface style on the “System -> System” page.

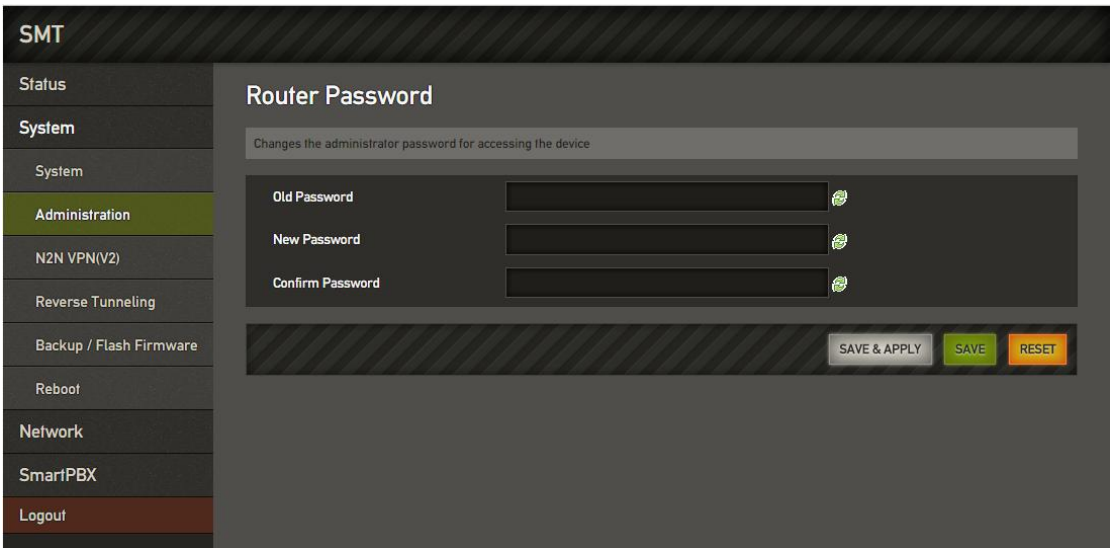
Figure 2-8 System Settings



2.2.2. Administration

Users could set user name and password, the default is admin/admin. We suggest you to change them for safety.

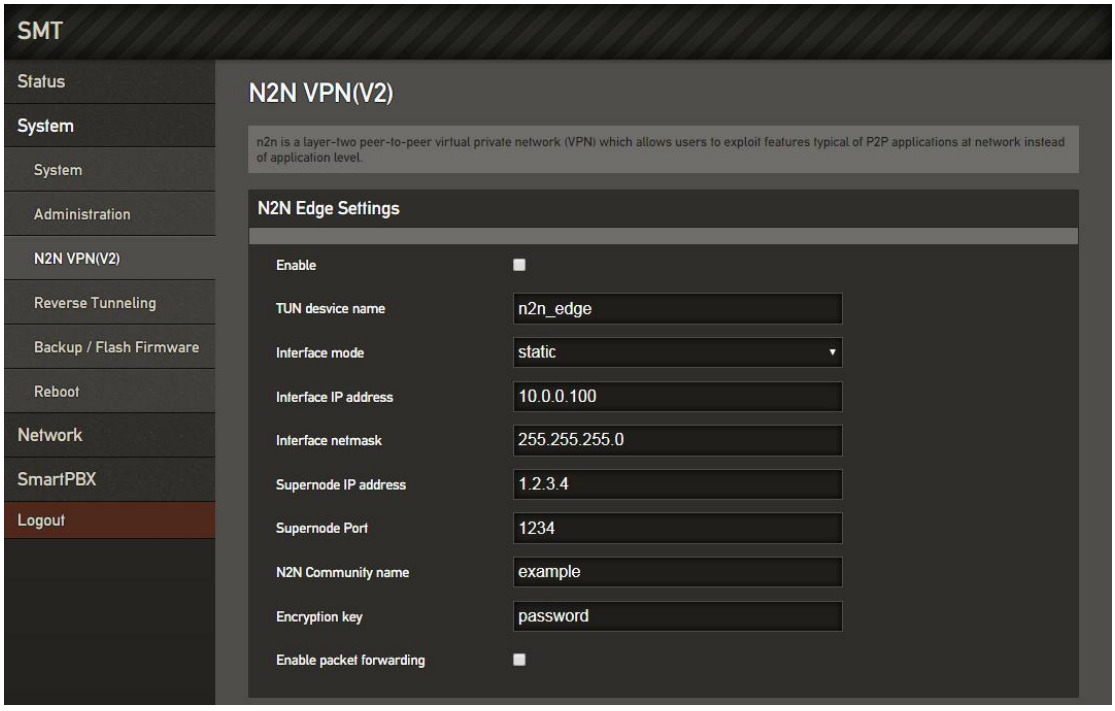
Figure 2-9 Modify User Name and Password



2.2.3. N2N VPN

Users could enable N2N VPN function that used to remote debugging on the “System -> N2N VPN(V2)” page.

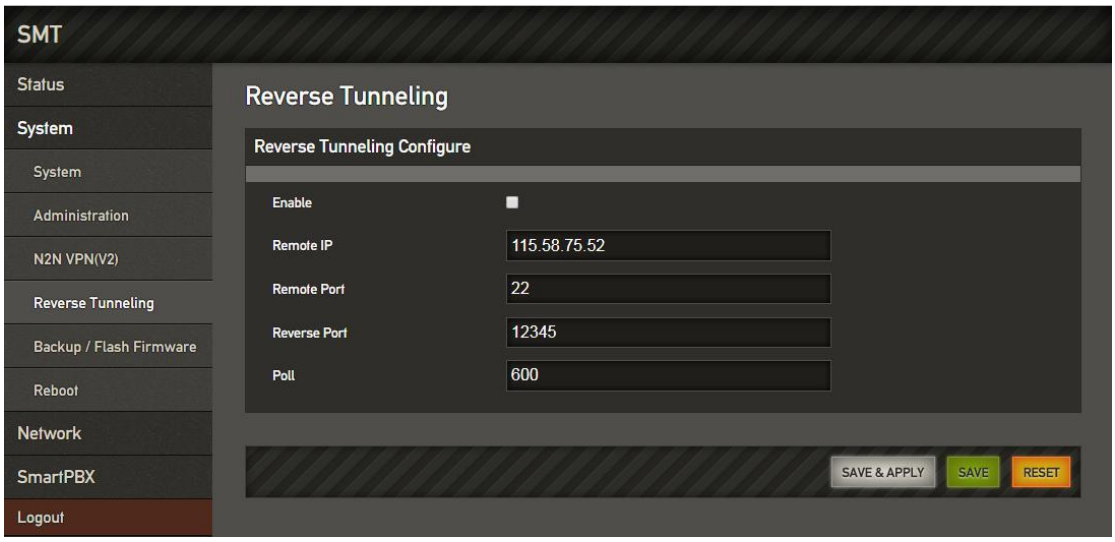
Figure 2-10 N2N VPN Settings



2.2.4. Reverse Tunneling

Users could enable reverse tunneling function that used to remote debugging on the “System -> Reverse Tnneling” page.

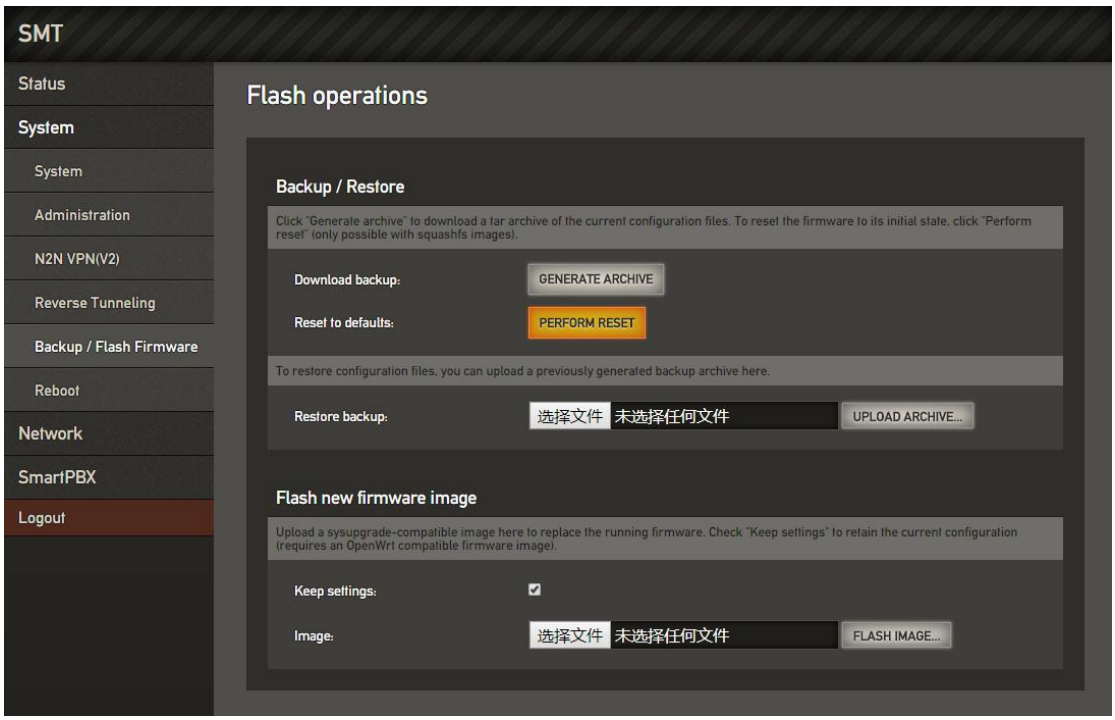
Figure 2-11 Reverse Tunneling Settings



2.2.5. Backup/Restore/Upgrade

On the “system-> backup/upgrade” page, users can backup, restore configuration data and upgrade device versions. The data recovery and update version will not take effect until the device is restarted.

Figure 2-12 Backup/Restore/Upgrade Page



Note: The files used for system upgrade and the uploaded configuration files are all local files

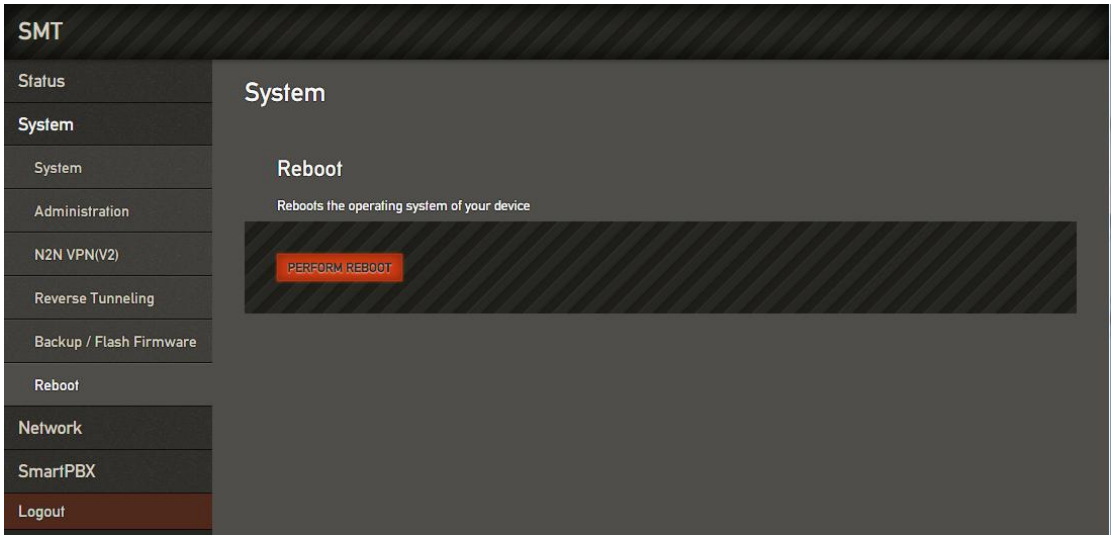
Table 2-1 Backup/Restore/Upgrade Description

Name	Description
Backup	Backup system configuration parameters to a compressed file and download over the web.
Restore	Restore configuration data to the factory default of the device
Upload backup	Import the system configuration data. Note: Only 4G Gateway backup data can be imported.
Flash firmware	Upgrade equipment version. The upgrade file provided by the manufacturer.

2.2.6. Reboot

Users could reboot the system on the “System -> Reboot” page.

Figure 2-13 Reboot



2.3. Network

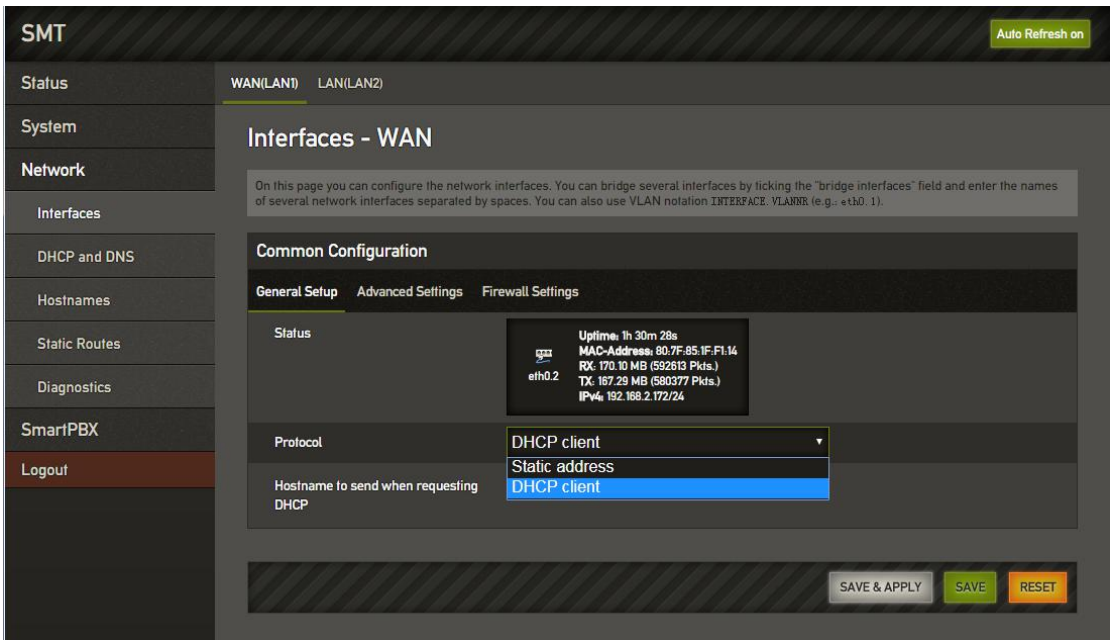
4G Gateway gateway supports two network modes, route mode and bridge mode. Under route mode, the IP address of WAN port should be different from that of LAN port. Under bridge mode, the IP address of WAN port is the same as that of LAN port

2.3.1. Interfaces

Users could set the IP address of WAN/LAN port on the “System -> Interfaces” page. Under route mode, the default ways to get IP address of WAN port is DHCP and the default IP address of LAN is 10.91.8.1.

There are some ways to set the IP address of WAN port: Static address, DHCP.

Figure 2-14 WAN Port Settings



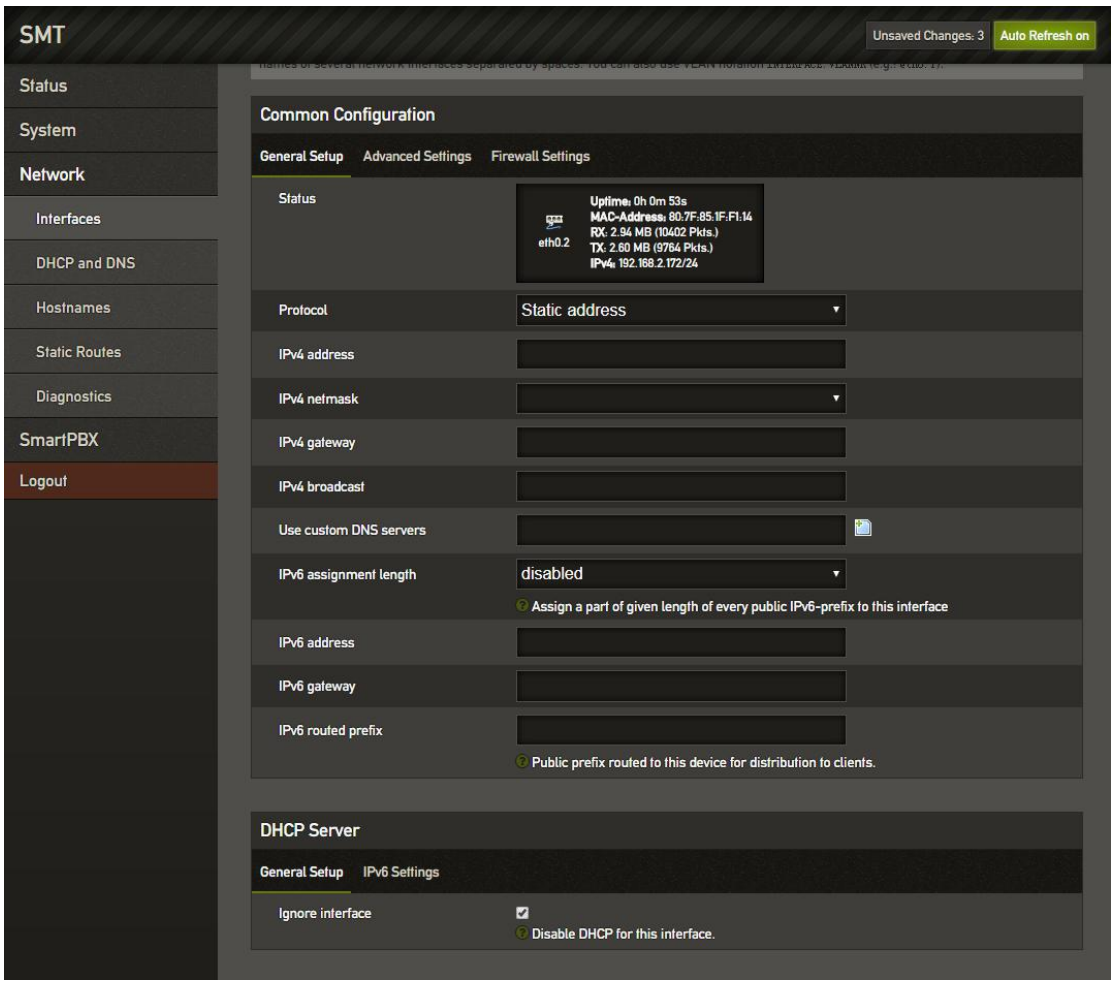
DHCP:4G Gateway working as a DHCP client, makes a broadcast request and seek a response from the DHCP server. Then DHCP server automatically assigns an IP address to 4G Gateway within the defined IP address range.

Note: When configured as "DHCP" to get the IP address, it is necessary to ensure that DHCP server exists in the network and works properly.

Static address: Also called fixed IP address. The IP address is assigned to a computer or network device for a long time. If choose the static address as the IP address of 4G Gateway WAN port, you need to enter the following

1) IP address: Static address that assigned to 4G Gateway WAN port. Subnet mask: The subnet mask of the router that connected to 4G Gateway.
2) Default gateway: The IP address of the router that connected to 4G Gateway.
3) User-defined DNS server: The IP address of DNS server.

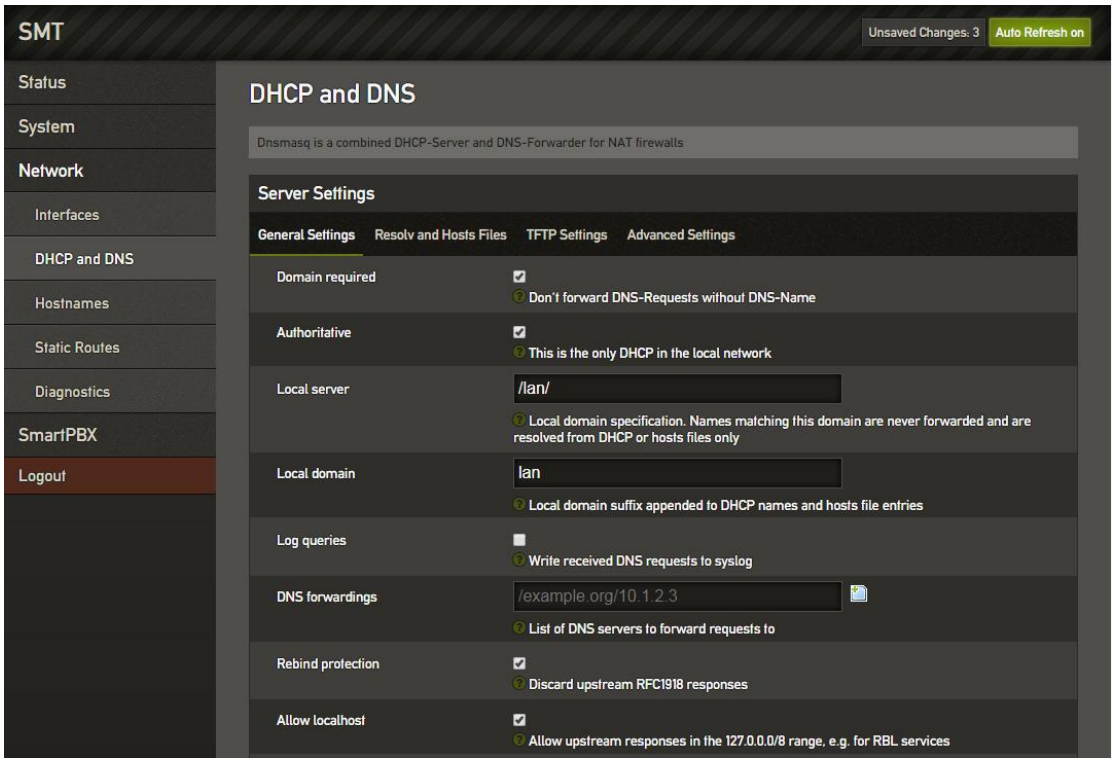
Figure 2-15 Static Address of WAN Port



2.3.2. DHCP/DNS

Users could set DHCP server and DNS retransmission on the “Network -> DHCP/DNS” page. The changes take effect after saving.

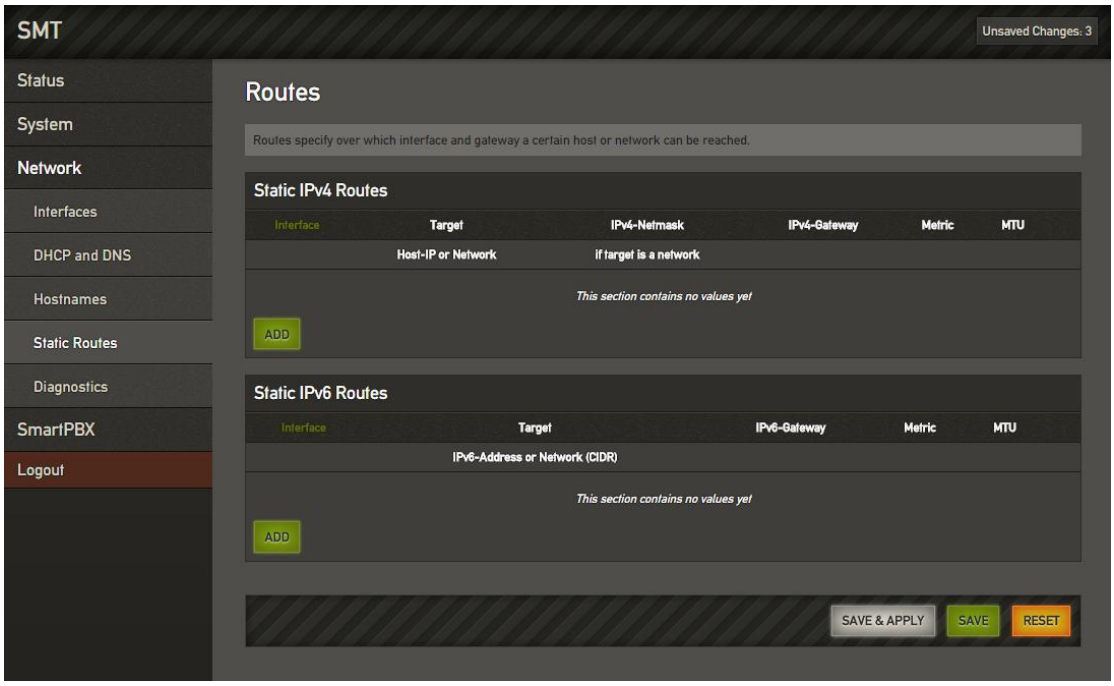
Figure 2-16 DHCP/DNS Settings



2.3.3. Static Routes

Users could configure the reachable path of the network packet on the "Network -> Static Routes" page.

Figure 2-16 Static Routes Settings



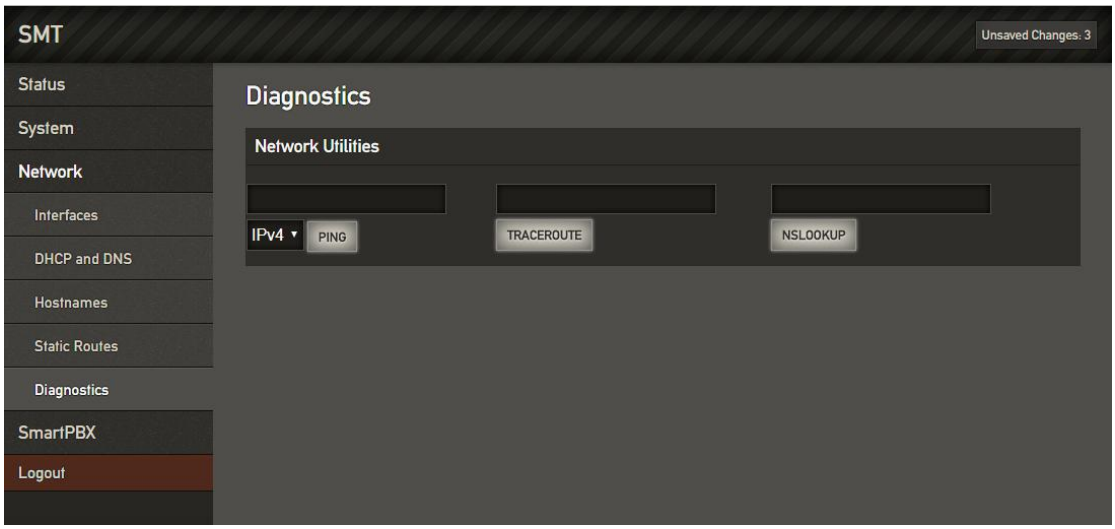
Tbale 2-2 Static Routs Description

Name	Description
Target	Set the destination IP address of static routes.
Netmask	Set the netmask of static routes, default: 255.255.255.0.
Gateway	Set the gateway IP address for the static routes.
Interface	Set the exit of the static routes, WAN or LAN ports

2.4. Diagnostics

Users could diagnose the network by “Ping/Traceroute/Nslookup” function in the “Network -> Diagnostics” page.

Figure 2-17 Network Diagnostics



1. 【Ping】

- Detailed Explain: Ping tests the network by sending a test packet to a URL to see if it is responsive, and counting the response time.
- Application format: Ping + IP address. It is a command to check whether the network is connected normally or check the connection speed. Ping sends an ICMP echo request message to the destination and reports whether it has received an ICMP echo reply.
- Ping Command Use Description:

  a) Enter “ping + IP address or domain name” in the input box and click ping to begin connectivity detection.

  b) Receiving the message indicates that the network connection is normal, otherwise the network connection is faulty.

2. 【Traceroute】

- Detailed Explain: Traceroute is a route-tracking program that determines the path taken by an IP datagram to access the target.The Tracert command uses the IP Time-to-Live (TTL) field and ICMP error messages to determine the route from one host to another on the network.By sending an Internet Control Message Protocol (ICMP) response packet with a different IP Time-to-Live (TTL) value to the target, the Traceroute Diagnostics determinesthe route taken to the destination, requiring each router on the path to decrement the TTL on the packet by at least 1 before forwarding the packet. When the TTL on the packet is reduced to 0, the router should send a message "ICMP has timed out" back to the source system.

- Traceroute Command Use Description:

a) Enter the IP address or domain name in the traceroute input box and click traceroute to start routing tracking.

b) View routing trace information based on the results

3. 【Nslookup】

- Detailed Explain: Nslookup (name server lookup) can specify the type of the query, check the life time of the DNS records, and specify which DNS server to use for interpretation. This command can be used on computers that have TCP/IP protocol installed. Nslookup is mainly used to diagnose information of the Domain Name System (DNS) infrastructure. It is a tool for querying Internet domain name information or diagnosing DNS server problems.
- Traceroute Command Use Description:

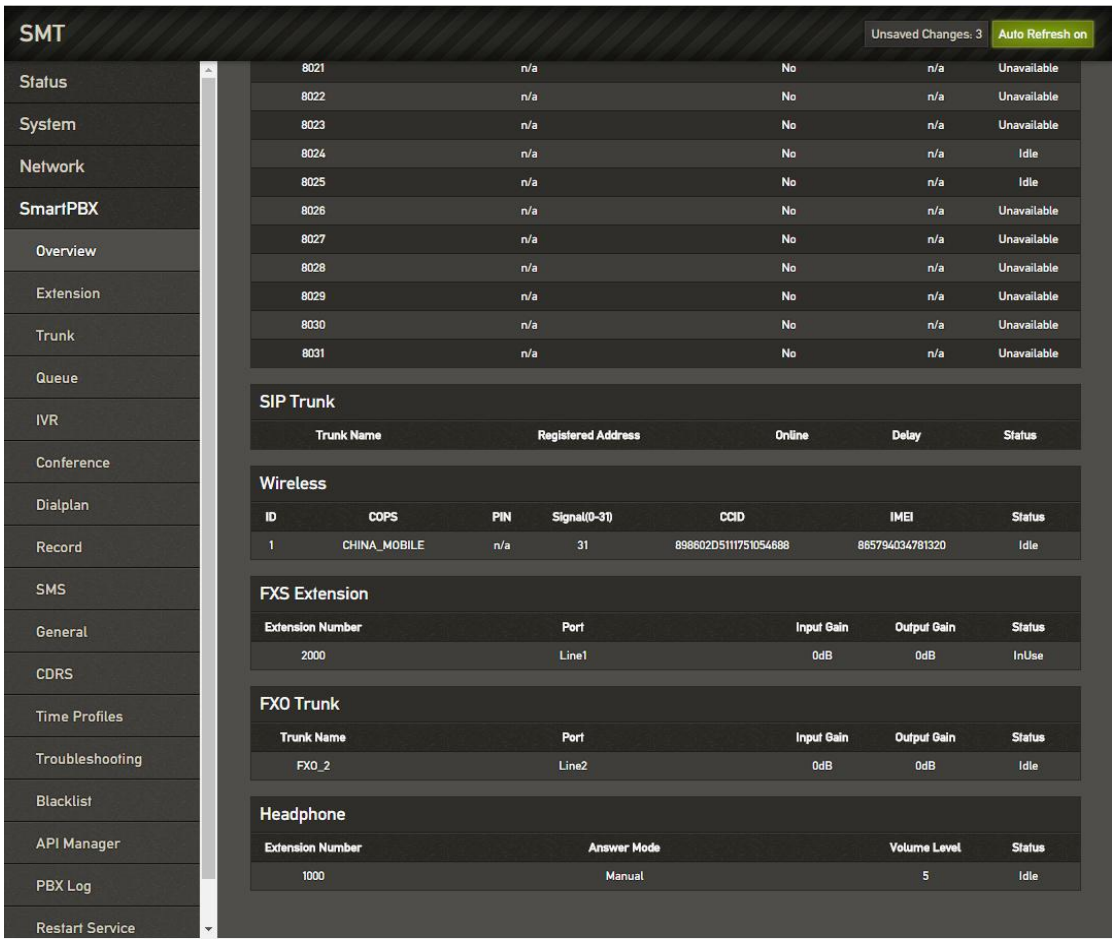
c) Enter the domain name in the nslookup input box and click nslookup to start the domain name query.

d) View the domain name server information based on the results.

2.5. SmartPBX

The SmartPBX menu contains configuration items such as channel status, extension configuration, trunk configuration, queue management, IVR, dial plan, recording management, advanced configuration, call log, protocol capture, and restart service. On the SmartPBX page, users could see the channel status as follows.

Figure 2-18 SmartPBX Channels Status



The channel state records all channels available and the configuration information and working status of each channel.

- **SIP Extension:** Used to display channel configuration information and state of the SIP terminal that allowed register to this device.
- **SIP Trunk：** Used to display channel configuration information and status of the SIP terminal that register to external SIP server.
- **Headphone：**Used to display the configuration information and status of the audio channels on the device.
- **FXS Extension：** Used to display configuration information and status of the FXS port channel on the device.
- **FXO Trunk：** Used to display configuration information and status of the FXO port channel on the device.

2.5.1. SIP Extension

On the "SmartPBX -> SIP Extension" page, users could see SIP Extension, FXS Extension and Headphone.

SIP Extension: Used to add, configure, or delete SIP account that can be registered to the device

Figure 2-19 SIP Extension Status

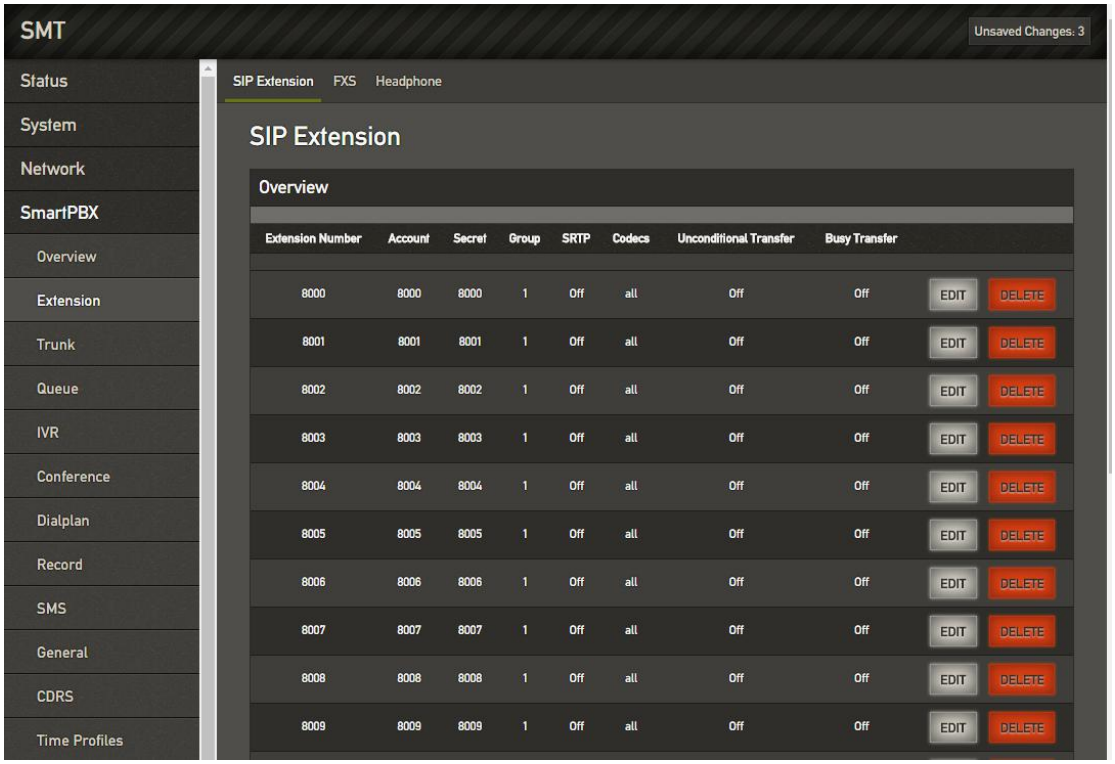
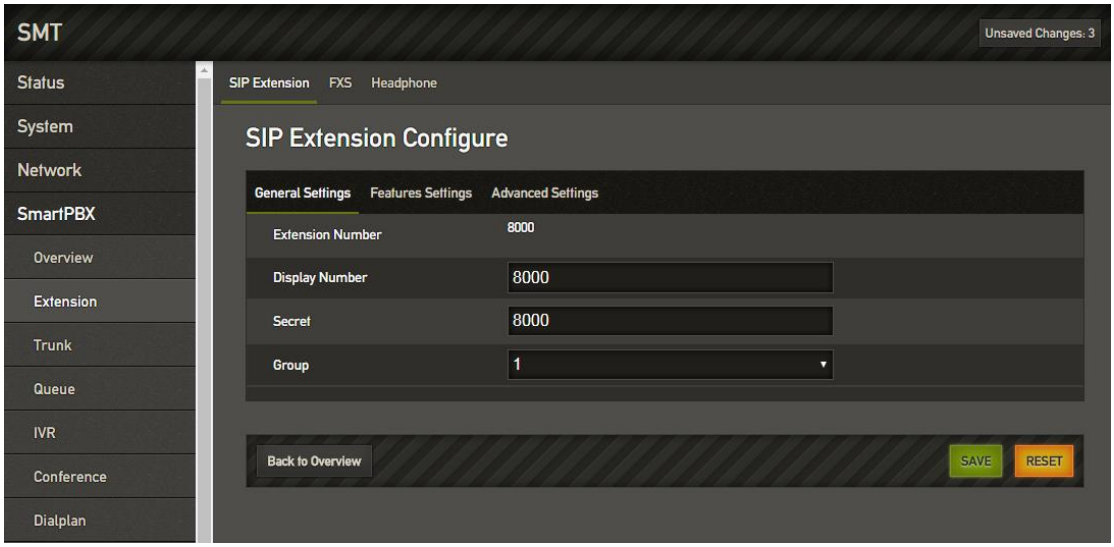


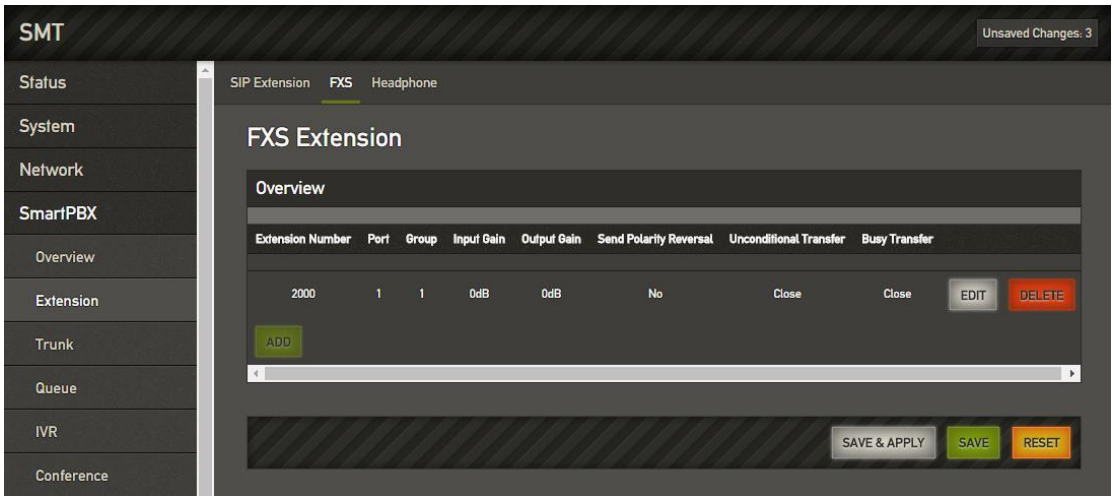
Figure 2-20 SIP Extension Configue



Other terminal devices registered to 4G Gateway：Take 4G Gateway as SIP Server, add SIP accounts in the "Extension ->SIP" page, configure the listening port of SIP server (“Configuration -> SIP” interface), and then configure the server and registrate accounts on the terminal device (IAD)

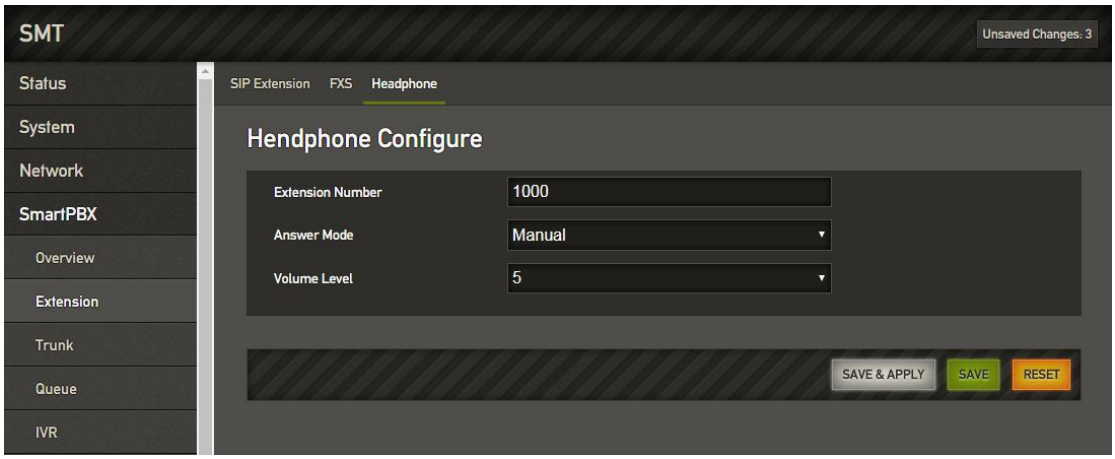
FXS Extension: When the device has an FXS port, the extension number of the port can be configured under this interface.

Figure 2-21 FXS Extension Config



Headphone: Configure the extension number corresponding to the audio channel and the answer mode.

Figure 2-22 Headphone Config



2.5.2. Trunk

In the “SmartPBX -> Trunk” page, include three kinds of trunk models: SIP Trunk, FXO Trunk and Wireless.

SIP Trunk: Used to add, modify and delete the SIP accounts that register to external server.

Figure 2-23 SIP Trunk Status

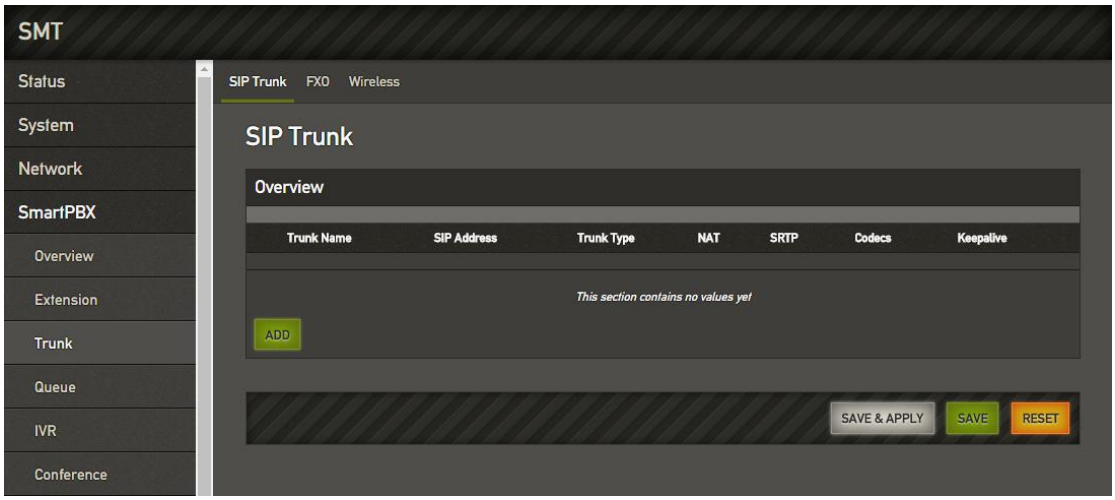
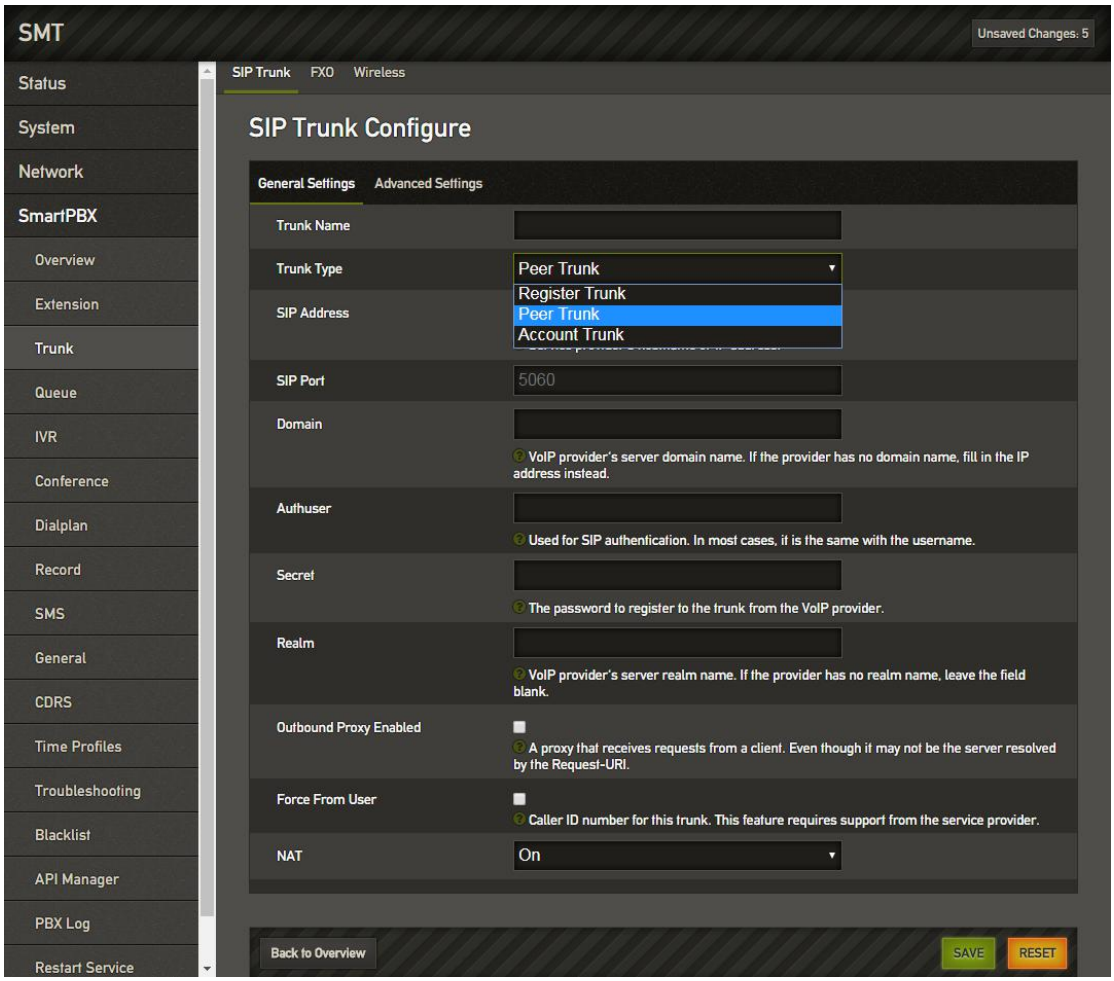


Figure 2-24 SIP Trunk Config

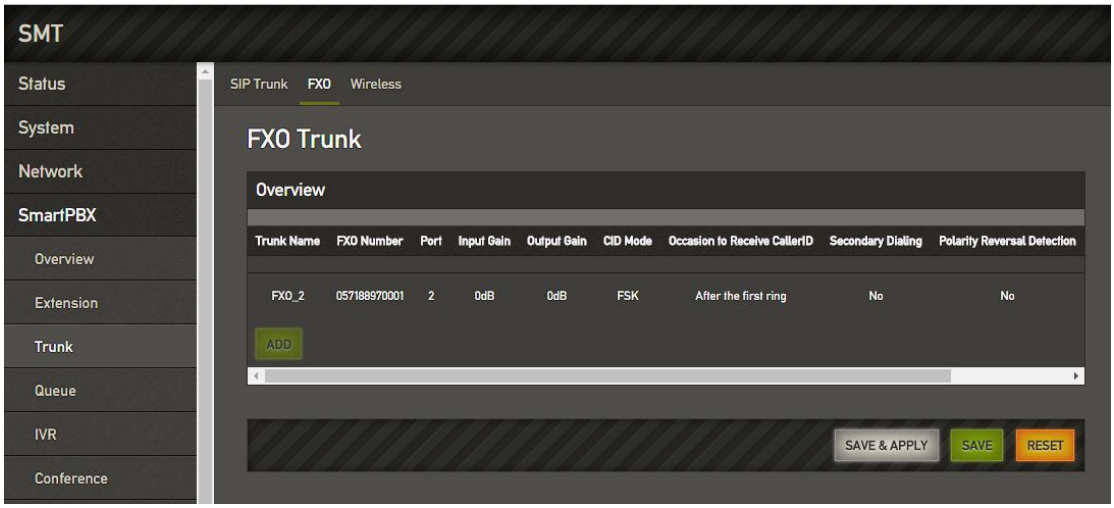


The following describes the three common configurations of SIP trunks.

1) Register to SIP Sever as Client
2) IP Identification
3) Voip gateway register as Sever

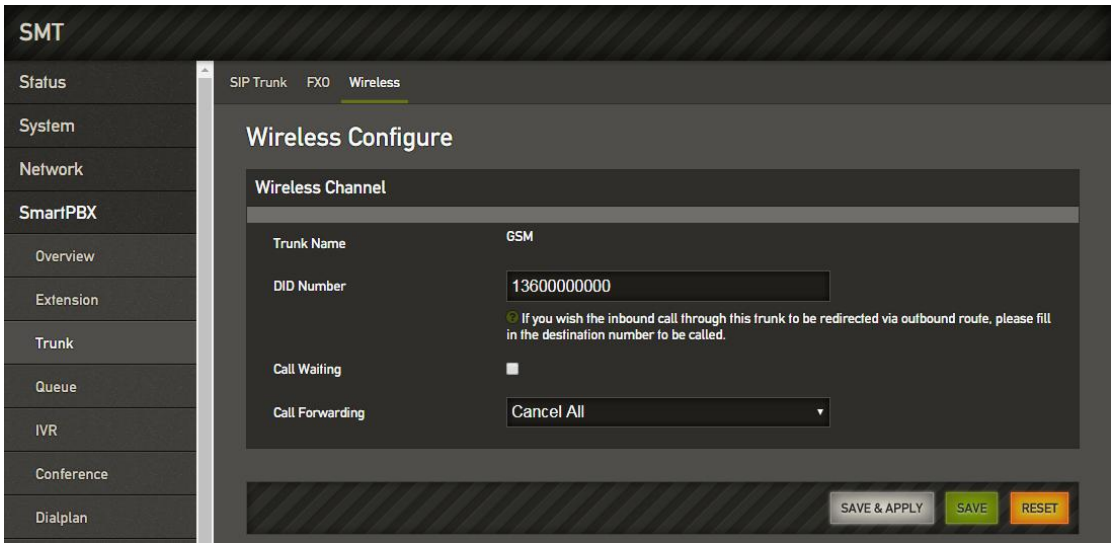
FXO Trunk: When the device has an FXO port, user can configure the outside line number of the port under this interface.

Figure 2-25 FXO Trunk Config



Wireless: When the device has GSM/CDMA communication module, the wireless channel number can be configured under the interface.

Figure 2-26 GSM/CDMA Wireless



2.5.3. Queue

Under “Smartpbx -> Queue” interface, users can add, modify and delete queues and specify the queue's extension number and ringing policy.

Figure 2-27 Queue Overview

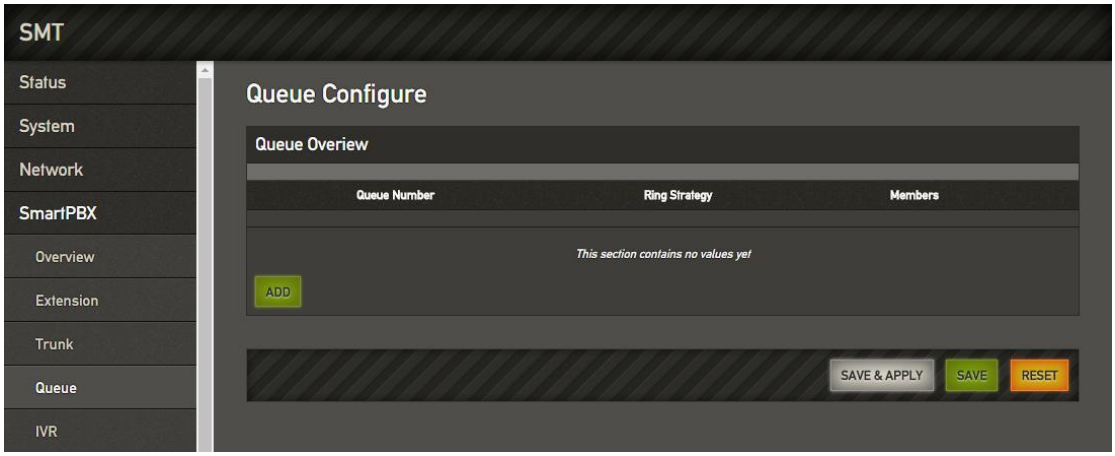
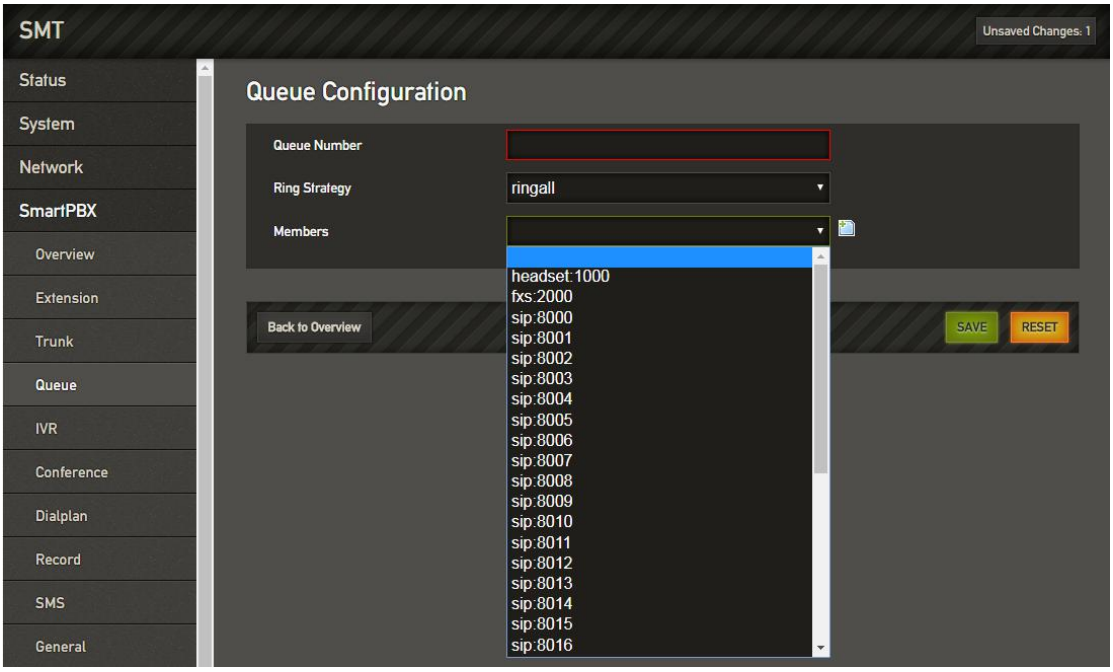


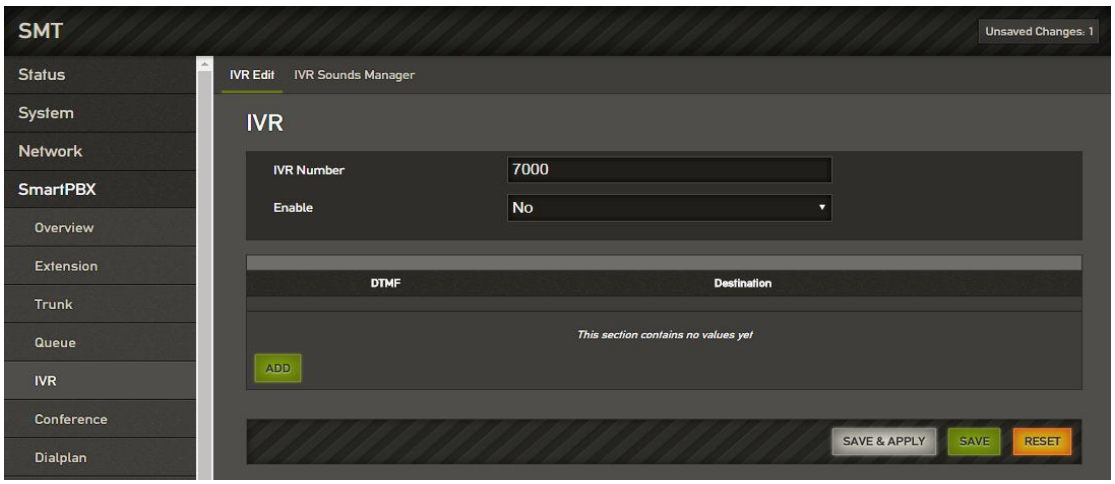
Figure 2-28 Queue Configuration



2.5.4. IVR

Under "SmartPBX -> IVR" interface, users configure IVR switchboard number, IVR disable/enable Settings, IVR broadcast timeout Settings, and also can upload users customized IVR voice files and configure button rules for IVR voice navigation.

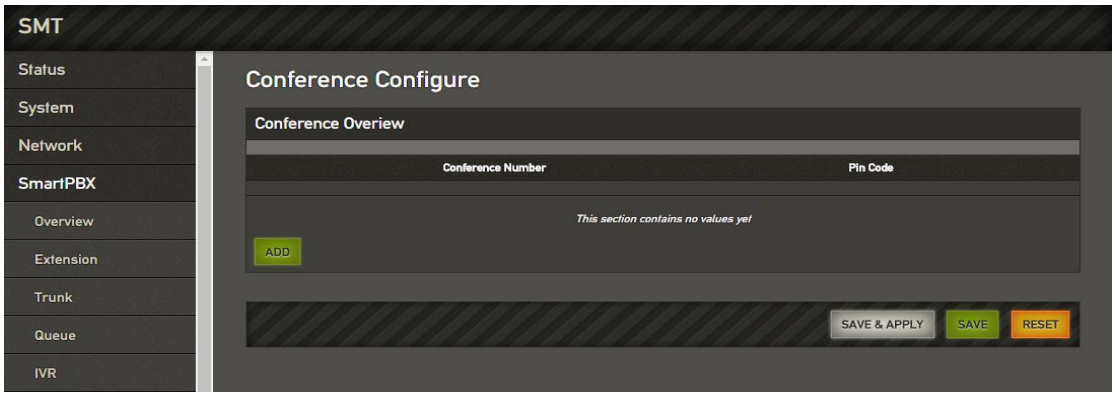
Figure 2-29 IVR Configuration



2.5.5. Conference

On the "Smartpbx -> Conference" page, users could configure the conference.

Figure 2-30 Conference Configure



2.5.6. Dialplan

On the "Smartpbx-> Dialplan" page, users could configure the dialplan rules between channels on the device.

Figure 2-31 Dialplan Overview

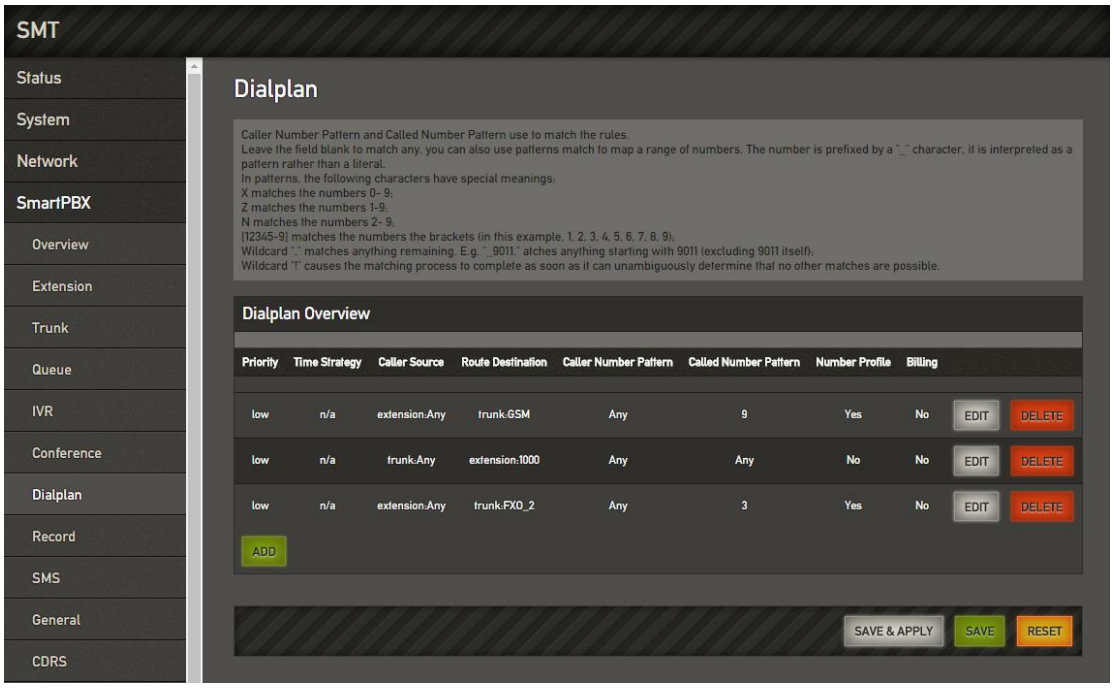
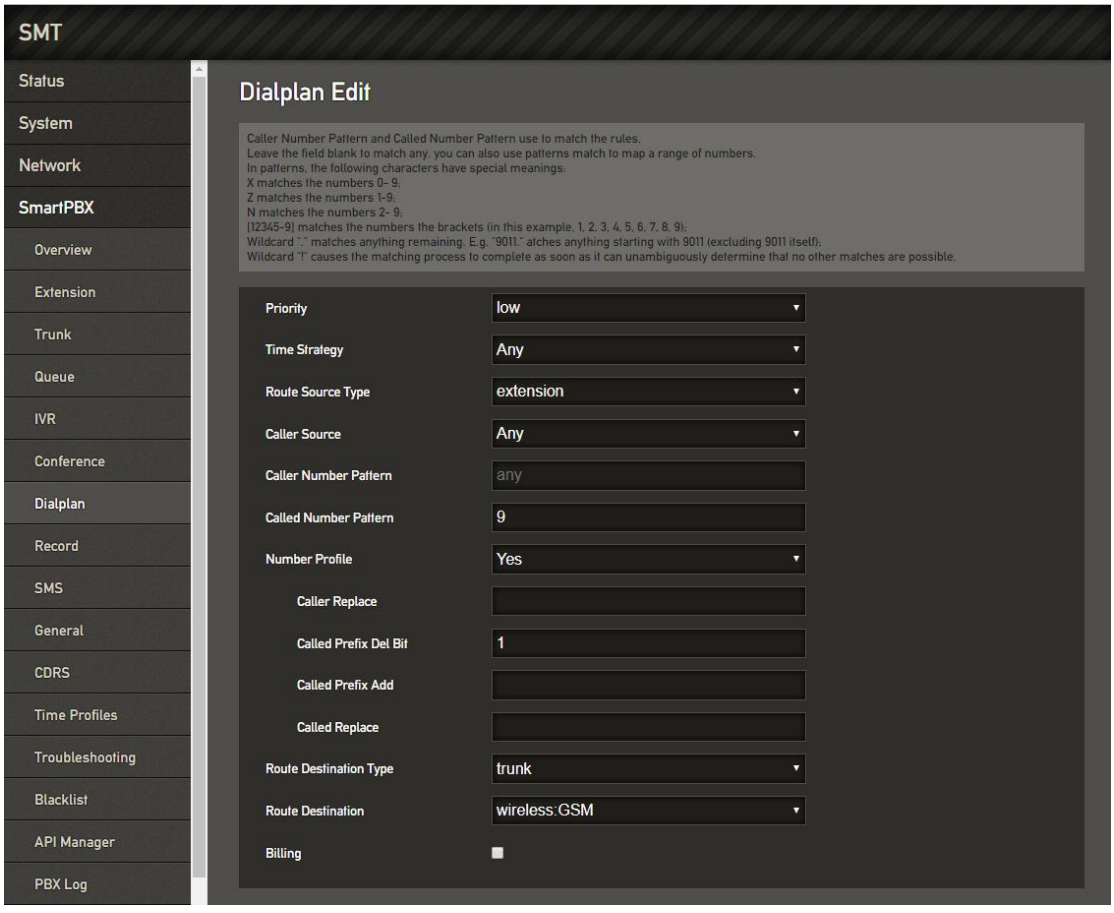


Figure 2-32 Dialplan Edit



- **Priority：** Low, medium, and high, prior choice the high-level dialplan rules
- **Time Strategy：** Select the configured time policy (SmartPBX->Time Rule).
- **Route Source Type：** There are two types of extension routes and trunk routes. The extension route refers to the call behavior initiated by the extension channel side, and the trunk route refers to the incoming call behavior initiated from the relay channel side.
- **Caller Source：** Select specific extension or trunk sources.
- **Caller Number Prefix：** Used to match the rules for caller number.
- **Called Number Prefix：** Used to match the rules for callee number.
- **Route Destination Type：** It is divided into three types: rejection, local and outside line. The rejection is the call that meets the above rules will be refuse. The local indicates the call that meets the above rules will be connected to the extension channel of the device; the outside line indicates if the above rules are met, the call will be connected to the trunk channel of the device.
- **Number Profile：** Whether the caller and called number used for both parties of the call needs to be changed during transmission. If the choice is “Yes”, there will be Caller Repalce, Called Prefix Del Bit, Called Prefix Add and Called Replace. If selected no, go directly to the route destination selection.

  1) **Caller Replace：** Used to fill in the replacement caller number.

  2) **Called Prefix Del Bit：** It is used to indicate how many digits in the number that the caller has dialed does not need to be sent to the remote end.

  3) **Called Prefix Add:** When the caller dialed a number, the actual called number transmitted on the line needs to be prefixed with the prefix added.

  4) **Called Replace:**Used to fill in the replacement called number

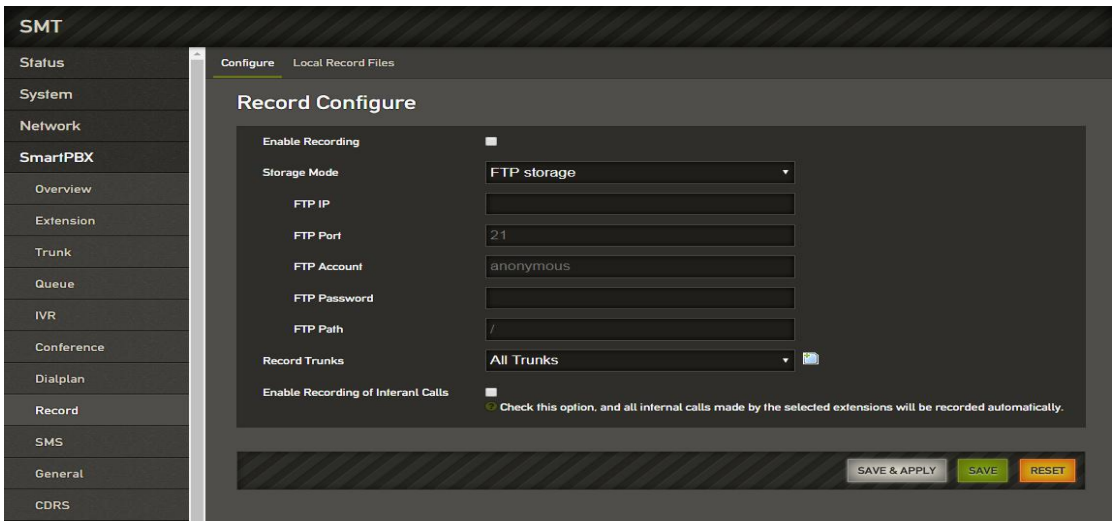
Note:

1. When the FXS/FXO port is registered and the route is added, call priority selete the outbound/inbound route.
2. Generally, the priority of call selection ranges from high to low: local extension number, DID (direct dial-in number), routing, and registration.

2.5.7. Record

On the "Smartpbx -> Recording" page, users configure the recording rules for the channel.

Figure 2-33 Record Configure

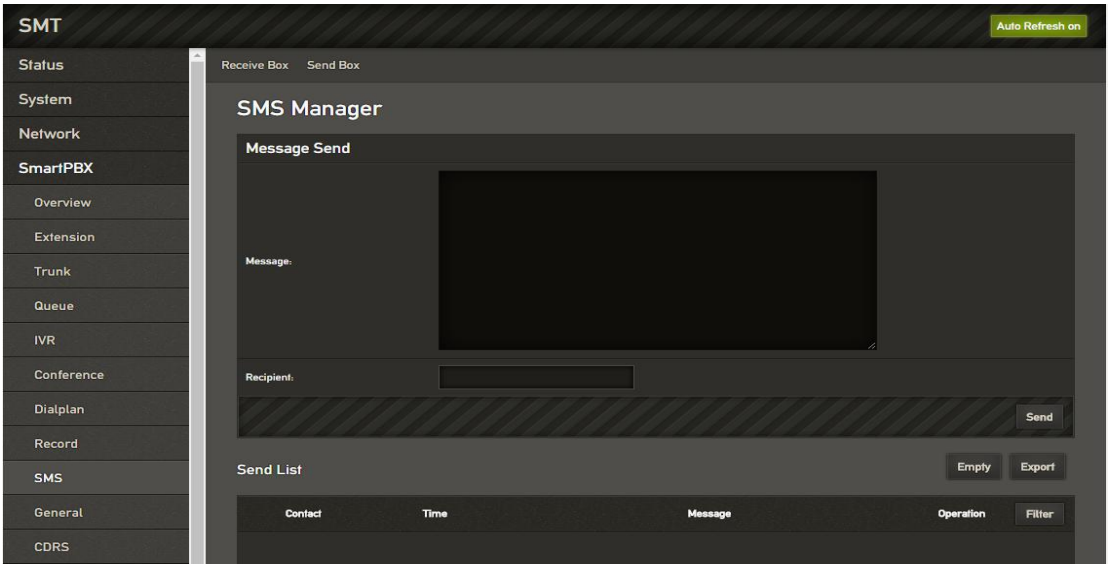


- **Record Type：** Including the calling recording and the called recording. The calling recording refers to recording the call initiated by the recording member; and the called recording is recording the call incoming to the recording member.
- **Storage Mode：** Including Local and FTP. When selecting local, the device needs to insert the SD card (FAT format), and the local recording will be saved to the SD card. When selecting FTP, you need to configure the FTP server address and file save path so that the recording file will be uploaded to the specified FTP path.

2.5.8. SMS

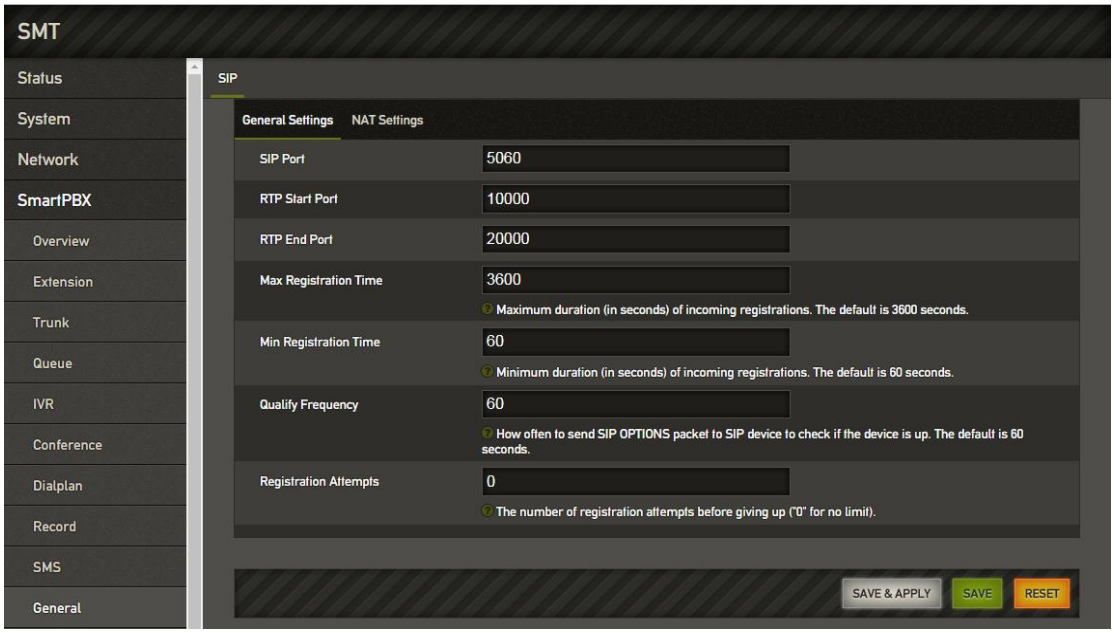
On the “Smartpbx -> SMS” page, users can send and receive short messages.

Figure 2-34 SMS Interface



2.5.9. General

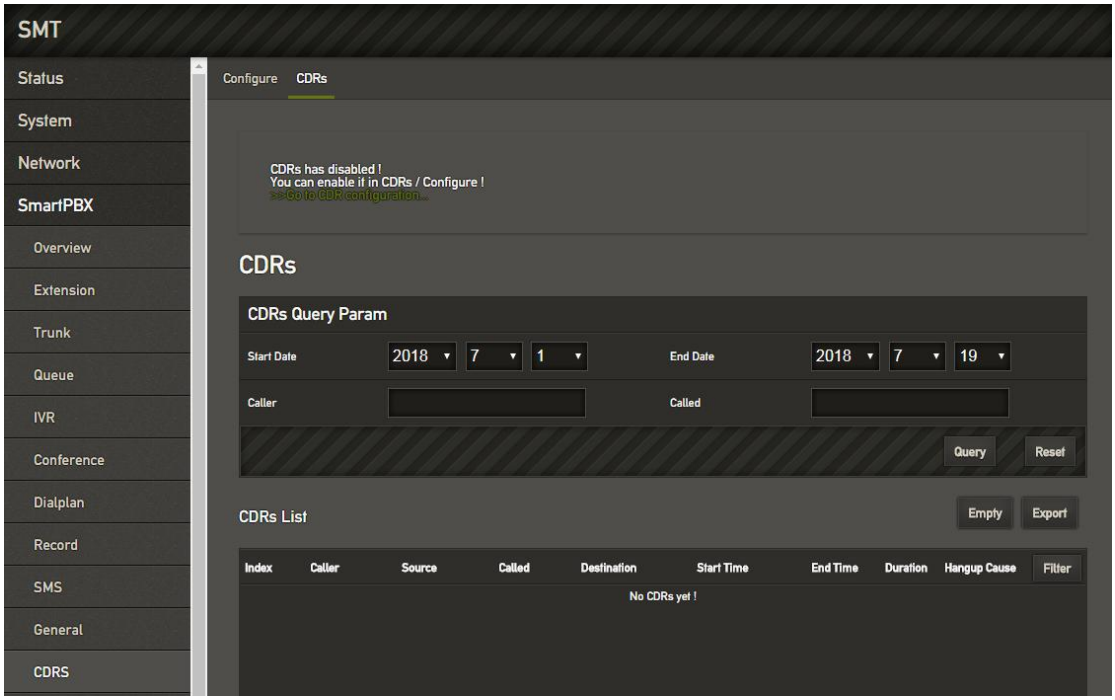
On the “Smartpbx -> General” page, users can configure SIP general params.



2.5.10. CDRS

On the “SmartPBX -> CDRS” page, Users could configure and query CDRs. You can configure whether to turn on the call recording function in the "Configuration" page. Only when the call recording function is enabled, the call record can be searched in the query interface.On the “Query” page, users could query up to 1000 recent call records.

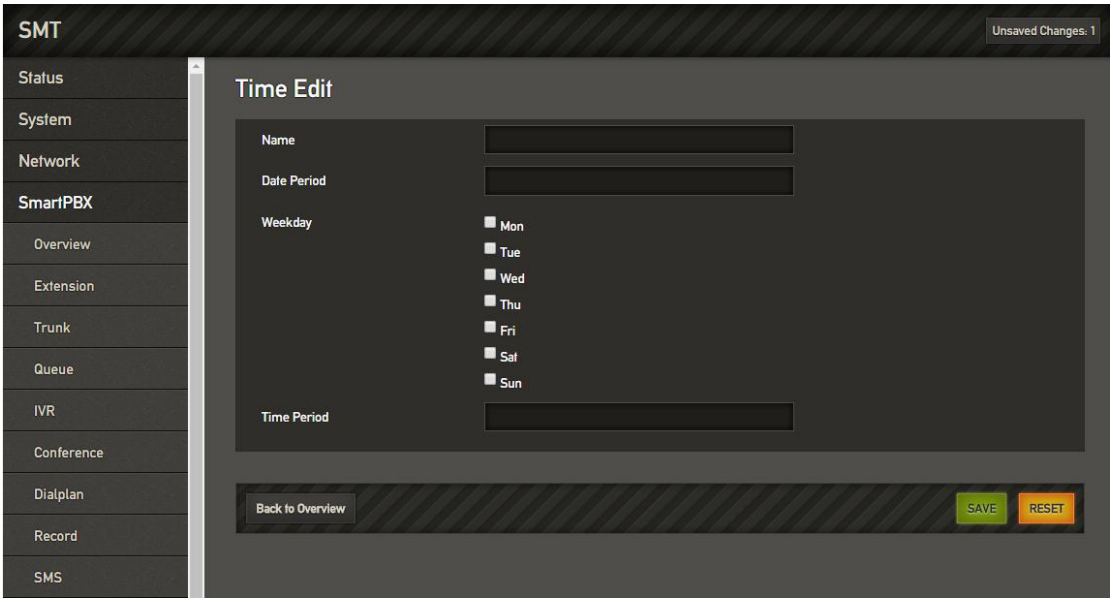
Figure 2-36 CDRs Query



2.5.11. Time Profiles

On the "Smartpbx -> Time Profiles" page, configure the time policy. We provide a time policy option in a dial plan that allows the dial plan to select routing based on time.

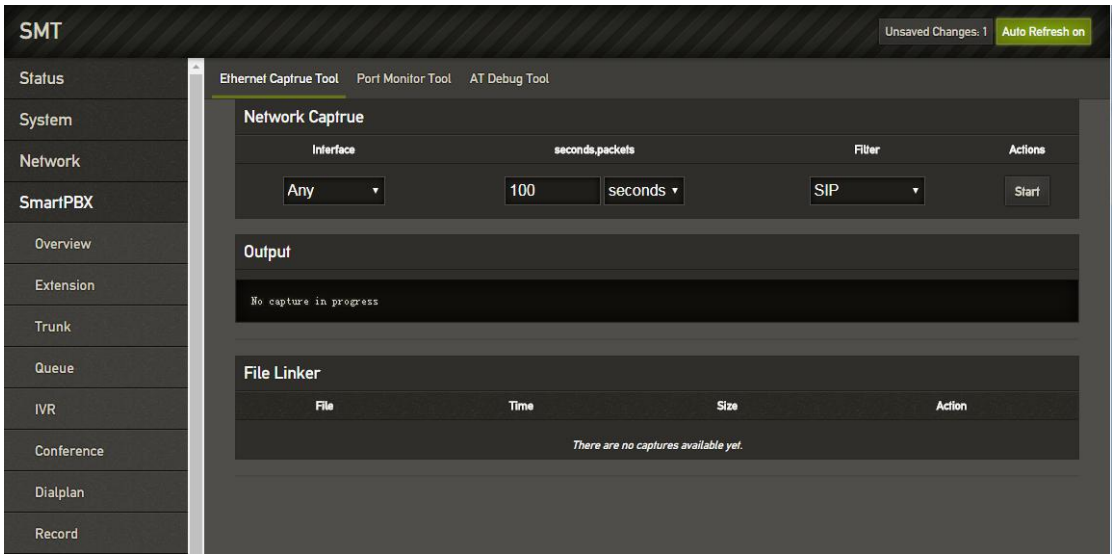
Figure 2-37 Time Profiles



2.5.12. Troubleshooting

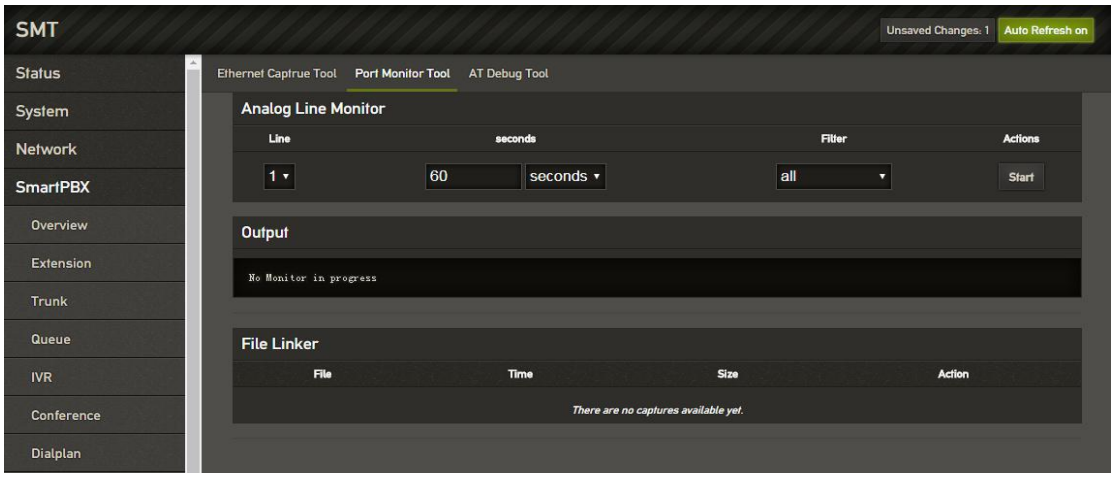
On the "SmartPBX -> Troubleshooting" page, users configure the port of network packet capture or select anlalog line need to recording, set the amount of time or number, and set up the filtering requirements. The captured network packet file can be downloaded under the interface.

Figure 2-38 Network Capture



The analog line recording function is mainly used to capture the recording file for analysis when the calling number of the FXO cannot be displayed.

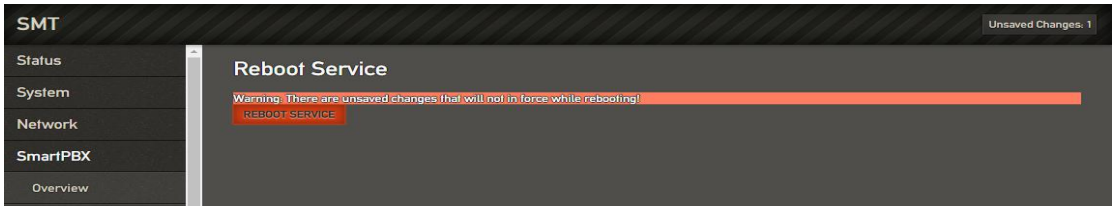
Figure 2-39 Analog Line Monitor



2.5.13. Restart Service

Users could restart the SmartPBX service on this page.

Figure 2-40 Reboot Service



2.5.14. Layout

Click the menu bar, execute the layout function, and return to the web login interface.

3. Basic Opreration

3.1. Phones

3.1.1. Call the Phone Number or Extension Number

1. Wait 4 seconds after dialing the called number (wait for system dialing timeout).
2. Dial the called number and end with a “#”.

3.2. Call Holding

By pressing the "flash" button on the phone (if there is one on the phone) to keep the current call, press the "flash"

button again to restore the retained call. If you don't have a "flash" button on your phone, you can use "hook flash" instead.

3.3. Call Waiting

When call waiting is enabled, if you hear call waiting voice (three beeps) during the call, that means a new call is inbound. You can switch between incoming calls and current calls using “flash” or “hook flash”

3.4. Call Forwarding

3.4.1. Blind

Blind transfer is used to transfer incoming calls to a third party without notifying the transferee that there is a call. If A calls B, B wants to transfer the call A to C, the operation process is as follows:

1) A calls B.
2) B rings, then picks up the phone, and A spoke to B.
3) B presses "*1" to trigger the blind transfer process (when A can hear the waiting sound), and B calls C phone number (ending with "#" or waiting for 4 seconds).
4) C rings, B hangs up, C picks up, C and A talk.

Note:

- The "Feature Code Service" option in the “Call Control -> Feature Code Configuration” page must be set to "on".
- A can be an extension or trunk, B and C can only be an extension (FXS port extension, sip extension).
- B dials C phone number, if you hear a continuous busy tone, the call has timed out

3.4.2. Attend

The Attend function allows the user to transfer incoming calls to a third party after confirming a third party's response and deciding whether to answer them. Suppose A calls the phone number of B and B wants to transfer the call to C. The operation process is as follows:

1) A dials the phone number of B.
2) B hears the ringing, then picks up the phone, and A speaks to B.
3) B presses "*2" to trigger the inquiry process (at which point A can hear the waiting tone), then B calls C phone number.

And then one of the three things happens

1) If the number of C is wrong or C cannot be connected (such as dialing timeout, refusal, call timeout, unregistered and busy user, etc.), B will automatically switch back to the call with A.
2) C has ringed (B can hear the waiting ringback tone), and then B hangs up and A will continue to wait. If A hangs up, C will continue to ring, not stop. If C picks up the phone, the call will hang up directly.
3) C rings, C picks it up, and B talks to C. A continues to wait during the call. At this time either B or C hangs up and the other party calls A.

3.5. Flash

A is talking with B, A flashes and calls C. A is talking with C, while A keeps talking to B (B hears the waiting sound). At this point, A can switch to the call with B by pressing flash and pressing the "1" button. By flashing and pressing the "2" button, A can switch to the call with C. Enter a three-way conversation by flashing and pressing the "3" button.

3.6. Feature Code List

FXS supports all traditional and advanced telephone functions. The following is the feature codes. It can provide convenient telephone functions for users after picking up the phone.

Table 3-1 Feature Code List

Code	Description	Comment
***79**	**WAN**	**LAN1 port**
***78**	**LAN2**	**LAN2 Port**
***77**	**Channel Number**	
***76**	**IVR**	
***1**	**Blind**	
***2**	**Attend**	
***8**	**Pickup exten**	

3.7. RST Function

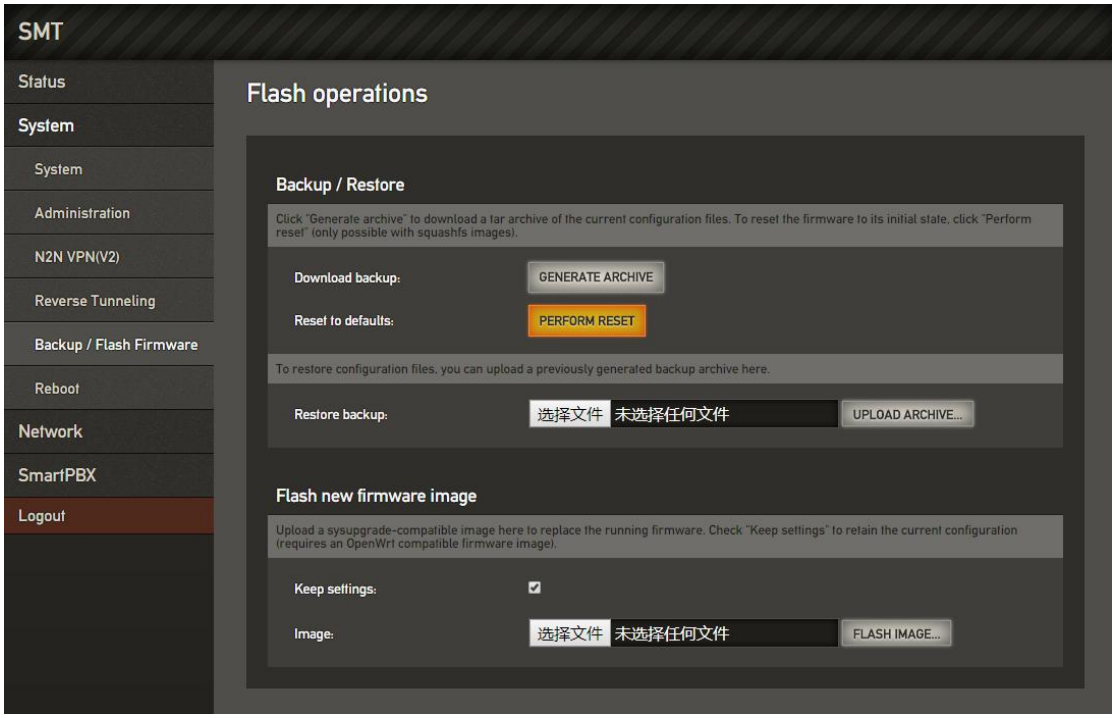
Hold the device RST key for a different duration, the device runs differently.

1) When the device is running normally, press the device RST key for 0 to 3 seconds, the device system does nothing.
2) When the device is running normally, press the device RST key for 3 to 10 seconds to restore the device login password as the factory default password, and the network configuration of the device is restored to the factory state.
3) When the device is running normally, press the device RST key for more than 10 seconds to restore all configuration as factory default data.

3.8. Find the IP Address and Restore the Default Settings

LAN port IP address can be found by dial the feature code "*78", WAN port IP address can be found by dial "*79". Press and hold the device more than 6 seconds to restore the default configuration data. Users can also log in to the device through the Web and enter the System-Backup/Restore/Upgrade interface. In the Restore Default Settings option, select the data module to be restored. Set, then restart the device, the corresponding module will restore the factory default data.

Figure 3-1 Restore the Default Settings


SMT
Status
System
System
Administration
N2N VPN(V2)
Reverse Tunneling
Backup / Flash Firmware
Reboot
Network
SmartPBX
Logout
Flash operations
Backup / Restore
Click "Generate archive" to download a tar archive of the current configuration files. To reset the firmware to its initial state, click "Perform reset" (only possible with squashfs images).
Download backup:
GENERATE ARCHIVE
Reset to defaults:
PERFORM RESET
To restore configuration files, you can upload a previously generated backup archive here.
Restore backup:
选择文件
未选择任何文件
UPLOAD ARCHIVE...
Flash new firmware image
Upload a sysupgrade-compatible image here to replace the running firmware. Check "Keep settings" to retain the current configuration (requires an OpenWrt compatible firmware image).
Keep settings:
Image:
选择文件
未选择任何文件
FLASH IMAGE...