Sim Bank Scheduler User Manual

（for v1.00.1201109）

Sim Bank Scheduler introduces:

Sim bank Scheduler server is Discovery Telecom's latest server software allowed SIM CARDS management and GOIP management. Using this software, SIM BANK and GOIP register To the server through UDP protocol, you can login the software to manage SIMs and GOIPs. Also check the status of SIMs & GOIPs.

1. Overview

Remote SIM technology enables SIM cards to be installed in a SIM Bank and then virtually transfer the SIM cards via TCP/IP connection to GOIPs. SIM cards can now physically separate from GSM devices and it can be installed in one location while actual GSM device is installed in another location.

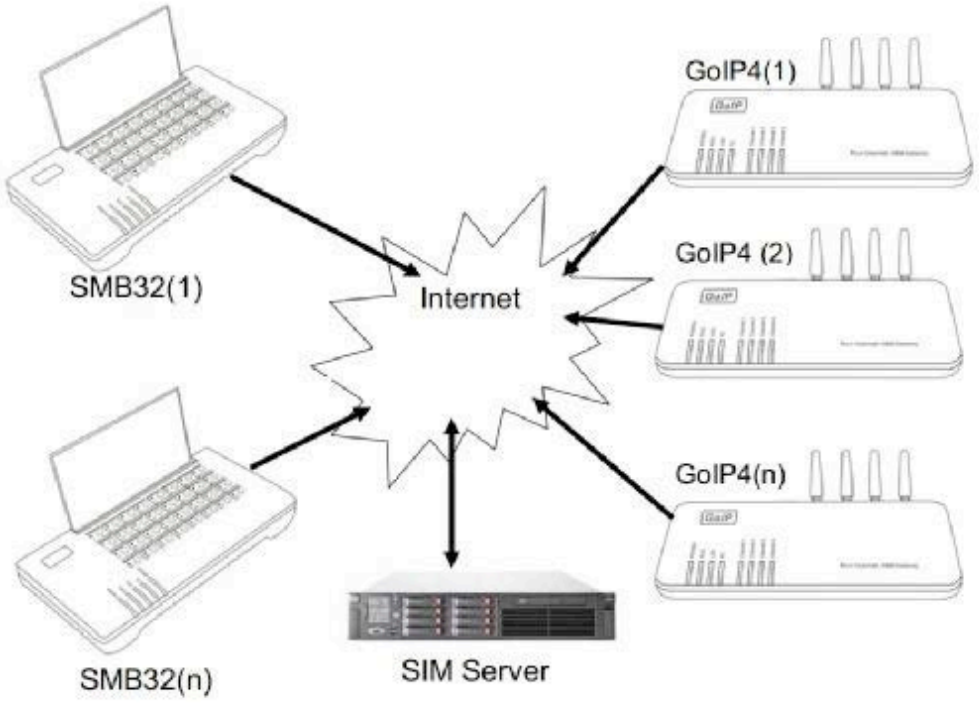
A SIM Bank is a storage device for SIM cards for remote SIM operation. It communicates with the SIM cards installed and then converts the data into IP packets via T CP/IP protocols. These IP packets are sent to designate GOIPs.

A GOIP is a GSM device with Remote SIM support. It could talk directly to a SIMBank to retrieve SIM card information as required.

A Remote SIM Server is a Linux based utility used to manage a group of SIM Banks and GOIPs in order to form a Remote SIM Management System. It is capable of managing over 10,000 SIM cards to communicate with the corresponding GSM channels simultaneously.

Discovery Telecom is currently offering a complete Remote SIM Management System as shown in the diagram below. It consists of:

1. SIM Bank – SMB32
2. GOIPs – 8*GoIP4 or 4*GOIP-8
3. Remote SIM Server



2. Installation

The PC server should have the following operating system (OS) and software utilities installed. Please insure that these software utilities are setup properly before proceeding further with the installation.

a) Linux version x.x or above
b) PHP version 4 or higher
c) MySQL version 4 or higher
d) Apache version 2 or higher (http)

The Remote SIM Server is encoded with UTF-8 character code. If you experience character display problem while you are accessing the Remote SIM Server Webpage, please change the MySQL default character code to UTF- 8.

To install the Remote SIM Server to your server computer, please follow the procedures below carefully.

1. Login to your Linux OS as a “root” user.
2. Execute http://www.discoverytelecom.eu/upload/iblock/5b4/smb_scheduler_install-v1.5.tar.gz to download the installation package.
3. Execute “ tar – xzvf smb_scheduler_install.tar.gz ” to unzip the installation package.
4. Execute “ cd smb_scheduler_install” to change directory to the installation folder.
5. Execute “ ./smb_scheduler_install.sh ” to initiate the installation.

The installation process is interactive as shown in the table below . The user needs to enter information as required.

```
./smb_schedule_install
Starting Sim Bank Scheduler Server install

Configure http config
Enter the httpd config file PATH: (default:/etc/httpd/conf/httpd.conf)
```

Import Databases
Enter the Mysql root password if any:
Press [Enter] for no password.

Enter your Mysql PATH: (default: /usr/bin/mysql)
Press [Enter] to choose the default.

Note: Enter the path for Mysql. The default is "/usr/bin/mysql". Just press [Enter] to confirm. If the default path is not correct, type the desired path and then press [Enter].

Copying files to /usr/local/smb_scheduler
Installation completed.
Please restart httpd.
Type "http://<server IP>/smb_scheduler" in your web browser to access the Remote SIM Server web page. The default login ID and password are "admin" and "admin" respectively.

Notes:

1. Upon restarting your Linux server, both utilities "xchanged " and "smb_scheduler" starts automatically. If they fails to execute, you c an start manually by typing the command "/usr/local/smb_scheduler/run_scheduler " and add this command to the server boot up script for automatic execution.
2. If these two utilities still fail to start, please check if the MySQL is installed properly.
3. If firewall is enabled, please add port 56011, 56030, and 56130 to the trust list.
4. If you encounter any problems during installation, please contact our technical support for assistance.

3 . Configuration

The Remote SIM Server offers a web interface for user access. Start a PC web browser and then type "http ://< server IP>/smb_scheduler" in the address field. Wait till a login window pops up and then enter the default user name as "admin" and the default password as "admin ". When the login is successfully, you will see the home page of the Remote SIM Server as shown below. This page displays the server information and messages.

To set up the Remote SIM Server, you need to first know how you want to allocate the SIM cards to the GOIPs. There are two methods to allocate each SIM slots to GSM channels and this is referred as “SIM Mapping” from here on.

1. **Fixed Allocation** – This allows you to allocate each SIM card slot in SIM Banks to a GSM channel in GOIPs manually. This SIM Mapping is fixed and can only be modified by accessing each SIM Slot settings individually.

2. **Dynamic Allocation** –This enables the Remote SIM Server to assign the SIM Mapping automatically. Two concepts are adopted in performing dynamic allocation. The first one is “Group” definition. In order to qualify for dynamic allocation, each slot and GSM Channel must be assigned to belong to a group defined. SIM Mapping can only be performed on SIM slots and GSM channels that belong to the same group. Depending on the number of SIM card slots and GSM channels available in the same group, it is possible that there are extra SIM card slots left or GSM channels left after the allocation is done.

Re-allocation is another key concept in the Dynamic Allocation method. The Remote SIM Server re
-allocates the SIM Mapping at a predefined interval (call ed Re-allocation Interval). This effectively moves SIM cards from GSM channels to other GSM channels regularly. To effectively control GSM channel selection for SIM Mapping, the “Area Number” property is introduced to identify the location of each GSM channel. The Remote SIM Server can now select a GSM channel with a different Area Number for SIM Mapping. This means that a SIM card can now be used in one location and then be used in another location in the next re
-allocation interval.

To make the SIM card mo vement seamlessly, an IMEI can also be assigned to each SIM Slot (see Section 3.3) so that the same IMEI is still be used even when the SIM card is moved to another GSM hardware (channel) .

3. MANAGE

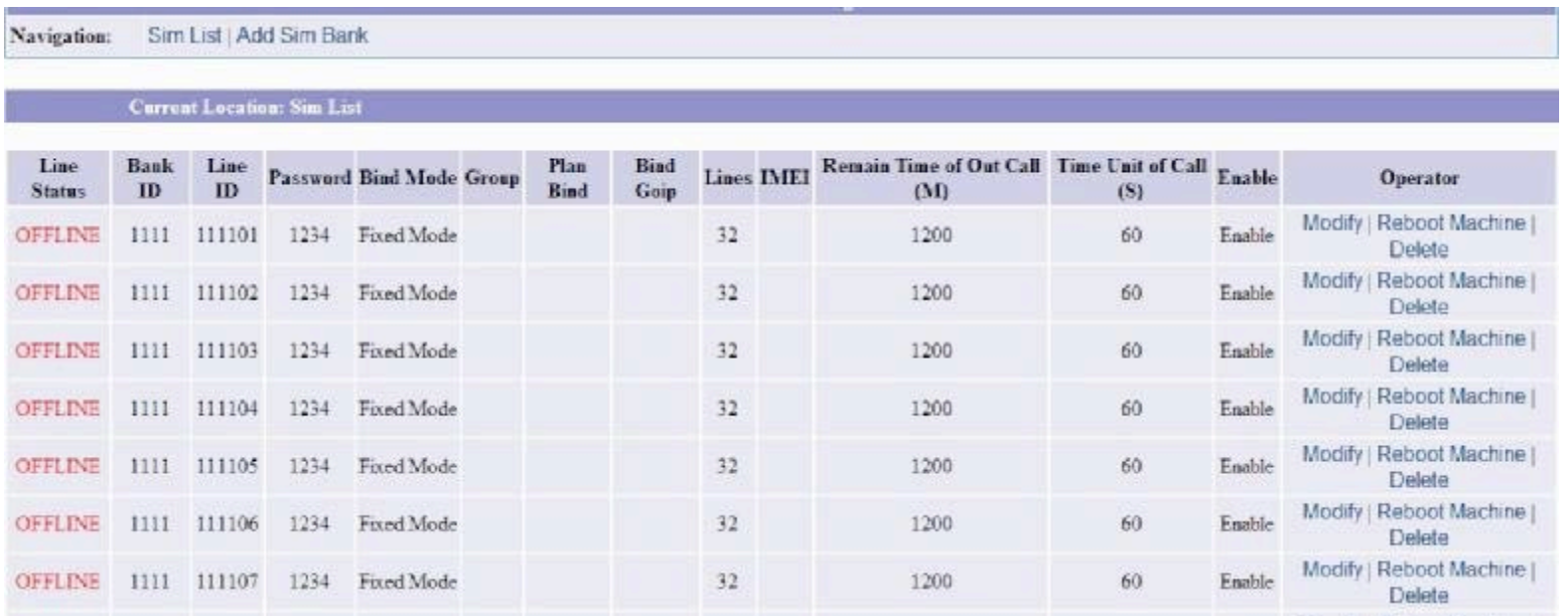
Open the browser (software), input http://IP/smb_scheduler , then you can login with ID: admin
Password :admin manage interface shows as blow.

Details: This software including **Operations, Data Manage, User Manage.**
Operations is the most important part of this software.

1, Operation

1.1 Sim Bank management

Click on the “SIM Bank” on the left to access the “ SIM Bank Banks defined are listed in the ascending order of the Bank Name.



Line Status	Bank ID	Line ID	Password	Bind Mode	Group	Plan Bind	Bind Goip	Lines	IMEI	Remain Time of Out Call (M)	Time Unit of Call (S)	Enable	Operator
OFFLINE	1111	111101	1234	Fixed Mode				32		1200	60	Enable	Modify | Reboot Machine | Delete
OFFLINE	1111	111102	1234	Fixed Mode				32		1200	60	Enable	Modify | Reboot Machine | Delete
OFFLINE	1111	111103	1234	Fixed Mode				32		1200	60	Enable	Modify | Reboot Machine | Delete
OFFLINE	1111	111104	1234	Fixed Mode				32		1200	60	Enable	Modify | Reboot Machine | Delete
OFFLINE	1111	111105	1234	Fixed Mode				32		1200	60	Enable	Modify | Reboot Machine | Delete
OFFLINE	1111	111106	1234	Fixed Mode				32		1200	60	Enable	Modify | Reboot Machine | Delete
OFFLINE	1111	111107	1234	Fixed Mode				32		1200	60	Enable	Modify | Reboot Machine | Delete

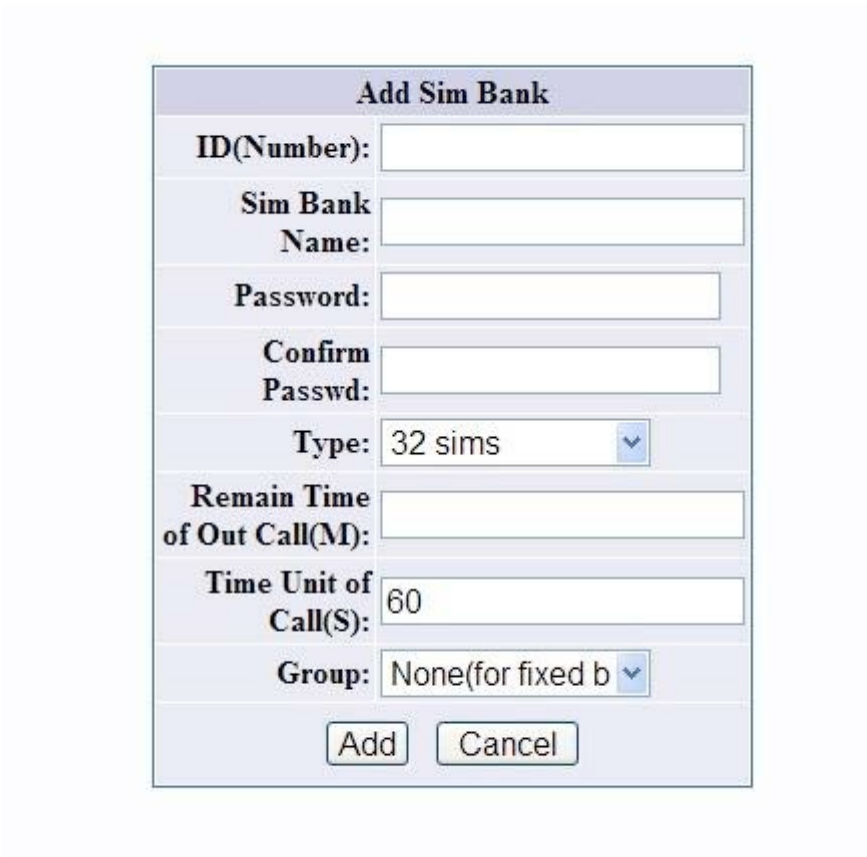
SIMBANK attribute specification:

Offline means not register to the server. Online means register to the server. Bank ID is to distinguish the SIMBANKs with the name (number) you put in. Line ID is to distinguish the sim cards on the SIMBANK’ s slot from 1 to 32. Password is the one you set with your SIMBANK.
Bind Mode is the function you bind the sims.
Here is two ways, Fixed Mode means you bind the Sim by hand settings to a GOIP or a Group.
Group Mode means you bind the sim to a certain group you set in the group manage. Remain time of out calls means the working time you set for each sim.

Time unit of calls which is the counting unit of calling, often set with 60 sec (you can set as 59 or even less incase of error)
Enable means whether this sim allowed to be bind. Disable means not.

1.1.1 Add a sim bank

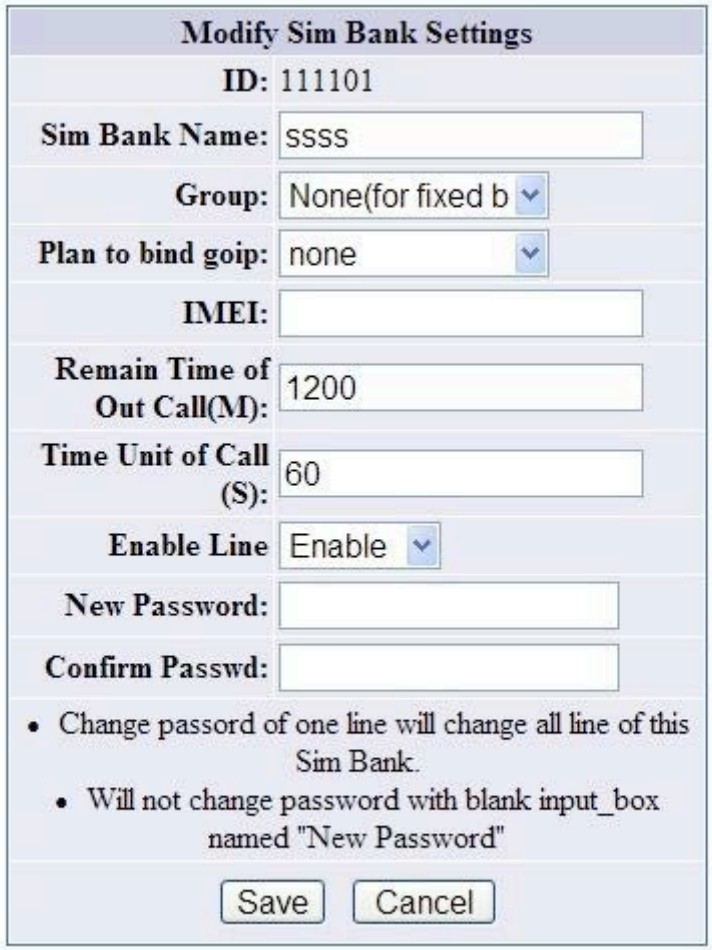
To add a new SIM Bank, click on Add Sim Bank located at the Navigation bar and the above “Add SIM Bank ” window pops up. And it will shows up with the picture blow.



ID and password is set by yourself. If you want use Fixed Mode pls choose None.

1.1.2 Modify Sim Bank Settings

Back to SIM BANK MANAGE click Modify and it will shows blow:



Group: you can add this sim bank to a certain group set in the GROUP MANAGE.

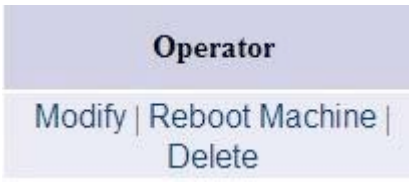
Plan to bind GOIP: you can bind the sim bank with a certain GOIP you set in the GOIP MANAGE.

PASSWORD: you can change the password here.

IMEI – “Random”, “Fixed”, or “Disabled”. “Random” means that the IMEI for the GSM channel Assigned will be randomly generated. “Fixed” means that the IMEI for the GSM channel is set to the value defined here. Only the IMEI for the first slot is entered and the IMEI for the subsequent Slots will be incremented by one accordingly.“Disabled” means that the default IMEI for the GSM Channel is used. Please note that a change made here will be applied to all SIM slots

Designated GSM Channel – For Fixed Allocation mode, user can designate a specific GSM Channel for the selected SIM Slot

1.1.3 Delete SIMBANK



Click Delete and it will shows

Once confirmed you will delete all SIMBANK.

1.2 GOIP MANAGE

Click GOIP MANAGE you will get the picture blow

Current Location: GoIP List

Line Status	GSM Status	ID	GoIP Name	Line ID	Password	Bind Mode	Group	SIM Bind	Area ID	Area Name	Lines	Enable	Operator
OFFLINE	LOGOUT	123	123	12301	123	Fixed mode			0	123	4	Enable	Modify | Reboot Machine | Reboot Module | Delete
OFFLINE	LOGOUT	123	123	12302	123	Group mode	test		0	123	4	Enable	Modify | Reboot Machine | Reboot Module | Delete
OFFLINE	LOGOUT	123	123	12303	123	Group mode	test		0	123	4	Enable	Modify | Reboot Machine | Reboot Module | Delete
OFFLINE	LOGOUT	123	123	12304	123	Group mode	test		0	123	4	Enable	Modify | Reboot Machine | Reboot Module | Delete
OFFLINE	LOGOUT	333	333	33301	333	Fixed mode			0		8	Enable	Modify | Reboot Machine | Reboot Module | Delete
OFFLINE	LOGOUT	333	333	33302	333	Fixed mode			0		8	Enable	Modify | Reboot Machine | Reboot Module | Delete
OFFLINE	LOGOUT	333	333	33303	333	Fixed mode			0		8	Enable	Modify | Reboot Machine | Reboot Module | Delete
OFFLINE	LOGOUT	333	333	33304	333	Fixed mode			0		8	Enable	Modify | Reboot Machine | Reboot Module | Delete
OFFLINE	LOGOUT	333	333	33305	333	Fixed mode			0		8	Enable	Modify | Reboot Machine | Reboot Module | Delete
OFFLINE	LOGOUT	333	333	33306	333	Fixed mode			0		8	Enable	Modify | Reboot Machine | Reboot Module | Delete

Navigation: GoIP List | Add GoIP

Click Add GOIP you will get picture blow

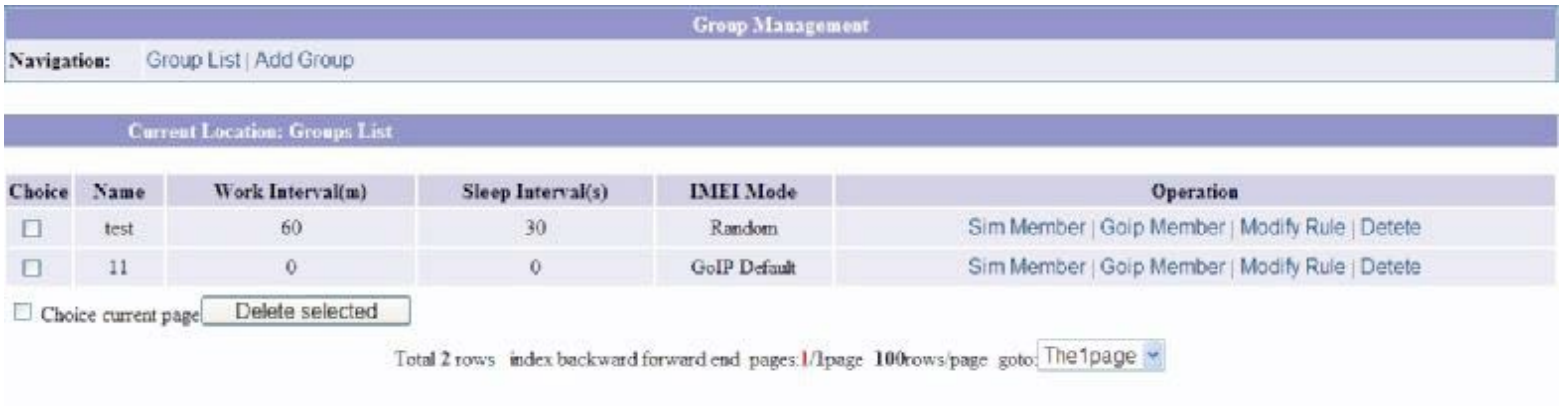
Add Goip

ID(Number):	
GoIP Name:	
Type:	1 line
Group:	none(fixed mode
Area(Number):	0
Area Name:	
Password:	
Confirm Passwd:	

Add Cancel

1. Device ID – This specifies a number ID for the GOIP (can only be added in here and cannot be modified once created.)
2. Device Name – This specifies a reference name for the GOIP (can only be modified in the Add GOIPwindow and cannot be modified once created.).
3. Type – This specifies the type of GOIP. At the moment, all GoIPs (GoIP1, GoIP4, and GoIP8) support Remote SIM. SIM Emulator will also available later.
4. Group – The Group parameter here assign the group property of all GSM Channels in the GOIP. If it is set to “None”, it means that all GSM Channels are available for SIM Mapping in Fixed Allocation mode (“Edit SIM Slot” window). If it is set to an existing group, all channels will be assigned to belong to the same group and they are available for SIM Mapping in Dynamic Allocation mode.User can modify this property in the “Edit GOIP ” window.
5. Area Number – Each GSM channel has its own “Area Number” property. When a new GOIP is added, all of its GSM channels will be assigned to the same Area Number. User can modify this property in the “Edit GOIP” window according to his preference.
This function is use for simulate sim cards moving from Area 1 to Area 2 under the situation that GOIPs is in different place. (for sim cards blocking)
6. Password – This is the password used to login to the Remote SIM Server.

1.3 GROUP MANAGE



Make a few sim bank lines and goip lines in the same group， the server will connect sim-goip lines in the group automatic according to the rules, and sim-goip can be make calls after the successful connection.
Group attribute：
Name: the name of the new group you create.
Work interval: sim-goip working time when it keep connecting.
Sleep interval: after the working time, the connection will be canceled, then it will go to “sleep”. If you set the sleep interval for 30 second, it will sleep for 30 second and works again.
Operation: you can manage the sim lines and goip lines in this group, modify work interval and work interval.

1.3.1 SIM member

Current Location: The group test had total 2 members
Now selected 2 members.if want to save, click the button named'Modify Members'

Choice	Sim ID	Status	Group	Operation
☑	111117	OFFLINE	test	Sim Modify
☑	111118	OFFLINE	test	Sim Modify
☐	110016	OFFLINE		Sim Modify
☐	110015	OFFLINE		Sim Modify
☐	110014	OFFLINE		Sim Modify
☐	110013	OFFLINE		Sim Modify
☐	110012	OFFLINE		Sim Modify
☐	110011	OFFLINE		Sim Modify
☐	110010	OFFLINE		Sim Modify

Pic: sim member manage

This is the list of all the sim bank lines in the SMB server, and you can select lines into this group.

1.3.2 goip member

Current Location: The group test had total 11 members
Now Selected 11 member

Choice	GoIP Line ID	Status	Area ID	Group	Operation
☑	12304	OFFLINE	0	test	Goip Modify
☑	12303	OFFLINE	0	test	Goip Modify
☑	12302	OFFLINE	0	test	Goip Modify
☑	500002	OFFLINE	0	test	Goip Modify
☑	500001	OFFLINE	0	test	Goip Modify
☑	500003	OFFLINE	0	test	Goip Modify
☑	500004	OFFLINE	0	test	Goip Modify

Pic: goip member manage

It is almost the same as sim member.

1.3.3 modify rule

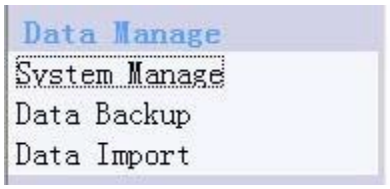
Modify Rule of Group

Group Name: test
Work Interval(m): 60
Sleep Interval(s): 30
IMEI MODE: Random
Save Cancel

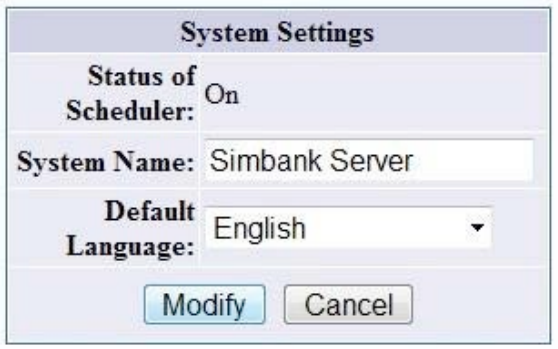
Pic: modify rule of group

Modify the work interval and sleep interval of the group.

2. System:

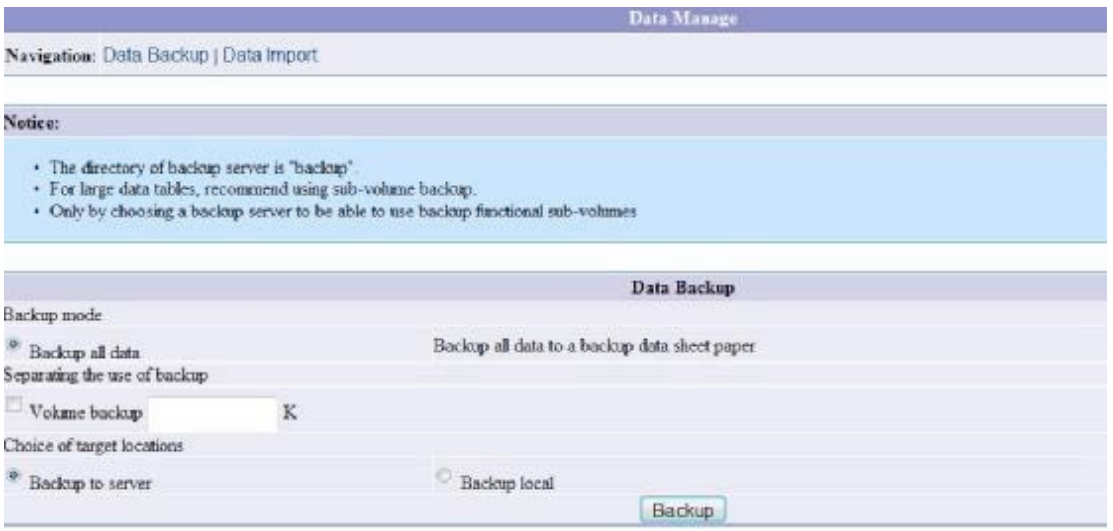


2.1 System manage

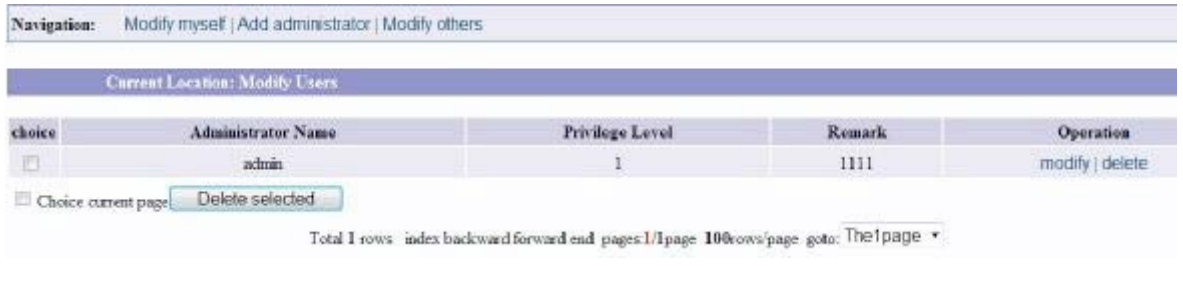


Status of Scheduler：show connection is success or fail. Default Language：web language, English or Chinese.

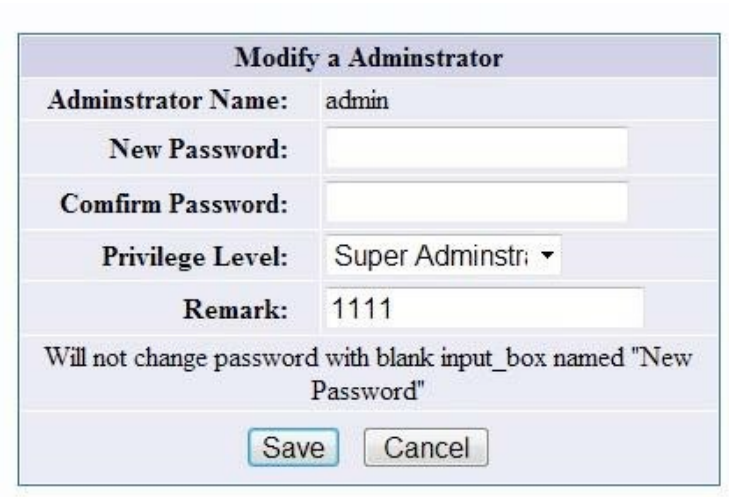
2.2 Date backup: Backup and restore data, you can backup the date to server and local PC, restore the date from server and local PC.



3. User manages:



You can add or delete account of the server and modify the account info here.



There are two kinds of users, administrator and common user. Common user can't manage other accounts.

Notes: Follow part are very important to let your SIM BANK works with your GOIP, if not set right, you will be not able to use SIMBANK server.

SimBank webpage configuration:

You should enable client mode in the sim bank terminal page and insert sim cards in sim bank after creating sim bank information.

Sim bank ID and password is just you have set in the sim bank server.

GoIP webpage configuration:

You should also enable remoter sim option after creating goip information. ID and password is what you have set in the SMB server.