



**Synway SMG Series Recording Server**

**SMGREC**

**SMG Gateway Recording Server**

# **User Manual**

**Version 1.0.0**

**Synway Information Engineering Co., Ltd**

**[www.synway.net](http://www.synway.net)**

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## Revision History

Version	Date	Comments
Version 1.0.0	2017-8	Initial publication

**Note:** Please visit our website <http://www.synway.net> to obtain the latest version of this document.

# Chapter 1 Product Introduction

Thank you for choosing the SMG series recording server (hereinafter referred to as ‘SMGREC server’). The SMGREC server provides the features of recording the communication data on digital gateways, saving them into files, querying and doing statistics on them, supporting authority management, quick data insertion and inquiry, file download, etc.. What’s more, it allows online management, that is, users can do such operations as modifying configurations, checking real-time status, querying recording files all through the WEB. The SMGREC server has the capability to record the communication data on multiple digital gateways simultaneously.

## 1.1 Typical Application

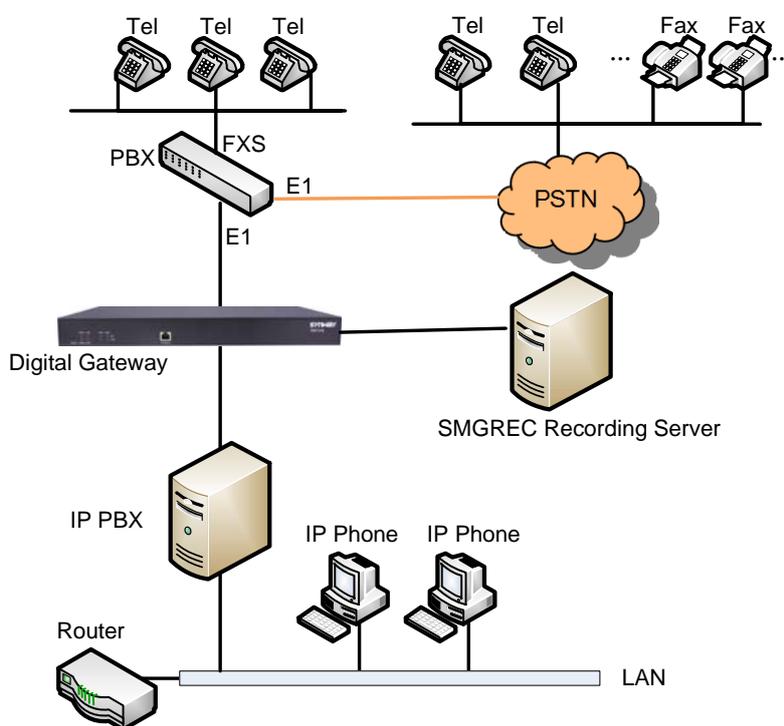


Figure 1-1 Typical Application

## 1.2 Feature List

Feature	Description
<b>Recording Inquiry</b>	Support of query with single or multiple conditions
	Query conditions include caller number, called number, recording time, recording length, call direction, etc.
	Query results can be exported to Excel
	Remarks can be added on recording items
	Recording files can be played or downloaded
<b>Statistical Report</b>	Support of statistics with single or multiple conditions, including: caller number, called number, recording time, call direction, recording length, etc.
	Statistical reports can be exported to excel

<b>User Management</b>	User information can be added, deleted or modified. There is no limit on the number of system users
	Different authorities can be customized for different WEB users
<b>Disk Management</b>	Support of setting the reserved space of disk and the path for automatic disk backup
<b>Recording Authentication</b>	Support of recording devices' registration and authentication.
<b>Security</b>	<b>Description</b>
<b>Admin Authentication</b>	Support admin authentication to guarantee the resource and data security
<b>Maintain &amp; Upgrade</b>	<b>Description</b>
<b>WEB Configuration</b>	Support of configurations through the WEB user interface
<b>Language</b>	Chinese, English
<b>Software Upgrade</b>	Support of user interface, recording service, monitor application and database based on WEB
<b>Operation Log</b>	Trace the operation details on WEB

## Chapter 2 Quick Guide

This chapter is intended to help you grasp the basic operations of the SMGREC server in the shortest time.

**Step 1: Prepare a PC installed with Linux OS (Centos 6.5 or Centos 7.2) to work as a SMGREC server.**

**Step 2: Install the SMGREC Server package provided by Synway.**

**Step 3: Log on to the recording server.**

Enter the IP address of the SMGREC server into the browser to go to the recording system. The original username and password are both 'admin'. For detailed instructions about login, refer to [3.1 System Login](#). We suggest you change the initial username and password via 'Change PW' on the WEB interface as soon as possible after your first login. For detailed instructions about changing the password, refer to [3.7.1 Change Password](#). After changing the password, you are required to log in again.

**Step 4: Add authenticated users.**

You can add the authentication information via 'Authentication → Authentication' on the WEB interface. Refer to [3.6.1 Authentication Manage](#) for detailed instructions.

After adding the authentication information, you can start the recording service via 'System Tools → Recording Manage' and fill in the correct authentication information and the recording server IP to connect the recording server and start the recording.

## Chapter 3 WEB Configuration

### 3.1 System Login

Type the IP address into the browser and enter the login interface. See Figure 3-1.



Figure 3-1 Login Interface

The SMGREC server only serves one user, whose original username and password are both 'admin'. And only the password can be changed after your login. For detailed instructions, refer to [3.7.1 Change Password](#).

After login, you can see the main interface as below.

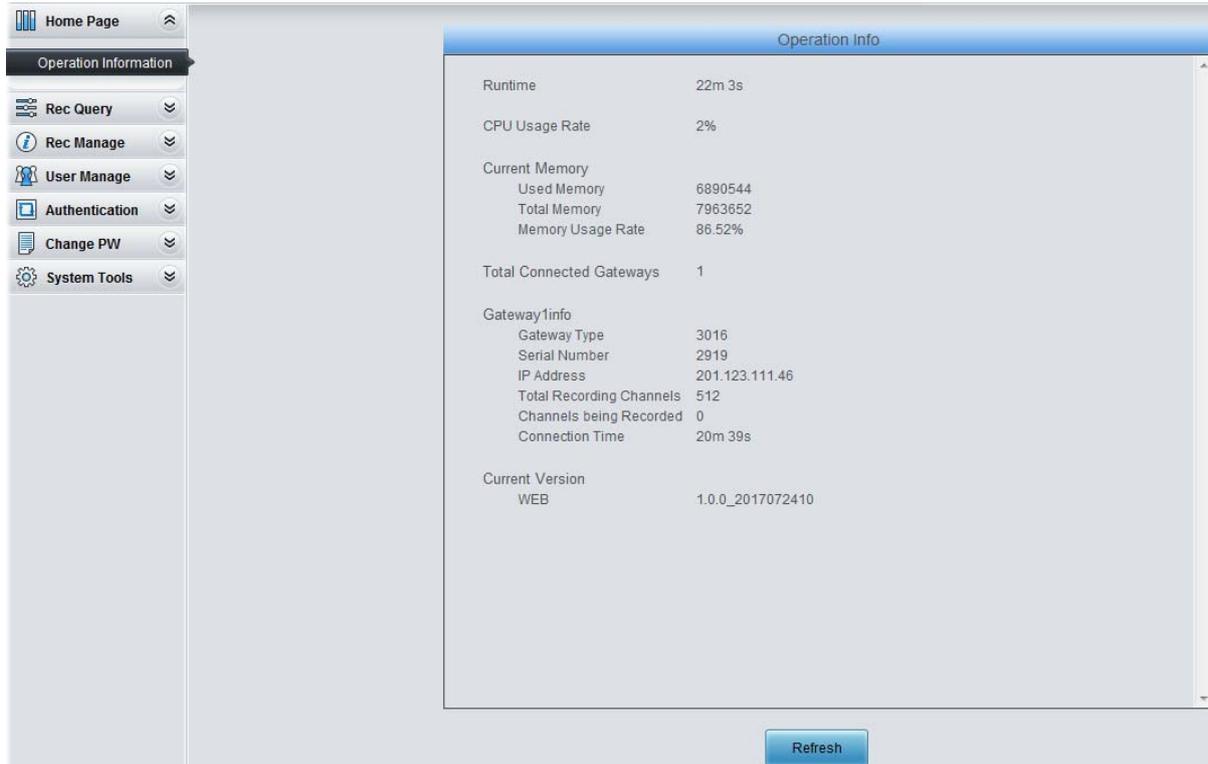


Figure 3-2 Main Interface

### 3.2 Homepage

See Figure 3-3 for the home page interface, which displays the operation information of the SMGREC server.

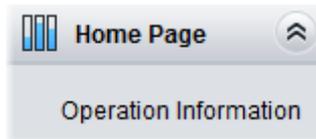


Figure 3-3 Homepage Interface

### 3.2.1 Operation Info



The screenshot shows a web interface titled "Operation Info". It displays the following data:

- Runtime:** 22m 3s
- CPU Usage Rate:** 2%
- Current Memory:**
  - Used Memory: 6890544
  - Total Memory: 7963652
  - Memory Usage Rate: 86.52%
- Total Connected Gateways:** 1
- Gateway1info:**
  - Gateway Type: 3016
  - Serial Number: 2919
  - IP Address: 201.123.111.46
  - Total Recording Channels: 512
  - Channels being Recorded: 0
  - Connection Time: 20m 39s
- Current Version:**
  - WEB: 1.0.0\_2017072410

At the bottom of the interface is a "Refresh" button.

Figure 3-4 Operation Info Interface

See Figure 3-4 for the operation info interface, which displays the runtime, the server version, the amount of connected gateways and the information about them. The table below explains the items shown in Figure 3-4.

Item	Description
<b>Runtime</b>	Time of the SMGREC server keeping running normally after startup. This parameter updates every 2s.
<b>CPU Usage Rate</b>	Display the real-time usage rate of CPU.
<b>Current Memory</b>	Display the total memory, the used memory and the memory usage rate.
<b>Total Connected Gateways</b>	The total amount of connected gateways.
<b>Gateway Type</b>	The exact type of the connected gateway.
<b>Serial Number</b>	The serial number of the connected gateway.
<b>IP Address</b>	The IP address of the connected gateway.

<b>Total Recording Channels</b>	The total amount of channels available for recording.
<b>Channels being Recorded</b>	The amount of channels being recorded.
<b>Connection Time</b>	Display the time of connecting the gateway to the SMGREC server.
<b>WEB</b>	Current version of the WEB interface used by the SMGREC server.

### 3.3 Recording Query



Figure 3-5 Recording Query Interface

Recording inquiry include two parts: **Recording Query** and **Statistics Report**. The part **Recording Query** provides multiple items for users to find the needed recording files rapidly. The part **Statistics Report** is used to count the inquiries and the records on the recording files.

#### 3.3.1 Recording Query

Start Date	2017-07-24	End Date	2017-07-24
Start Time	00:00:00 (hh:mm:ss)	End Time	23:59:59 (hh:mm:ss)
Call Direction	All	Recording Length	Unlimited s
CallerID		CalleeID	
Gateway Serial No.		Sort by	Ascend Descend
Codecs	All	Remarks	

Figure 3-6 Recording Query Interface

See Figure 3-6 for the recording query interface. Users can query the recording files by using the combination of multiple query conditions. The table below explains the query items in Figure 3-6.

Item	Description
<b>Start Date; Start Time; End Date; End Time</b>	Time period of the recording, including time and date. For example, the recording in the above figure is required to start from 2017-07-21 00:00:00 and end at 2017-07-24 23:59:59. Please note that the end time and date should not be earlier than the start time and date.
<b>Call Direction</b>	Select a direction to start recording. Three options are available: <i>All</i> , <i>IP→PSTN</i> , <i>PSTN→IP</i> . The default value is <i>All</i> .
<b>Recording Length</b>	Time length of a recording, used as a condition to filter recording files. Three options <i>Unlimited</i> , <i>Longer than</i> and <i>Shorter than</i> are available. The default value is <i>Unlimited</i> , which means there is no limit on this item. To choose <i>Longer than</i> or <i>Shorter than</i> , you should enter the exact time length in the edit box (calculated by s). Once set, only the qualified recordings will be displayed.

<b>CallerID; CalleelD</b>	Used as a condition to filter recoding files. Just enter the number you want to query.
<b>Gateway Serial No.</b>	Input a serial No. and use it as a condition to filter recording files.
<b>Sort by</b>	Determines the sort order of the query result. It can be the ascending or descending order in <i>Recording Time</i> and <i>Recording Length</i> , with the default value of the ascending order in <i>Recording Time</i> .
<b>Codecs</b>	Used as a condition to filter recording files according to their recording codecs.
<b>Remarks</b>	Remarks in the recording, used as a condition to filter recording files.

After the configuration of all above query items, click 'Inquiry' to obtain the query results (See Figure 3-7); click 'Reset' to restore the configurations.

Figure 3-7 Recording Query Results

The recording query results include **Gateway Serial No.**, **Call Direction**, **CallerID**, **CalleelD**, **Codecs**, **Start Time**, **Recording Length** and **Remarks** of each recording item. On this interface, users can do the following operations:

Operation	Description
<b>Export</b>	Export the query results to Excel. Up to 3 millions items can be exported.
<b>Play</b>	Play the recording file. See Figure 3-8 for the player interface. The icon in the <b>Play</b> column has two colors: blue indicates that the recording file has not been played; orange indicates it has been played.
<b>Download</b>	Download the recording file to local.
<b>Click 'Remarks' Link</b>	Modify the remarks.

The recording file player interface:

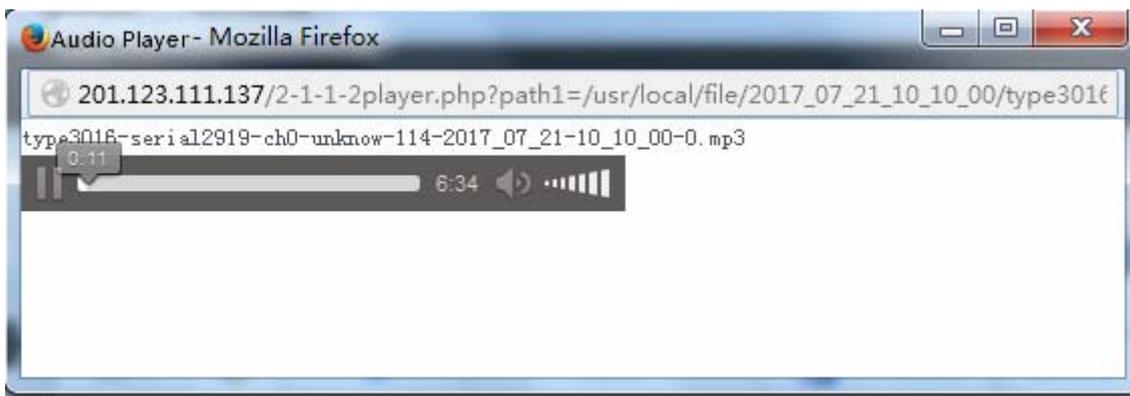


Figure 3-8 Recording File Player Interface

Note: If your current browser fails to play the audio file as it can not well support the playing plugin, please change to another browser and try again.

### 3.3.2 Statistics Report

Start Date	<input type="text" value="2017-07-21"/>	End Date	<input type="text" value="2017-07-24"/>
Start Time	<input type="text" value="00:00:00"/> (hh:mm:ss)	End Time	<input type="text" value="23:59:59"/> (hh:mm:ss)
Call Direction	<input type="text" value="All"/>	Recording Length	<input type="text" value="Unlimited"/> s
CallerID	<input type="text"/>	CalleeID	<input type="text"/>
Gateway Serial No.	<input type="text"/>	Grouping Check	<input type="text" value="Gateway Serial No."/>
<input type="button" value="Count"/>		<input type="button" value="Reset"/>	

Figure 3-9 Statistics Report Interface

See Figure 3-9 for the statistics report interface. Statistical Report provides multiple terms and term combinations for recording inquiry and statistics. Click **Count** to search the reports (up to 3 millions pieces) satisfying the conditions; click **Reset** to restore the configurations. The table below explains the items in Figure 3-9.

Item	Description
<b>Start Date; Start Time; End Date; End Time</b>	Time period of the recording, including time and date. For example, the recording in the above figure is required to start from 2017-07-21 00:00:00 and end at 2017-07-24 23:59:59. Please note that the end time and date should not be earlier than the start time and date.
<b>Call Direction</b>	Select a direction to start recording. Three options are available: <i>All</i> , <i>IP→PSTN</i> , <i>PSTN→IP</i> . The default value is <i>All</i> .
<b>Recording Length</b>	Time length of the recording, used as a condition to filter recoding files. Three options <i>Unlimited</i> , <i>Longer than</i> and <i>Shorter than</i> are available. The default value is <i>Unlimited</i> , which means there is no limit on this item. To choose <i>Longer than</i> or <i>Shorter than</i> , you should enter the exact time length in the edit box (calculated by s). Once set, only the qualified recordings will be displayed.
<b>CallerID; CalleelD</b>	Used as a condition to filter recoding files. Just enter the number you want to query.
<b>Gateway Serial No.</b>	Input a serial No. and use it as a condition to filter recording files.
<b>Grouping Check</b>	Determines the display mode of the query result. It can be grouped by <i>gateway serial No.</i> , <i>CallerID</i> , <i>CalleelD</i> .

After the configuration of the above terms, click **Count** to obtain the statistical report (see Figure 3-10); click **Reset** to restore the configurations.

Statistics Result			
Gateway Serial No.	Amount	Percentage	Length
2919	1	100.00%	397s
Total	1	-	397s

1 Items Total 20 Items/Page 1/1 First Previous Next Last Go to Page 1  1 Pages Total

Figure 3-10 Statistics Result Interface

The statistical report contains three parts: Amount, Percentage (the recording files for certain serial number or callerID/calleelD to the total recording files) and Length.

### 3.4 Recording Management

Recording Management is used to manage the configuration concern with the recording data. Here it mainly contains **Disk Management**, See Figure 3-11.

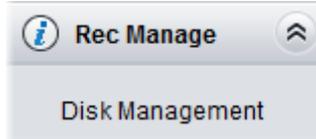


Figure 3-11 Recording Management Interface

#### 3.4.1 Disk Management

No.	Name	Path	Type	File Format	Total Capacity(MB)	Used Capacity(MB)	Available Capacity(MB)
1	/dev/sda1	/	hd	ext3	957173	853747	103426
Reserved Block Space of Each Disk :				<input type="text" value="102400"/>	MB	(Reserved block space of each disk cannot be less than 20480M)	
Byte Auto-deleted :				<input type="text" value="1024"/>	MB	(1024MB-2048MB)	
Update Database after Auto File Deletion :				<input type="radio"/> Yes <input checked="" type="radio"/> No			
Saving Path1 :		<input type="text" value="/usr/local/file"/>			(eg: /usr/local/file)		
Saving Path2 :		<input type="text" value="/usr/local/file1"/>					
Saving Path3 :		<input type="text" value="/usr/local/file1"/>					

Note: A saving path consists only of /, [a-z], [A-Z] or \_., and Saving path 1 cannot be left empty.

Figure 3-12 Disk Management Interface

See Figure 3-12 for the disk management interface. The above list shows the information of all storable disks, including name, path, type, file format, total capacity, used capacity and available capacity. The table below explains the above items in Figure 3-12.

Item	Description
<b>Reserved Block Space of Each Disk</b>	Sets the available space size of the disk, with the default value of 20480. The value cannot be less than 20480MB.
<b>Byte Auto-deleted</b>	Part of the data will be removed automatically once the disk space is detected full by the recording server. Calculated by MB, with the default value of 1024.
<b>Update Database after Auto File Deletion</b>	Sets whether the recording server upgrades the database or not once a recording file is deleted.
<b>Saving Path</b>	Sets the path to save the recording data automatically.

After configuration, click **Save** to save the above settings into the server. Click **Reset** to restore the configurations.

### 3.5 User Management

See Figure 3-13 for the User Management interface, which is used to manage the users who own the access authorities of the WEB as well as their authorities.

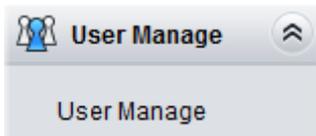


Figure 3-13 User Management Interface

### 3.5.1 User Management

By default, there is no user information available on the server. Click **Add New** to add them manually. See Figure 3-14 for the user information adding interface.

Figure 3-14 User Info Adding Interface

The table below explains the above items in Figure 3-14.

Item	Descriptions
<b>User Name</b>	Administrator name displayed on the user management interface. It is also the login name of the user. <b>Note:</b> The administrator name to be added cannot be the existent one, like admin.
<b>New Password</b>	Login password of the user.
<b>Confirm Password</b>	Enter the login password again.
<b>Rec Query</b>	Refer to <a href="#">3.3 Recording Query</a> . Only the users with this authority can do configurations in the system setting column and go into the recording query and statistics report interface.
<b>Rec Manage</b>	Refer to <a href="#">3.4 Recording Management</a> . Only the users with this authority can see this column on the menu and set the corresponding configuration on disk.
<b>User Manage</b>	Only the users with this authority can see this column on the menu and do the corresponding operations. <b>Note:</b> The user who owns this authority can modify the password of other users.

<b>Authentication</b>	Refer to <a href="#">3.6 Authentication Manage</a> . Only the users with this authority can see this column on the menu and configure the items about authentication information.
<b>System Tools</b>	Refer to <a href="#">3.8 System Tools</a> . Only the users with this authority can see this column on the menu and configure the items about the system.

After configuration, click **Save** to save the above settings into the database; click **Close** to cancel the settings. See Figure 3-15 for the user list interface.

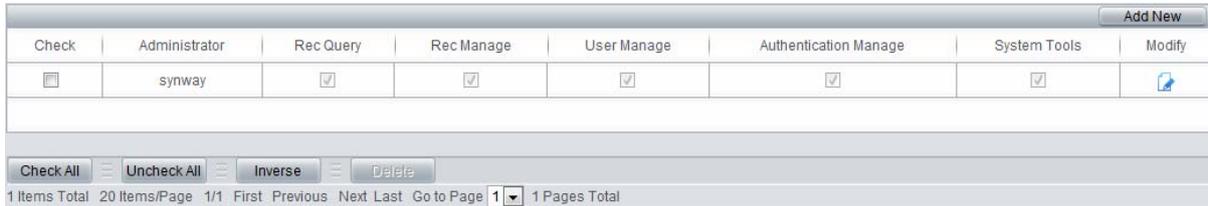


Figure 3-15 User List Interface

Click **Modify** in Figure 3-15 to modify the user information. See Figure 3-16 for the user info modification interface. The configurations on this interface are the same as those on the user info adding interface.

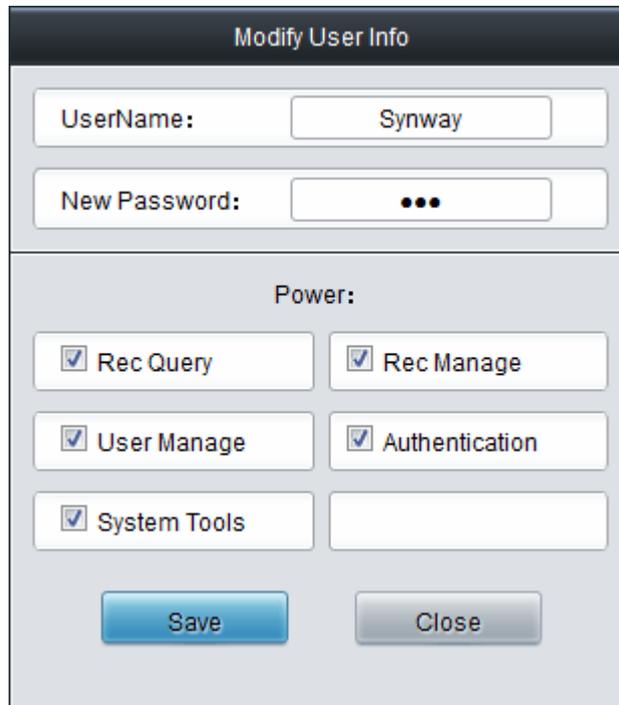


Figure 3-16 User Info Modification Interface

To delete a user, tick the checkbox before username in Figure 3-15 and click the **Delete** button. **Check All** means to select all available items in the current page; **Uncheck All** means to cancel all selections in the current page; **Inverse** means to uncheck the selected items and check the unselected.

### 3.6 Authentication Management

See Figure 3-17 for the authentication management interface, which provides such features as authentication accounts adding or deletion, password modification and the registration status display, etc. Users can create an authentication account via this interface and the digital gateway can connect to the recording server by adding this authentication information.

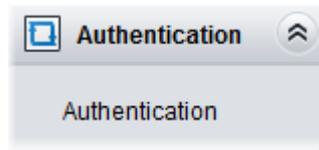


Figure 3-17 Authentication Management Interface

### 3.6.1 Authentication Management

By default, there is no authentication information available on the gateway. Click **Add New** to add them manually. See Figure 3-18 for the authentication information adding interface.

Figure 3-18 Authentication Information Adding Interface

The table below explains the above items in Figure 3-18.

Item	Description
<b>Name</b>	The authentication name used for the digital gateway to connect the recording server.
<b>Password</b>	Login password of the authentication account.
<b>Confirm Password</b>	Enter the login password again.

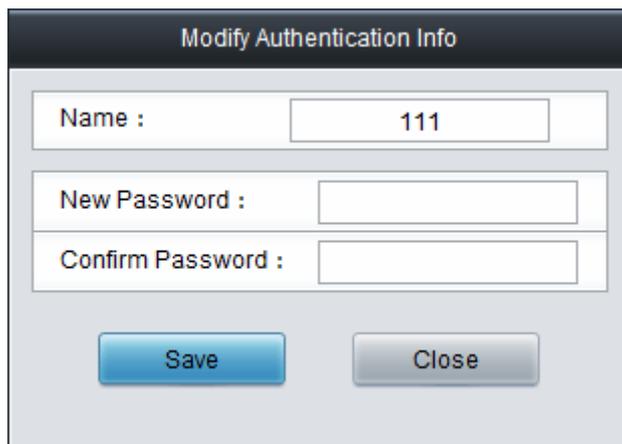
After configuration, click **Save** to save the above settings into the server. Click **Close** to cancel them. See Figure 3-19 for the authentication information list.

Check	No.	Authentication Name	Modify
<input type="checkbox"/>	1	111	

1 Items Total 20 Items/Page 1/1 First Previous Next Last Go to Page 1 1 Pages Total

Figure 3-19 Authentication Information List Interface

Click **Modify** in Figure 3-19 to modify the authentication information. See Figure 3-20 for the authentication modification interface. The configurations on this interface are the same as those on the authentication info adding interface.



The image shows a dialog box titled "Modify Authentication Info". It contains three input fields: "Name" with the value "111", "New Password", and "Confirm Password". Below the fields are two buttons: "Save" and "Close".

Figure 3-20 Authentication Modification Interface

To delete a user account, tick the checkbox before username in Figure 3-19 and click the **Delete** button. **Check All** means to select all available items in the current page; **Uncheck All** means to cancel all selections in the current page; **Inverse** means to uncheck the selected items and check the unselected.

## 3.7 Change Password

See Figure 3-21 for the Change Password interface, which provides the interface for the users to modify the login password.



The image shows a button labeled "Change PW" with a document icon and a refresh icon.

Figure 3-21 Change Password Interface

### 3.7.1 Change Password



The image shows a "Change Password" form with the following fields:

Field	Value
Current Username	admin
Current Password	
New Username	admin
New Password	
Confirm New Password	

Below the form are two buttons: "Save" and "Reset".

Note1: Only the password can be modified if the username is admin.  
Note2: The username and password can consist only of numbers, letters or the underline.

Figure 3-22 Password Modification Interface

See Figure 3-22 for the Password Changing interface where you can change the password of the

recording server. Enter the current password, the new password, and then confirm the new password. After configuration, click **Save** to apply the new password or click **Reset** to restore the configurations. After changing the password, you are required to log in again.

The users can only modify their own passwords. They can ask the super administrator to help modifying their passwords if the initial passwords are forgotten.

## 3.8 System Tools

System Tools is mainly for recording server maintenance. It provides such features as operation logs, system update and restart. See Figure 3-23 for details.

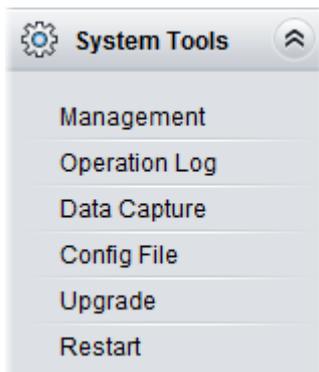


Figure 3-23 System Settings

### 3.8.1 Management

Figure 3-24 Management Parameters Setting Interface

See Figure 3-24 for the Management Parameters interface. The table below explains the above items in Figure 3-24.

Item	Description
<b>WEB Port</b>	The port which is used to access the gateway via WEB. The default value is 80.
<b>Log Level</b>	Sets the level of the Debug log. There are four options: <i>Close</i> , <i>ERROR</i> , <i>WARNING</i> and <i>INFO</i> , with the default value of <i>WARNING</i> .
<b>Max Logs to be Saved</b>	Sets the max number of logs to be saved, with the default value of 10. Up to 100 pieces of logs can be saved.
<b>Single File Size</b>	Sets the size of a single output log. Value range: 1~200, with the default value

	of 100.
--	---------

After configuration, click **Save** to save the settings into the recording server; click **Reset** to restore the configurations.

### 3.8.2 Operation Log

No.	Username	Operation Time	Operation Content
1	admin	2017-07-24 17:17:17	Add user:synway
2	admin	2017-07-24 15:49:08	Statistical operations
3	admin	2017-07-24 15:13:56	Statistical operations
4	admin	2017-07-24 15:12:26	Statistical operations
5	admin	2017-07-24 14:59:38	
6	admin	2017-07-24 14:59:36	Recording Inquiry
7	admin	2017-07-24 14:59:28	Log in to the system from IP: 201.123.115.107
8	admin	2017-07-24 14:59:07	
9	admin	2017-07-24 14:51:52	进行录音查询
10	admin	2017-07-24 14:51:45	登入系统web界面: 201.123.111.5
11	admin	2017-07-24 14:51:27	Recording Inquiry
12	admin	2017-07-24 14:51:15	Log in to the system from IP: 201.123.111.5
13	admin	2017-07-24 14:50:09	
14	admin	2017-07-24 14:49:05	Recording Inquiry
15	admin	2017-07-24 14:47:00	Recording Inquiry
16	admin	2017-07-24 14:45:39	Recording Inquiry
17	admin	2017-07-24 14:45:31	Recording Inquiry
18	admin	2017-07-24 14:45:20	Recording Inquiry
19	admin	2017-07-24 14:42:24	Recording Inquiry
20	admin	2017-07-24 14:42:15	Recording Inquiry

110 Items Total 20 Items/Page 1/6 First Previous [Next](#) [Last](#) Go to Page  6 Pages Total

Figure 3-25 Operating Log Interface

See Figure 3-25 for the operating log interface. It shows the exact operations of the WEB users, helping the administrator to get the thorough information about the use of the recording management software. The logged operations are sorted by the descending order in operating time, i.e. the newer the operation is, the higher it will be ranked on the WEB page.

### 3.8.3 Data Capture

Data Capture

Choose a network interface to capture data

Figure 3-26 Data Capture Interface

See Figure 3-26 for the Data Capture interface. Data Capture is used to capture data on the network interface you choose. Click **Start** to start capturing data on the corresponding network interface. Click **Stop** to stop data capture and download the captured packets.

Click **Download Log** to download such logs as core files, configuration files, error information and so on.

### 3.8.4 Configuration File

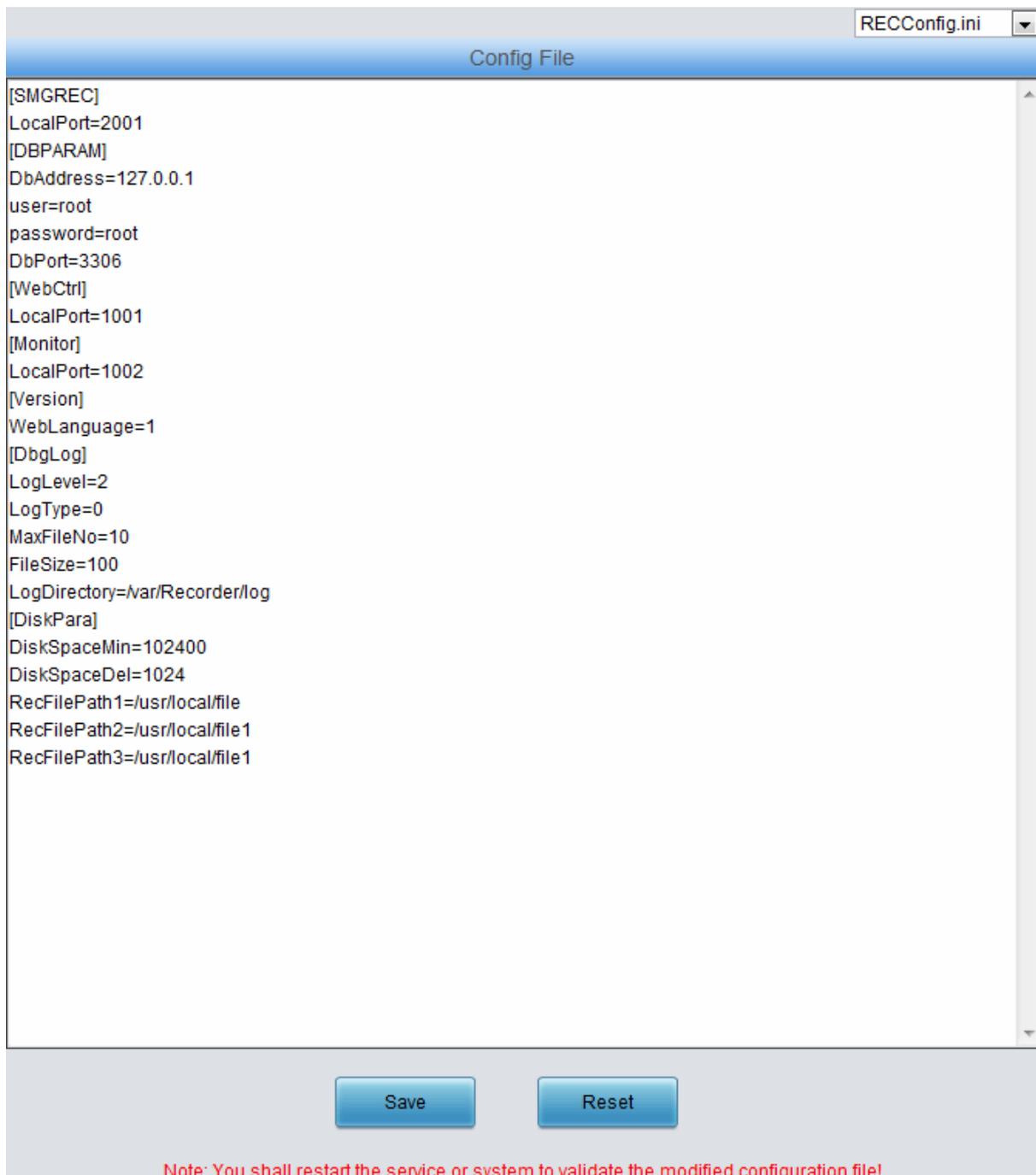


Figure 3-27 Configuration File Interface

See Figure 3-27 for the Configuration File interface. You can check and modify the configuration items of the recording server through this interface. You can modify these configurations on the interface directly, and then click **Save** to save the above settings into the recording server or click **Reset** to restore the configurations.

### 3.8.5 Upgrade

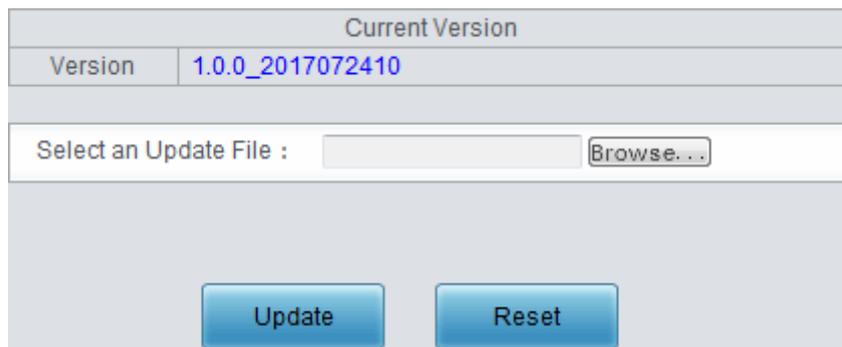


Figure 3-28 Upgrade Interface

See Figure 3-28 for the upgrade interface where you can upgrade the WEB, recording service and database to new versions. Select the upgrade package “\*.tar.gz” via **Browse...** and click **Update**. Click **Reset** to cancel the uploading file. Note that clicking **Reset** can only delete the selected update file but not cancel the operation of **Update**.

### 3.8.6 Restart



Figure 3-29 Service/System Restart Interface

See Figure 3-29 for the Restart interface. Click **Restart** on the service restart interface to restart the recording service or click **Restart** on the system restart interface to restart the server where the recording service locates.

## Appendix A Technical/sales Support

Thank you for choosing Synway. Please contact us should you have any inquiry regarding our products. We shall do our best to help you.

### Headquarters

Synway Information Engineering Co., Ltd

<http://www.synway.net/>

9F, Synway D&R Center, No.3756, Nanhuan Road, Binjiang District, Hangzhou, P.R.China, 310053

Tel: +86-571-88860561

Fax: +86-571-88850923

Wechat QR Code: Scan the QR code below to add us on Wechat.



### Technical Support

Tel: +86-571-88864579

Mobile: +86-18905817070

Email: [techsupport@sanhuid.com](mailto:techsupport@sanhuid.com)

Email: [techsupport@synway.net](mailto:techsupport@synway.net)

MSN: [synway.support@hotmail.com](mailto:synway.support@hotmail.com)

### Sales Department

Tel: +86-571-88860561

Tel: +86-571-88864579

Fax: +86-571-88850923

Email: [sales@synway.net](mailto:sales@synway.net)