



SIM Server

Installation Guide

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1 System Overview

The SIM Server runs on a Linux system with the following LAMP runtime environment.

- Linux
- Apache v2.2/v2.4
- MySQL v5.x
- PHP v5.x

If your current system already has LAMP installed, please check to see if it meets the above requirements. If LAMP is not installed, we have prepared a “LAMP Installation Package” for you to install before installing the SMS Server. This package has been verified to run on CentOS7, CentOS8, Ubuntu18.04, Ubuntu20.04 and Debian10.

Please note that your hardware system should have at least 2GB RAM and 10GB hard disk free space.

2 LAMP Installation

PLEASE DO NOT INSTALL THIS “LAMP INSTALLATION PACKAGE” IF YOUR LINUX SYSTEM HAS ALREADY GOT LAMP INSTALLED. Installing this “LAMP Installation Package” will remove your existing LAMP (Apache/HTTP + PHP + MYSQL/Mariadb) as this may affect the operation of other services currently running in your system.

Please login the linux system with “root”, and follow below steps to install LAMP

- a) Download the “LAMP Installation Package”

```
cd /root
wget http://47.242.36.50/update/lamp_install-latest.tar.gz
```

- b) Uncompress and execute the install script

```
tar xzf lamp_install-latest.tar.gz
cd lamp_install
./install.sh
```

The installation progress may take 10-40 minutes. Please DO NOT close the command window before it is completed.

The installing is successful when you see the following message appeared on the screen:

Install LAMP completed! enjoy it.

Important files and default settings of this LAMP:

- The config files of Apache: /usr/local/apache/conf/
- The web files of Apache: /home/www/
- The config file of PHP: /usr/local/php/etc/php.ini
- The config file of MySQL: /etc/my.cnf
- The databases directory of MySQL: /usr/local/mysql/data/
- The default password of MySQL “root” user: db!tek.com

3 SIM Server Installation

Here are the installation steps:

- a) To download and decompress the installation package, type the following commands at the server system prompt.

```
wget http://47.242.36.50/update/smb_scheduler_install-latest.tar.gz
```

```
tar -xvzf smb_scheduler_install-latest.tar.gz -C /root
```

- b) Type the following commands to execute the installation script.

```
cd /root/smb_scheduler_install  
./smb_scheduler_install.sh
```

The installation is successful when you see the following messages appeared on the screen:

```
Install done.
```

```
You can visit "http://<IP_Addr>/smb_scheduler " now.
```

```
Default username and password both are: admin
```

PS:

If you are installing the SIM SERVER on a Linux system with a LAMP runtime that is not installed by the “LAMP Installation Package”, the following messages will appear during installation. Please enter the responses highlighted in grey accordingly.

Message:

```
Configure httpd config:
```

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

```
Default press Enter
```

Response:

```
Enter the Apache/HTTP config path. Just press “Enter” to use the default path.
```

Message:

```
Import Databases
```

```
Enter the Mysql root password if the password exists:
```

Response:

```
Enter the MySQL password. If no password is set, just press “Enter” to continue.
```

Message:

```
Enter your Mysql PATH: (default: /usr/bin/mysql)
```

```
Default press Enter
```

Response:

```
Enter the MySQL bin file path. Just press “Enter” to use the default path.
```

SIM SERVER will listen the following ports by default: 56012/TCP, 56011/UDP and 80/TCP. Although the install script will automatically config the system firewall to open these ports, you have to open them manually if there is an extra firewall beyond the system.

Once the installation is completed, type the following address in a browser to manage the SIM Server. The default login ID and password are both "admin".

http://<server IP>/smb_scheduler

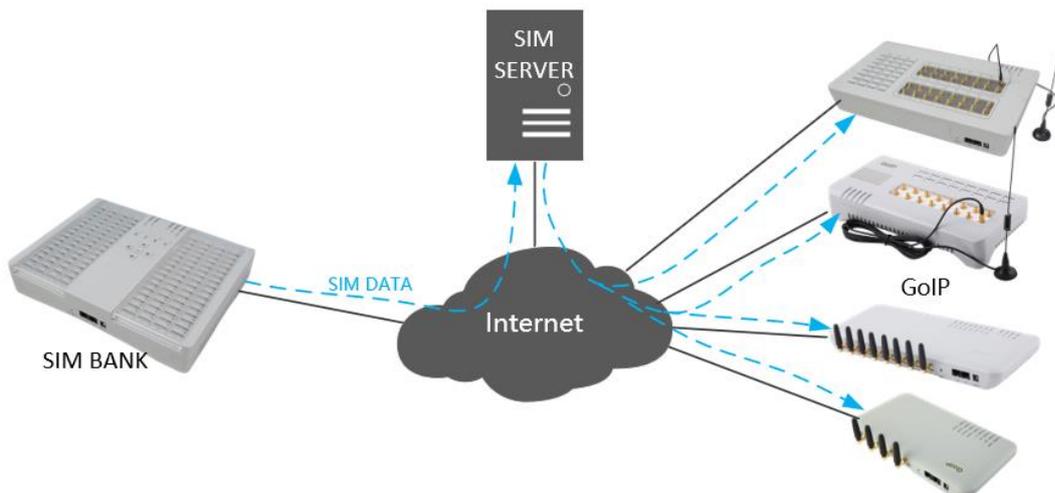
For the first time login, it is strongly recommended to change the password immediately. On the left menu column, click "User Manage" and then "Change Password" to access the window below.

Modify Myself	
Name:	admin
New Password:	<input type="text"/>
Confirm password:	<input type="text"/>
Remark:	1111
Will not change password with blank input_box named "New Password"	
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

4 Basic Configuration

4.1 Overview

The topology diagram below shows a typical network setup for SIM Server, SIM Banks, and GoIPs.



The SIM Server performs the following major features.

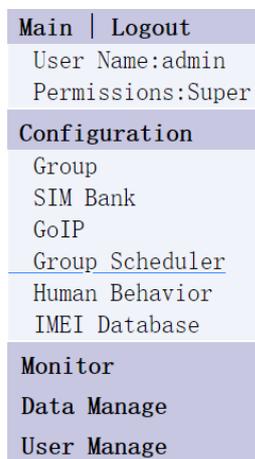
1. Support SIM Bank registration. Once a SIM Bank is registered, each SIM Slot on board will have a unique SIM ID.
2. Support GoIP registration. Once a GoIP is registered, each line on board will have a unique Line ID.
3. Support fixed binding of a SIM slot to a GoIP line.

4. Support auto binding for SIM slots and GoIP lines that are assigned to the same group.
5. Support SIM Balance checking and recharging via SMS or USSD.
6. Monitoring and restricting call activities.
7. Simulating call activities that are similar to human behavior.(Programmable).
8. Support different IMEI schemes.

4.2 Adding a Group

Since each carrier may have a few different types of SIM cards for various service plans, it is necessary to categorize the SIM cards into different groups. This means the SIM slots needs to be categorized accordingly as well. In addition, the GoIP lines that are designated for the deployment of a particular group of SIM cards are needed to be assigned to the same group. This enables the SIM Server to automatically bind the SIM slots (with SIM cards inserted) to the GoIP lines that are in the same group. As a result, a wide range of SIM cards can be supported by creating multiple groups created.

1. Click "Group" in the menu blow.



2. Click "Add Group" in the navigation bar below.



3. Assign a group name and then click "Add"

The screenshot shows a form titled 'Add a Group'. It has a light blue background. The first field is labeled 'Group Name:' and contains the text 'Group1'. Below the field are two buttons: 'Add' and 'Cancel'.

4.3 Adding a SIM BANK

As similar to 4.2 Add Group, click “SIM Bank” on the left hand menu and then “Add” on the navigation bar to access the “Add SIM Bank” window below.

Add SIM Bank	
SIM Bank ID(Number):	1 *
SIM Bank Name:	SMB1
Password:	1234 *
Type:	SMB32 *
Group:	None(for fixed b
IMEI MODE:	GoIP default
IMEI Prefix(Auto add IMEI for each slot)	
Limit Time of Out Call(M) of a Month:	(Reset Day)
Limit Time of Out Call(M):	
Time Unit of Call(S):	60
Limit Count of Out Call:	
Limit Count of No Connected Out Call:	
Warning Consecutive No Ring Call:	For Disable <input type="checkbox"/>
Warning Consecutive No Answer Call:	For Disable <input type="checkbox"/>
Warning Consecutive Short Call:	For Disable <input type="checkbox"/>
Short Call time(S):	
• Limit=-1 or null, means no limit	
Add Cancel	

1. SIM Bank ID(Number) – This is the login ID (numbers only) for the SIM Bank. The same ID must be used when configuring a SIM Bank.
2. SIM Bank Name – This is a reference name for the SIM Bank with ID defined in 1. This is an optional field and can be leaved as blank.
3. Password – This is the login password for the SIM bank with the login ID as defined in 1.
4. Type – This specifies the SIM Bank model and it tells the SIM server how many SIM card slots are available in the SIM Bank.
5. Group – This property enables SIM Banks to be classified for group operation based on certain predefined conditions. SIM cards are not binded to a specific GoIP channel only. In order to be able to select a Group, you must first define a Group as defined in section 3.1. The default setting is “None (for fixed bind)”and this means all SIM slots will not be binded to any GoIP channels automatically. The ID for each slot will be the SIM ID + “slot #”. For example, if the SIM ID is 101 and the slot number is 22, then the Slot ID is 10122.
6. IMEI MODE – This defines which method is used to assign an IMEI to the binded GoIP channels. Five IMEI modes are available:
 - a. GoIP Default

- b. Random
 - c. Set with Slot
 - d. Random with IMEI
 - e. Set from database with IMEI
7. IMEI Prefix(Auto add IMEI for each slot) –When the IMEI Mode is set to “Random with IMEI”, this IMEI Prefix defines the first 8 digits and the other 7 digits are automatically generated by the SIM Server.
 8. Limit Time of Out Call(M) of each Month – This sets the monthly limit for total call duration.
 9. Limit Time of Out Call(M) – This sets the call duration limit for each outbound call.
 10. Time Unit of Call(S) – This defines the billing increment in second.
 11. Limit Count of Out Call – This defines the maximum number of outbound calls.
 12. Limit Count of No Connect Out Call – This the limit for unanswered outbound calls.
 13. Warning Consecutive No Ring Call – Trigger an alert when the number of consecutive outbound calls with no ringback tones exceeds the number specified. Check the “For Disable” box to disable the respective SIM Card.
 14. Warning Consecutive No Answer Call – Trigger an alert when the number of consecutive unanswered outbound calls exceeds the number specified. . Check the “For Disable” box to disable the respective SIM Card.
 15. Warning Consecutive Short Call – Trigger an alert when the number of consecutive outbound calls with call duration less than the value specified in “Short Call Time” exceeds the number specified. . Check the “For Disable” box to disable the respective SIM Card.
 16. Short Call Time – A Call with duration less than this parameter is defined as a short call.

Click “ADD” to proceed adding the SIM Bank data to the SIM Server. You are now ready to power up a SIM Bank and then configure its web page as shown below to log on the SIM Server.

SIM Bank Setting	
SIM Bank Mode	as Client
Server Address	<SIM Server IP>
SIM Bank ID	11
SIM Bank Password	1234
Net protocol	<input type="radio"/> UDP <input checked="" type="radio"/> TCP
Encryption Key	
SIM Auto Enable after Changed	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

1. SIM Bank Mode – Select “As Client” for connecting to a SIM Server.
2. Server Address – Fill in the SIM Server IP (Public).
3. SIM Bank ID – Fill in the SIM Bank ID that is assigned in the SIM Server.
4. SIM Bank Password – Fill in the login password that is assigned in the SIM Server for this SIM Bank ID.
5. Net Protocol – Select the network protocol to be used for communicating with the SIM Server.
6. Encryption Key – Fill in the encryption key that is assigned in the SIM Server.
7. SIM Auto Enable after Changed – This parameter determines if the SIM card is activated automatically or not when changing a SIM card in the SIM Bank.

4.4 Adding a GoIP

As similar to 4.2 Add Group, click “GoIP” on the left hand menu and then “Add” on the navigation bar to access the “Add GoIP” window below.

Add GoIP	
GoIP ID(Number):	<input type="text" value="1"/>
GoIP Name:	<input type="text" value="GoIP1"/>
Password:	<input type="text" value="1234"/>
Type:	<input type="text" value="GoIPx8"/>
Group	<input type="text" value="None(for fixed b"/>
Zone ID(Number):	<input type="text" value="0"/>
Zone Name	<input type="text"/>
<input type="button" value="Save"/> <input type="button" value="Cancel"/>	

1. GoIP ID (Number) – This is an unique ID assigned for the GoIP to be logged in the SIM Server.
2. GoIP Name – This is an optional field used to reference the GoIP by name.
3. Password – This is the login password used by the GoIP in order to login the SIM Server.
4. Type – This defines the type of GoIP to be logged in. A GoIP-8 is defined in this example.
5. Group – This Group property to the GoIP is similar to the one described in item 5 of section 3.3.
6. Zone ID (Number) – This give the GoIP a location property which will be used for SIM card management. ID equals “0” means there is no location property for the GoIP.
7. Zone name – This is a reference name for the Zone ID (optional).

Click “Save” to add the GoIP settings in the SIM Server.

You are now ready to power up a GoIP-8 and then configure the Preferences page as shown below (Square box).

Preferences			
Language (语言)	<input type="text" value="English"/>	Network Tones	<input type="text" value="China"/>
Time Zone	<input type="text" value="GMT+8"/>	DDNS	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
Time Server	<input type="text" value="pool.ntp.org"/>	Auto Reboot	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Auto-provision	<input type="radio"/> Enable <input checked="" type="radio"/> Disable	Reboot Time	<input type="text" value="04:00"/>
	<input type="checkbox"/> Remote Control	Auto Reset CDR	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
	Web Access Security>>	IVR	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
		Remote Server	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
		Remote SIM	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
		Server	<input type="text" value="<SIM Server IP>"/>
		ID	<input type="text" value="1"/>
		Password	<input type="text" value="1234"/>
		Net protocol	<input type="radio"/> UDP <input checked="" type="radio"/> TCP
		Encryption Key	<input type="text"/>
		SIM Data Format	<input checked="" type="radio"/> Long Command <input type="radio"/> Short Command
		SMPP SMSC	<input type="radio"/> Enable <input checked="" type="radio"/> Disable
		DTMF Detect Min Gap (200-400)	<input type="text" value="270"/>
		Channel number	<input type="radio"/> Enable <input checked="" type="radio"/> Disable

4.5 Checking System Operation

Once the above configurations are done, you will need to access the System Status via the Monitor menu (see the blue box in the left hand menu column) to check if the SIM banks and GoIPs are properly configured and their current status.

CH	Slot ID	Line Status	GSM Status	Bind Mode	Group	Plan Bind	Bind Channel	IMEI Mode	Set IMEI	SIM Info	Remain	Consecutive	Time Unit(S)	Sleep	Enable	Operation
<input type="checkbox"/>	101	OFFLINE	LOGOUT	Group Mode	lee1			GoIP default	0000000000000000	SIM Info	Enough	Enough	60	Active	Enable	MORE ▶
<input type="checkbox"/>	102	OFFLINE	LOGOUT	Group Mode	lee1			GoIP default	0000000000000000	SIM Info	Enough	Enough	60	Active	Enable	MORE ▶
<input type="checkbox"/>	103	OFFLINE	LOGOUT	Group Mode	lee1			GoIP default	0000000000000000	SIM Info	Enough	Enough	60	Active	Enable	MORE ▶
<input type="checkbox"/>	104	OFFLINE	LOGOUT	Group Mode	lee1			GoIP default	0000000000000000	SIM Info	Enough	Enough	60	Active	Enable	MORE ▶
<input type="checkbox"/>	105	OFFLINE	LOGOUT	Group Mode	lee1			GoIP default	0000000000000000	SIM Info	Enough	Enough	60	Active	Enable	MORE ▶
<input type="checkbox"/>	106	OFFLINE	LOGOUT	Group Mode	lee1			GoIP default	0000000000000000	SIM Info	Enough	Enough	60	Active	Enable	MORE ▶
<input type="checkbox"/>	107	OFFLINE	LOGOUT	Group Mode	lee1			GoIP default	0000000000000000	SIM Info	Enough	Enough	60	Active	Enable	MORE ▶

SIM Slot – Click on this to display the current settings and status of all the SIM Slots that are available from the SIM Banks registered. The settings for each SIM slot can be modified manually in this page (move the cursor to [MORE]) located at the end of each slot status line to see the [Modify] icon).

GoIP Channel – Click on this to display the current settings and status of all GSM lines that are available from the GoIPs registered. Each GoIP line can be configured individually by clicking the [Modify] icon located at the end of the status line.