# Auto Provisioning

For VoIP Devices

## Administrator's Guide

Version 2.0 3/2006



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- Warranty Information.
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a. "+" is the (prefix) number you enter to make an international telephone call.

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# CHAPTER 1 Auto Provisioning

## **1.1 Auto Provisioning Overview**

This document is for administrators who need to configure a large number of ZyXEL's VoIP ATAs and IADs. Auto provisioning has the VoIP devices periodically download a configuration text file from a server that you set up and maintain. The VoIP device changes its configuration to match the configuration file (if they are different). At the time of writing, you can use TFTP, HTTP or HTTPS<sup>1</sup> protocol for auto provisioning.

The following sections introduce two scenarios for using auto provisioning with ZyXEL's VoIP ATAs and IADs. The first uses a provisioning utility and the second uses an auto provisioning server.

## 1.2 Provisioning Utility Scenario

For smaller-scale deployments, you can manually use the ZyXEL configuration generator provisioning utility to generate and encrypt a batch of configuration files. Then store the configuration files on a server for the ZyXEL Customer Premises Equipment (CPE) VoIP devices to automatically download and use.

<sup>1.</sup> HTTPS support is optional and is not supported in the standard release.





### 1.2.1 Provisioning Utility System Usage

Use the following steps to set up auto provisioning using the provisioning utility.

**Note:** You must use the Command Line Interface (CLI) autopro command to preconfigure the ZyXEL VoIP devices to get the configuration files from the server (see Chapter 2 on page 21).





- 1 Create an account file containing settings such as the username, password and SIP number (see Section 3.2 on page 23 for details). You can export data from your Customer Relationship Management (CRM) database to use in the account file.
- **2** Create a common file with general SIP settings such as the SIP server's IP address, port number, codec and timeout (see Section 3.4 on page 24).

- **3** Use the provisioning utility to generate and encrypt a batch of configuration files (see Chapter 3 on page 23). Each includes subscriber specific SIP settings (username, password and SIP number).
- **4** Store the configuration files on a TFTP or HTTP server. Subscribers do not need to configure any SIP settings. After the VoIP device starts and connects to the Internet, it automatically downloads its unique configuration text file from the provisioning server.

## 1.3 Auto Provisioning Server Scenario

For large-scale deployments, you can use ZyXEL's auto provisioning server software for a automated, end-to-end solution. The auto provisioning server provides the following key benefits and features.

- Efficient management. The database-centric approach automatically generates and manages VoIP subscriber device profiles. The auto provisioning server's database uses MySQL.
- It is easy to update settings for individual VoIP subscriber devices when you change SIP parameters.
- PIN code based authentication for enhanced security. The auto provisioning server uses Hypertext Preprocessor (PHP) to communicate with the VoIP subscriber devices.
- The web-based management interface is easy-to-use.
- ZyXEL's auto provisioning server software supports the XML and Simple Object Access Protocol (SOAP) to ease integration with your existing CRM database.

Figure 3 Auto Provisioning Server Scenario



### 1.3.1 Requirements for Using the Auto Provisioning Server

You need to do the following.

• Provide and maintain a CRM system (database) that:

Stores a record of VoIP subscriber device MAC addresses.

Generates a unique PIN code to map to each VoIP subscriber device MAC address.

Stores each subscriber's SIP number, user ID, password PIN code and MAC address.

- **Note:** The auto provisioning server software package includes sample CRM server software called the VoIP Subscribing System (VSS). See Appendix D on page 87 for its database structure.
  - Install the auto provisioning server software on a server (see Chapter 4 on page 43).
  - Integrate the auto provisioning server with the CRM system. See Appendix E on page 89 for how the auto provisioning server uses SOAP to communicate with the CRM system.
  - Provide SIP numbers and PIN codes to the subscribers either through a card, information sheet or other method.
  - Use the autopro command in the Command Line Interface (CLI) to pre-configure the ZyXEL VoIP devices to get the configuration files from the server (see Chapter 2 on page 21).

### 1.3.2 Auto Provisioning Server System Usage

The following figure and steps describe how auto provisioning works with the auto provisioning server.



Figure 4 Auto Provisioning Server Operation

- 1 Register a VoIP subscriber device and create a subscriber profile in the CRM database. The device's type and MAC address have to be stored in the CRM database. You could set it up so that a subscriber uses a credit card on-line to register for VoIP service and the CRM database creates the subscriber profile and maps it to a device MAC address.
- 2 The subscriber connects the VoIP device to the Internet and uses the telephone keypad to enter the assigned SIP number and PIN code. The subscriber must press \*99\*\* SIP number \* PIN code #. For example, \*99\*\* 10000002 \* 1234 #. After the subscriber enters this information once, the device uses it to get the latest configuration file every time the device starts and connects to the Internet.
- **3** The VoIP device uses the SIP number, PIN code and its MAC address and model name to authenticate with the auto provisioning server.
- **4** For a new subscriber, the auto provisioning server requests subscriber specific settings from the CRM database.
- **5** The CRM server sends the subscriber specific settings to the auto provisioning server.
- **6** The provisioning server combines the subscriber specific settings with general SIP setting to make a configuration file.
- 7 The subscriber's VoIP device downloads and uses the configuration file.

### 1.3.3 Auto Provisioning Server System - Important Notes

The default address for accessing the sample CRM server is http://192.168.1.200/ZyXEL/.

Sample VoIP SIP Express Router (SER) software is also included on the auto provisioning CD. You can use http://192.168.1.200 to access it. See iptel.org for more information on SER servers.

By default the sample SER server does not enforce any security so a SIP device does not have to be registered to use it. When you implement the auto provisioning server system, you will want to have the CRM server and SIP server interact to make sure that only registered SIP devices can use the SIP server.

# CHAPTER 2 Auto Provisioning Commands

Before you deploy the VoIP devices, you need to configure them with your provisioning server's IP address and enable the auto provisioning feature.

Use the Command Line Interface (CLI) to configure the VoIP device's auto provisioning settings. The VoIP device's auto provisioning settings are not configurable via the web configurator. This prevents end users from accidentally changing them.

Do the following to enter the CLI.

- **1** Log into the device by telnet or the console port.
- **2** Enter SMT Menu 24.8, the CLI mode.

## 2.1 Auto Provisioning Commands

Use the following commands to configure the VoIP device's auto provisioning settings.

| COMMAND |        |         |          | DESCRIPTION   |   |
|---------|--------|---------|----------|---|---|
| voice   | config | autopro | index    | <index></index>   | Starts an auto provisioning configuration session.  |
|         |        |         | active   | <index><br/>&lt;0:off 1:on&gt;</index>                        | Turns auto provisioning on or off.  |
|         |        |         | servaddr | <index> <ip<br>address&gt;</ip<br></index>                    | Sets the IP address of the server.  |
|         |        |         | timeout  | <index><br/><second></second></index>                         | Sets how long the VoIP device waits after successfully downloading the configuration file from the server before downloading it again.  |
|         |        |         | retry    | <index><br/><second></second></index>                         | Sets how long the VoIP device waits after a failed<br>attempt to download the configuration file from the<br>server before making another download attempt.<br>This period is usually shorter than the timeout<br>period. |
|         |        |         | method   | <index><br/>&lt;0:common 2:<br/>http_pincode<br/>&gt;</index> | Use 0 if you are using the provisioning utility. Use 2 if you are using the auto provisioning server.   |
|         |        |         | protocol | <index><br/>&lt;0:TFTP 1:HT<br/>TP 2:HTTPS&gt;</index>        | Sets which protocol to use for auto provisioning.   |
|         |        |         | save     | <index></index>   | Saves the auto provisioning configuration.  |

**Table 1** Auto Provisioning Commands

| COMMAND |  |  |         |                 | DESCRIPTION  |
|---------|--|--|---------|-----------------|--|
|         |  |  | display | <index></index> | Displays the auto provisioning configuration settings.           |
|         |  |  | dumpCfg | <index></index> | Displays the auto provisioning settings in the temporary buffer. |

### Table 1 Auto Provisioning Commands (continued)

# **CHAPTER 3 Provisioning Utility**

## 3.1 Provisioning Utility Overview

Use the provisioning utility to create encrypted configuration text files. The utility uses triple DES encryption for strong security.

Use the correct utility for your operating system (ZyConfigGen\_Win32 for Windows or ZyConfigGen\_Linux for Linux).

## 3.2 Account File

You must create an account file before you use the utility. The account file lists subscriber specific account information according to the following format. The MAC address must be listed first.

Syntax

<MAC Address>,<SIP1 Phonenumber>,<SIP1 User ID>,<SIP1 Password>,[SIP2
Phonenumber],[SIP2 User ID],[SIP2 Password]

The account file may be generated from a database. The following example is named "Account.txt".

Figure 5 Account File Example

```
00A0C5891805,52711,user1,111,
00A0C5999897,52293,user3,1234,52294,user4,1234,
00A0C5522903,52295,user5,5555,,,
00A0C5EBEC95,12345,test1234,111111,98765,test0000,222222,
```

## 3.3 Account Field File

You must also create an account field file that identifies the fields in the account file. The fields must be in the same order in the account file and the account field file. The MAC address is not included in the account field file.

The following example is named "Field.txt".

Figure 6 Account Field File Example

```
980101014 = SIP #1 Phone Number
980101012 = SIP #1 UserId
980101013 = SIP #1 Password
980102014 = SIP #2 Phone Number
980102012 = SIP #2 UserId
980102013 = SIP #2 Password
```

### 3.4 Common File

You can also include a common file of general settings if you want to change them from the defaults. A common file is optional.

Use the voice autopro itemdisplay command with a device to see which fields can be configured through auto provisioning. It is recommended that you use communications software (such as a terminal emulation program) that allows you to capture the results.

### 3.4.1 The Common File Format

This is the format of the configuration text files.

```
<field identification number = field name = parameter values allowed = input>,
```

where <input> is your input conforming to <parameter values allowed>.

It is also the same format that Internal SPTGEN configuration files use. See Section 3.5 on page 25 for how to get a device's SPTGEN file.

**Note:** Make sure you use the voice autopro itemdisplay command to get the fields that are configurable via auto provisioning. Even if you use a full Internal SPTGEN file, auto provisioning only changes the settings that are configurable via auto provisioning.

### 3.4.2 File Modification - Important Points to Remember

Each parameter must be preceded by one "="sign and one space.

Some parameters are dependent on others.

## 3.5 Getting an SPTGEN File

You can use an internal SPTGEN file to create a common file. Use the following procedure to get a SPTGEN file from a VoIP device via FTP.

- **1** Launch the FTP client on your computer.
- 2 Enter "open", followed by a space and the IP address of your VoIP device.
- **3** Press [ENTER] when prompted for a username.
- **4** Enter your password as requested (the default is "1234").
- **5** Enter "bin" to set transfer mode to binary.
- **6** Use "get" to transfer files from the device to the computer, for example, "get rom-t SPTGEN.txt" transfers the internal SPTGEN file on the device to your computer and renames it "SPTGEN.txt".
- 7 Enter "quit" to exit the ftp prompt.

The following figure shows an example.

#### Figure 7 FTP Session Example

```
C:\>ftp 192.168.1.1
Connected to 192.168.1.1.
220 P2302R FTP version 1.0 ready at Sat Jan 01
00:01:52 2000
User (192.168.1.1:(none)):
331 Enter PASS command
Password:
230 Logged in
ftp> bin
200 Type I OK
ftp> get rom-t P-2302R.txt
200 Port command okay
150 Opening data connection for RETR rom-t
226 File sent OK
ftp: 36107 bytes received in 3.75Seconds
9.63Kbytes/sec.
ftp> quit
221 Goodbye!
```

## 3.6 Auto Provisioning Text Files

Auto provisioning uses configuration text files that include subscriber specific SIP settings (username, password and SIP number). Subscribers do not need to configure any SIP settings. They only need to connect the VoIP device to the Internet.

Your server must include a database with a different configuration file for each subscriber. The filename of each configuration file must include the VoIP device's MAC address, for example: sip<MAC ADDRESS>.txt. This allows each VoIP device to download its unique configuration file.

### 3.6.1 Auto Provisioning Text File Menus Example

The following table explains the labels that have been added to the example auto provisioning menu tables for identification purposes. These labels do not appear in an actual auto provisioning configuration file.

| ABBREVIATION | MEANING   |
|--------------|---|
| FIN          | Field Identification Number (not seen in SMT screens) |
| FN           | Field Name  |
| PVA          | Parameter Values Allowed                              |
| INPUT        | An example of what you may enter                      |

 Table 2
 Example Auto Provisioning Menus Abbreviations

Here are examples of configuration text file menus that auto provisioning uses. This is a general example, the exact fields vary by product.

**Note:** You can add comments in a configuration file by adding a a /\* before them and a \*/ after them.

Note: DO NOT alter or delete any field except parameters in the INPUT column.

| FIN      | FN                         | PVA                                   | INPUT        |
|----------|----------------------------|---------------------------------------|--------------|
| 4000000  | Configured                 | <0(No)   1(Yes)>                      | 1            |
| 4000001  | ISP                        | <0(No)   1(Yes)>                      | 1            |
| 4000002  | Active                     | <0(No)   1(Yes)>                      | 1            |
| 4000003  | ISP's Name                 |                                       | 1234         |
| 4000004  | Encapsulation              | <2(PPPOE)  <br>8(Ethernet)  15(PPTP)> | 8            |
| 4000008  | Service Name               |                                       | any          |
| 4000009  | My Login                   |                                       | test         |
| 40000010 | My Password                |                                       | 12345        |
| 40000011 | Single User Account        | <0(No)   1(Yes)>                      | 0            |
| 40000012 | IP Address Assignment      | <0(Static) 1(Dynamic)>                | 0            |
| 4000013  | Wan IP Address             |                                       | 0.0.0.0      |
| 4000014  | Remote Gateway             |                                       | 0.0.0.0      |
| 40000015 | Remote IP subnet mask      |                                       | 0            |
| 4000024  | ISP PPPoE idle timeout     |                                       | 100          |
| 40000025 | Route IP                   | <0(No)   1(Yes)>                      | 1            |
| 4000033  | Nailed-up Connection       | <0(No)   1(Yes)>                      | 0            |
| 4000034  | LAN IP Address             |                                       | 172.21.3.155 |
| 40000035 | LAN IP subnet mask<br>Bits |                                       | 16           |
| 4000036  | LAN Gateway                |                                       | 172.21.0.254 |

Table 3 Menu 4 Internet Access Setup

 Table 4
 Menu 24.10 Time and Date Setting

| FIN       | FN                  | PVA              | INPUT        |
|-----------|---------------------|------------------|--------------|
| 241000001 | Time Protocol       |                  | 3            |
| 241000002 | Time Server Address |                  | 129.132.2.21 |
| 241000003 | Time Zone           |                  | 13           |
| 241000004 | Daylight Saving     | <0(No)   1(Yes)> | 1            |
| 241000005 | Start Date (month)  |                  | 1            |
| 241000006 | Start Date (day)    |                  | 0            |
| 241000007 | End Date (month)    |                  | 1            |
| 241000008 | End Date (day)      |                  | 0            |

| FIN       | FN                                 | PVA                                | INPUT               |
|-----------|------------------------------------|------------------------------------|---------------------|
| 241100001 | TELNET Server Port                 |                                    | 23                  |
| 241100002 | TELNET Server Access               | <0(all) 1(none) 2(Lan) 3<br>(Wan)> | 1                   |
| 241100003 | TELNET Server Secured IP address   |                                    | 0.0.0.0             |
| 241100004 | FTP Server Port                    |                                    | 21                  |
| 241100005 | FTP Server Access                  | <0(all) 1(none) 2(Lan) 3<br>(Wan)> | 1                   |
| 241100006 | FTP Server Secured IP<br>address   |                                    | 0.0.0.0             |
| 241100007 | WEB Server Port                    |                                    | 180                 |
| 241100008 | WEB Server Access                  | <0(all) 1(none) 2(Lan) 3<br>(Wan)> | 1                   |
| 241100009 | WEB Server Secured IP<br>address   |                                    | 192.168.100.23<br>3 |
| 241100010 | SNMP Service Port                  |                                    | 161                 |
| 241100011 | SNMP Service Access                | <0(all) 1(none) 2(Lan) 3<br>(Wan)> | 0                   |
| 241100012 | SNMP Service Secured IP<br>address |                                    | 0.0.0.0             |
| 241100013 | DNS Service Port                   |                                    | 53                  |
| 241100014 | DNS Service Access                 | <0(all) 1(none) 2(Lan) 3<br>(Wan)> | 0                   |
| 241100015 | DNS Service Secured IP<br>address  |                                    | 0.0.0.0             |

 Table 5
 Menu 24.11
 Remote Management Control

 Table 6
 Menu 98 VoIP, Phone and Auto Provision Setup

| FIN        | FN                                 | PVA              | INPUT       | DESCRIPTION                                     |
|------------|------------------------------------|------------------|-------------|---|
|            |                                    |                  |             |   |
| / Menu 98. | 1.1 VoIP SIP #1 Setup              |                  |             |   |
| 980101001  | SIP #1 Active                      | <0(No)   1(Yes)> | 1           | Enables or disables the SIP account's settings. |
| 980101002  | SIP #1 Server Address              |                  | 172.22.1.17 | SIP server's address.                           |
| 980101003  | SIP #1 Server Port                 | <1~65535>        | 5060        | SIP server's listening port.                    |
| 980101004  | SIP #1 Registration<br>Server IP   |                  | 172.22.1.17 | SIP register server address.                    |
| 980101005  | SIP #1 Registration<br>Server Port | <1~65535>        | 5060        | SIP register server's listening port.           |

| FIN        | FN                                     | PVA  | INPUT        | DESCRIPTION                                      |
|------------|--|--|--------------|--|
| 980101006  | SIP #1 Registration<br>Expiration Time | <2~65535>  | 7200         | Registration timeout value.                      |
| 980101007  | SIP #1 Register ReSend<br>Time         | <1~65535>  | 180          | Registration resend timeout value.               |
| 980101009  | SIP #1 Local signaling<br>Port         | <1025~65535>   | 5060         | Local SIP listening port.                        |
| 980101010  | SIP #1 RTP Port Range<br>Start         | <1025~65535>   | 50000        | RTP start port.                                  |
| 980101011  | SIP #1 RTP Port Range<br>End           | <1025~65535>   | 65535        | RTP end port, should larger than RTP start port. |
| 980101012  | SIP #1 UserId                          |  | User1        | SIP account user ID.                             |
| 980101013  | SIP #1 Password                        |  | 111          | SIP account password.                            |
| 980101014  | SIP #1 Phone Number                    |  | 52711        | SIP account phone number.                        |
| 980101017  | SIP #1 Domain Name                     |  | 172.22.1.17  | SIP service domain.                              |
| 980101018  | SIP #1 Mapping to POTS<br>Phonel       | <0(No)   1(Yes)>   | 1            | Map incoming calls to the first phone port.      |
| 980101019  | SIP #1 Mapping to POTS<br>Phone2       | <0(No)   1(Yes)>   | 1            | Map incoming calls to the second phone port.     |
| 980101020  | SIP #1 CODEC Type 1                    | <0(G711mu)<br> 8(G711A)<br> 18(G729)>                                      | 18           | Primary voice compression type.                  |
| 980101021  | SIP #1 CODEC Type 2                    | <0(G711mu)<br> 8(G711A)<br> 18(G729)>                                      | 0            | Secondary voice<br>compression type.             |
| 980101022  | SIP #1 DTMF Key Type                   | <0(RFC_2833)<br> 1(PCM)<br> 2(SIP_INFO)<br> 3(RFC_2833_LIKE<br>_SIP_INFO)> | 0            | Sets how DTMF tones are handled.                 |
| 980101023  | SIP #1 Transport Type                  | <0(UDP)  1(TCP)>   | 0            | SIP transport type.                              |
| 980101024  | SIP #1 Hide Caller ID                  | <0(No)  1(Yes)>  | 0            | Disables or enables the sending of caller ID.    |
| 980101025  | SIP #1 Auto Redial                     | <0(No)  1(Yes)>  | 0            | Disables or enables auto redial.                 |
| 980101026  | SIP #1 STUN Server<br>Active           | <0(No)   1(Yes)>   | 0            | Turns STUN off or on.                            |
| 980101027  | SIP #1 STUN Server<br>Address          |  |              | STUN server's IP address.                        |
| 980101028  | SIP #1 STUN Server Port                | <1024~65535>   |              | STUN server's listening port.                    |
|            |  |  |              |  |
| / Menu 98. | 1.2 VoIP SIP #2 Setup                  |  |              |  |
| 980102001  | SIP #2 Active                          | <0(No)   1(Yes)>   | 0            | Enables or disables the SIP account's settings.  |
| 980102002  | SIP #2 Server Address                  |  | 192.168.1.33 | SIP server's address.                            |

| Table 6 | Menu 98 VolP | , Phone and Auto | Provision Setup |
|---------|--------------|------------------|-----------------|
|---------|--------------|------------------|-----------------|

| FIN       | FN                                     | PVA  | INPUT        | DESCRIPTION                                      |
|-----------|--|--|--------------|--|
| 980102003 | SIP #2 Server Port<br><1024~65535>     | <1~65535>  | 5060         | SIP server's listening port.                     |
| 980102004 | SIP #2 Registartion<br>Server IP       |  | 192.168.1.33 | SIP register server address.                     |
| 980102005 | SIP #2 Registartion<br>Server Port     | <1~65535>  | 5060         | SIP register server's listening port.            |
| 980102006 | SIP #2 Registartion<br>Expiration Time | <2~65535>  | 3600         | Registration timeout value.                      |
| 980102007 | SIP #2 Register ReSend<br>Time         | <1~65535>  | 180          | Registration resend timeout value.               |
| 980102009 | SIP #2 Local signaling<br>Port         | <1025~65535>   | 5060         | Local SIP listening port.                        |
| 980102010 | SIP #2 RTP Port Range<br>Start         | <1025~65535>   | 50000        | RTP start port.                                  |
| 980102011 | SIP #2 RTP Port Range<br>End           | <1025~65535>   | 65535        | RTP end port, should larger than RTP start port. |
| 980102012 | SIP #2 UserId                          |  | ChangeMe     | SIP account user ID.                             |
| 980102013 | SIP #2 Password                        |  | 1234567890   | SIP account password.                            |
| 980102014 | SIP #2 Phone Number                    |  | ChangeMe     | SIP account phone number.                        |
| 980102017 | SIP #2 Domain Name                     |  | 192.168.1.33 | SIP service domain.                              |
| 980102018 | SIP #2 Mapping to POTS<br>Phone1       | <0(No)   1(Yes)>   | 1            | Map incoming calls to the first phone port.      |
| 980102019 | SIP #2 Mapping to POTS<br>Phone2       | <0(No)   1(Yes)>   | 1            | Map incoming calls to the second phone port.     |
| 980102020 | SIP #2 CODEC Type 1                    | <0(G711mu)<br> 8(G711A)<br> 18(G729)>                                      | 0            | Primary voice compression type.                  |
| 980102021 | SIP #2 CODEC Type 2                    | <0(G711mu)<br> 8(G711A)<br> 18(G729)>                                      | 18           | Secondary voice<br>compression type.             |
| 980102022 | SIP #2 DTMF Key Type                   | <0(RFC_2833)<br> 1(PCM)<br> 2(SIP_INFO)<br> 3(RFC_2833_LIKE<br>_SIP_INFO)> | 0            | Sets how DTMF tones are handled.                 |
| 980102023 | SIP #2 Transport Type                  | <0(UDP)  1(TCP)>   | 0            | SIP transport type.                              |
| 980102024 | SIP #2 Hide Caller ID                  | <0(No)  1(Yes)>  | 0            | Disables or enables the sending of caller ID.    |
| 980102025 | SIP #2 Auto Redial                     | <0(No)  1(Yes)>  | 0            | Disables or enables auto redial.                 |
| 980102026 | SIP #2 STUN Server<br>Active           | <0(No)   1(Yes)>   | 0            | Turns STUN off or on.                            |
| 980102027 | SIP #2 STUN Server<br>Address          |  |              | STUN server's IP address.                        |

| Table 6 | Menu 98 | VoIP, | Phone and | Auto | Provision | Setup |
|---------|---------|-------|-----------|------|-----------|-------|
|---------|---------|-------|-----------|------|-----------|-------|

| FIN        | FN   | PVA                   | INPUT | DESCRIPTION                                       |
|------------|--|-----------------------|-------|---|
| 980102028  | SIP #2 STUN Server Port                    | <1024~65535>          | 0     | STUN server's listening port.                     |
|            |  |                       |       |   |
| / Menu 98. | 2 VoIP QoS Setup                           |                       |       |   |
| 980200001  | SIP TOS Priority<br>Setting                | <0~255>               | 0     | DiffServ setting for SIP.                         |
| 980200002  | RTP TOS Priority<br>Setting                | <0~255>               | 0     | DiffServ setting for RTP.                         |
| 980200003  | VLAN Taging                                | <0(No)<br> 1(Active)> | 0     | Enables or disables VLAN tagging of VoIP packets. |
| 980200004  | Voice VLAN ID                              | <0~4095>              | 0     | VLAN Tag - VID.                                   |
|            |  |                       |       |   |
| / Menu 98. | 3.1 Phone #1 Setup                         |                       |       |   |
| 980301001  | Phone #1 Speaking<br>Volume                | <-14~14>              | 0     | Output volume gain.                               |
| 980301002  | Phone #1 Listening<br>Volume               | <-14~14>              | 0     | Input volume gain.                                |
| 980301003  | Phone #1 Outgoing Call<br>use SIP #1       | <0(No)  1(Yes)>       | 1     | Outgoing call mapping to first SIP account.       |
| 980301004  | Phone #1 Outgoing Call<br>use SIP #2       | <0(No)  1(Yes)>       | 1     | Outgoing call mapping to second SIP account.      |
| 980301005  | Phone #1 G.168 Echo<br>Cancellation        | <0(No)  1(Yes)>       | 1     | Disables or enables echo cancellation.            |
| 980301006  | Phone #1 Voice Active<br>Detection Support | <0(No)  1(Yes)>       | 1     | Disables or enables VAD.                          |
| 980301007  | Phone #1 Dialing Short<br>Interval         |                       | 6     | Short dialing interval.                           |
| 980301008  | Phone #1 Dialing Long<br>Interval          |                       | 20    | Long dialing interval.                            |
| 980301009  | Phone #1 Flash Max<br>Interval             |                       | 160   | Maximum flash key interval.                       |
| 980301010  | Phone #1 Flash Min<br>Interval             |                       | 50    | Minimum flash key interval.                       |
|            |  |                       |       |   |
| / Menu 98. | 3.2 Phone #2 Setup                         |                       |       |   |
| 980302001  | Phone #2 Speaking<br>Volume                | <-14~14>              | 3     | Output volume gain.                               |
| 980302002  | Phone #2 Listening<br>Volume               | <-14~14>              | 3     | Input volume gain.                                |
| 980302003  | Phone #2 Outgoing Call<br>use SIP #1       | <0(No)  1(Yes)>       | 1     | Outgoing call mapping to first SIP account.       |
| 980302004  | Phone #2 Outgoing Call<br>use SIP #2       | <0(No)  1(Yes)>       | 1     | Outgoing call mapping to second SIP account.      |

| Table 6 | Menu 98 | VoIP, | Phone and | Auto | Provision | Setup |
|---------|---------|-------|-----------|------|-----------|-------|
|---------|---------|-------|-----------|------|-----------|-------|

| FIN        | FN   | PVA                                       | INPUT  | DESCRIPTION                                |
|------------|--|---|--------|--|
| 980302005  | Phone #2 G.168 Echo<br>Cancellation        | <0(No)  1(Yes)>                           | 1      | Disables or enables echo cancellation.     |
| 980302006  | Phone #2 Voice Active<br>Detection Support | <0(No)  1(Yes)>                           | 1      | Disables or enables VAD.                   |
| 980302007  | Phone #2 Dialing Short<br>Interval         |   | 6      | Sets the short dialing interval.           |
| 980302008  | Phone #2 Dialing Long<br>Interval          |   | 20     | Sets the long dialing interval.            |
| 980302009  | Phone #2 Flash Max<br>Interval             |   | 160    | Maximum flash key interval.                |
| 980302010  | Phone #2 Flash Min<br>Interval             |   | 50     | Minimum flash key interval.                |
|            |  | ·   |        | ·  |
| / Menu 98. | .4 VoIP lifeline (PSTN)                    | Setup                                     |        |  |
| 980400001  | PSTN Prefix Number                         | Prefix Number                             | 11**11 | Prefix number for using PSTN.              |
| 980400002  | Relay to PSTN #1                           | Phone Number                              | 161    | Always use PSTN to call this phone number. |
| 980400003  | Relay to PSTN #2                           | Phone Number                              |        | Always use PSTN to call this phone number. |
| 980400004  | Relay to PSTN #3                           | Phone Number                              |        | Always use PSTN to call this phone number. |
| 980400005  | Relay to PSTN #4                           | Phone Number                              |        | Always use PSTN to call this phone number. |
| 980400006  | Relay to PSTN #5                           | Phone Number                              |        | Always use PSTN to call this phone number. |
| 980400007  | Relay to PSTN #6                           | Phone Number                              |        | Always use PSTN to call this phone number. |
| 980400008  | Relay to PSTN #7                           | Phone Number                              |        | Always use PSTN to call this phone number. |
| 980400009  | Relay to PSTN #8                           | Phone Number                              |        | Always use PSTN to call this phone number. |
| 980400010  | Relay to PSTN #9                           | Phone Number                              |        | Always use PSTN to call this phone number. |
|            |  |   |        |  |
| / Menu 98. | .5 VoIP RTP Setup                          |   |        |  |
| 980500001  | Sort Buffer Size ms                        | <0(0ms) 1(10ms)<br> 2(20ms)>              | 1      | Receive sorting buffer size.               |
| 980500002  | RTCP Interval ms                           |   | 30     | RTCP transmission interval.                |
| 980500004  | G711 voice Packet<br>Length ms             | <0(10ms) <br>1(20ms)<br> 2(30ms)>         | 1      | Transmit packetized period for G.711.      |
| 980500005  | G729 voice Packet<br>Length ms             | <0(10ms) <br>1(20ms) 2(30ms)<br> 7(80ms)> | 1      | Transmit packetized period for G.729.      |

|--|

| Table 6 | Menu 98 | VoIP, | Phone and | Auto | Provision | Setup |
|---------|---------|-------|-----------|------|-----------|-------|
|---------|---------|-------|-----------|------|-----------|-------|

| FIN        | FN   | PVA                                | INPUT        | DESCRIPTION   |  |  |
|------------|--|------------------------------------|--------------|---|--|--|
|            |  |                                    |              |   |  |  |
| / Menu 98. | .6 Auto Provision Setup                      |                                    |              | -   |  |  |
| 980600001  | Auto Provision Active                        | <0(No)  1(Yes)>                    | 1            | Disables or enables auto-<br>provision.   |  |  |
| 980600002  | Auto Provision Server<br>Address             |                                    | 172.21.3.144 | Auto-provision server's address.  |  |  |
| 980600003  | Auto Provision Expire<br>Time (Second)       | <1~2600000>                        | 120          | Retry time when the former provision is successful.                               |  |  |
| 980600004  | Auto Provision Retry<br>Expire Time (Second) | <180~65535>                        | 190          | Retry time when the former provision fails.                                       |  |  |
| 980600005  | Auto Provision<br>Protocol                   | <0(TFTP) <br>1(HTTP)<br> 2(HTTPS)> | 2            | Auto-provision protocol.  |  |  |
| 980600006  | Auto Provision Method                        | <0(Common) <br>2(POST)>            | 1            | Auto-provision method.  |  |  |
|            |  |                                    |              |   |  |  |
| / Menu 98. | .7.1 Phone Book (Speed D:                    | ial) #1 Setup                      | Γ            | -   |  |  |
| 980701001  | Phone Book #1 Active                         | <0(No)  1(Yes)>                    | 0            | Disables or enables the speed dial entry.   |  |  |
| 980701002  | Phone Book #1 SIP<br>Number                  |                                    | 1234         | Speed dial entry's SIP number.  |  |  |
| 980701003  | Phone Book #1 SIP IP/<br>URL                 |                                    | Testsip.com  | Peer or SIP server's IP address or URL.   |  |  |
| 980701004  | Phone Book #1 Name                           |                                    | test         | Callee's name.  |  |  |
| 980701005  | Phone Book #1 Type                           | <0(Proxy)<br> 1(Non-Proxy)>        | 0            | 0 to use your SIP account.<br>1 to use peer-to-peer or a<br>different SIP server. |  |  |
| 980701006  | Phone Book #1 Speed<br>Number                |                                    | 1111         | Speed dial key combination.   |  |  |
|            |  |                                    |              |   |  |  |
| / Menu 98. | .7.2 Phone Book (Speed D                     | ial) #2 Setup                      |              |   |  |  |
| 980702001  | Phone Book #2 Active                         | <0(No)  1(Yes)>                    | 0            | Disables or enables the speed dial entry.   |  |  |
| 980702002  | Phone Book #2 SIP<br>Number                  |                                    | 1234         | Speed dial entry's SIP number.  |  |  |
| 980702003  | Phone Book #2 SIP IP/<br>URL                 |                                    | Testsip.com  | Peer or SIP server's IP address or URL.   |  |  |
| 980702004  | Phone Book #2 Name                           |                                    | test         | Callee's name.  |  |  |
| 980702005  | Phone Book #2 Type                           | <0(Proxy)<br> 1(Non-Proxy)>        | 0            | 0 to use your SIP account.<br>1 to use peer-to-peer or a<br>different SIP server. |  |  |
| 980702006  | Phone Book #2 Speed<br>Number                |                                    | 1111         | Speed dial key combination.   |  |  |
|            |  |                                    |              |   |  |  |

| FIN  | FN                            | PVA                         | INPUT       | DESCRIPTION   |  |  |
|--|-------------------------------|-----------------------------|-------------|---|--|--|
| / Menu 98.7.3 Phone Book (Speed Dial) #3 Setup |                               |                             |             |   |  |  |
| 980703001                                      | Phone Book #3 Active          | <0(No)  1(Yes)>             | 0           | Disables or enables the speed dial entry.   |  |  |
| 980703002                                      | Phone Book #3 SIP<br>Number   |                             | 1234        | Speed dial entry's SIP number.  |  |  |
| 980703003                                      | Phone Book #3 SIP IP/<br>URL  |                             | Testsip.com | Peer or SIP server's IP address or URL.   |  |  |
| 980703004                                      | Phone Book #3 Name            |                             | test        | Callee's name.  |  |  |
| 980703005                                      | Phone Book #3 Type            | <0(Proxy)<br> 1(Non-Proxy)> | 0           | 0 to use your SIP account.<br>1 to use peer-to-peer or a<br>different SIP server. |  |  |
| 980703006                                      | Phone Book #3 Speed<br>Number |                             | 1111        | Speed dial key combination.   |  |  |
|  |                               |                             |             |   |  |  |
| / Menu 98.                                     | 7.4 Phone Book (Speed D       | ial) #4 Setup               |             |   |  |  |
| 980704001                                      | Phone Book #4 Active          | <0(No)  1(Yes)>             | 0           | Disables or enables the speed dial entry.   |  |  |
| 980704002                                      | Phone Book #4 SIP<br>Number   |                             | 1234        | Speed dial entry's SIP number.  |  |  |
| 980704003                                      | Phone Book #4 SIP IP/<br>URL  |                             | Testsip.com | Peer or SIP server's IP address or URL.   |  |  |
| 980704004                                      | Phone Book #4 Name            |                             | test        | Callee's name.  |  |  |
| 980704005                                      | Phone Book #4 Type            | <0(Proxy)<br> 1(Non-Proxy)> | 0           | 0 to use your SIP account.<br>1 to use peer-to-peer or a<br>different SIP server. |  |  |
| 980704006                                      | Phone Book #4 Speed<br>Number |                             | 1111        | Speed dial key combination.   |  |  |
|  |                               |                             |             |   |  |  |
| / Menu 98.                                     | .7.5 Phone Book (Speed D      | ial) #5 Setup               |             |   |  |  |
| 980705001                                      | Phone Book #5 Active          | <0(No)  1(Yes)>             | 0           | Disables or enables the speed dial entry.   |  |  |
| 980705002                                      | Phone Book #5 SIP<br>Number   |                             | 1234        | Speed dial entry's SIP number.  |  |  |
| 980705003                                      | Phone Book #5 SIP IP/<br>URL  |                             | Testsip.com | Peer or SIP server's IP address or URL.   |  |  |
| 980705004                                      | Phone Book #5 Name            |                             | test        | Callee's name.  |  |  |
| 980705005                                      | Phone Book #5 Type            | <0(Proxy)<br> 1(Non-Proxy)> | 0           | 0 to use your SIP account.<br>1 to use peer-to-peer or a<br>different SIP server. |  |  |
| 980705006                                      | Phone Book #5 Speed<br>Number |                             | 1111        | Speed dial key combination.   |  |  |
|  |                               |                             |             |   |  |  |
| / Menu 98.7.6 Phone Book (Speed Dial) #6 Setup |                               |                             |             |   |  |  |

#### Table 6 Menu 98 VoIP, Phone and Auto Provision Setup

| FIN  | FN                            | PVA                         | INPUT       | DESCRIPTION   |  |  |  |
|--|-------------------------------|-----------------------------|-------------|---|--|--|--|
| 980706001                                      | Phone Book #6 Active          | <0(No)  1(Yes)>             | 0           | Disables or enables the speed dial entry.   |  |  |  |
| 980706002                                      | Phone Book #6 SIP<br>Number   |                             | 1234        | Speed dial entry's SIP number.  |  |  |  |
| 980706003                                      | Phone Book #6 SIP IP/<br>URL  |                             | Testsip.com | Peer or SIP server's IP address or URL.   |  |  |  |
| 980706004                                      | Phone Book #6 Name            |                             | test        | Callee's name.  |  |  |  |
| 980706005                                      | Phone Book #6 Type            | <0(Proxy)<br> 1(Non-Proxy)> | 0           | 0 to use your SIP account.<br>1 to use peer-to-peer or a<br>different SIP server. |  |  |  |
| 980706006                                      | Phone Book #6 Speed<br>Number |                             | 1111        | Speed dial key combination.   |  |  |  |
|  |                               |                             |             |   |  |  |  |
| / Menu 98.                                     | 7.7 Phone Book (Speed D       | ial) #7 Setup               | 1           | 1   |  |  |  |
| 980707001                                      | Phone Book #7 Active          | <0(No)  1(Yes)>             | 0           | Disables or enables the speed dial entry.   |  |  |  |
| 980707002                                      | Phone Book #7 SIP<br>Number   |                             | 1234        | Speed dial entry's SIP number.  |  |  |  |
| 980707003                                      | Phone Book #7 SIP IP/<br>URL  |                             | Testsip.com | Peer or SIP server's IP address or URL.   |  |  |  |
| 980707004                                      | Phone Book #7 Name            |                             | test        | Callee's name.  |  |  |  |
| 980707005                                      | Phone Book #7 Type            | <0(Proxy)<br> 1(Non-Proxy)> | 0           | 0 to use your SIP account.<br>1 to use peer-to-peer or a<br>different SIP server. |  |  |  |
| 980707006                                      | Phone Book #7 Speed<br>Number |                             | 1111        | Speed dial key combination.   |  |  |  |
|  |                               |                             |             |   |  |  |  |
| / Menu 98.7.8 Phone Book (Speed Dial) #8 Setup |                               |                             |             |   |  |  |  |
| 980708001                                      | Phone Book #8 Active          | <0(No)  1(Yes)>             | 0           | Disables or enables the speed dial entry.   |  |  |  |
| 980708002                                      | Phone Book #8 SIP<br>Number   |                             | 1234        | Speed dial entry's SIP number.  |  |  |  |
| 980708003                                      | Phone Book #8 SIP IP/<br>URL  |                             | Testsip.com | Peer or SIP server's IP address or URL.   |  |  |  |
| 980708004                                      | Phone Book #8 Name            |                             | test        | Callee's name.  |  |  |  |
| 980708005                                      | Phone Book #8 Type            | <0(Proxy)<br> 1(Non-Proxy)> | 0           | 0 to use your SIP account.<br>1 to use peer-to-peer or a<br>different SIP server. |  |  |  |
| 980708006                                      | Phone Book #8 Speed<br>Number |                             | 1111        | Speed dial key combination.   |  |  |  |
|  |                               |                             |             |   |  |  |  |
| / Menu 98.7.9 Phone Book (Speed Dial) #9 Setup |                               |                             |             |   |  |  |  |
| 980709001                                      | Phone Book #9 Active          | <0(No)  1(Yes)>             | 0           | Disables or enables the speed dial entry.   |  |  |  |

| Table 6 | Menu 98 | VoIP, | Phone and | Auto | Provision | Setup |
|---------|---------|-------|-----------|------|-----------|-------|
|---------|---------|-------|-----------|------|-----------|-------|

| FIN                                   | FN                                 | PVA  | INPUT       | DESCRIPTION   |  |  |  |
|---------------------------------------|------------------------------------|--|-------------|---|--|--|--|
| 980709002                             | Phone Book #9 SIP<br>Number        |  | 1234        | Speed dial entry's SIP number.  |  |  |  |
| 980709003                             | Phone Book #9 SIP IP/<br>URL       |  | Testsip.com | Peer or SIP server's IP address or URL.   |  |  |  |
| 980709004                             | Phone Book #9 Name                 |  | test        | Callee's name.  |  |  |  |
| 980709005                             | Phone Book #9 Type                 | <0(Proxy)<br> 1(Non-Proxy)>                        | 0           | 0 to use your SIP account.<br>1 to use peer-to-peer or a<br>different SIP server. |  |  |  |
| 980709006                             | Phone Book #9 Speed<br>Number      |  | 1111        | Speed dial key combination.   |  |  |  |
|                                       |                                    |  |             |   |  |  |  |
| / Menu 98.                            | 7.10 Phone Book (Speed I           | Dial) #10 Setup                                    | 1           | Γ   |  |  |  |
| 980710001                             | Phone Book #10 Active              | <0(No)  1(Yes)>                                    | 0           | Disables or enables the speed dial entry.   |  |  |  |
| 980710002                             | Phone Book #10 SIP<br>Number       |  | 1234        | Speed dial entry's SIP number.  |  |  |  |
| 980710003                             | Phone Book #10 SIP IP/<br>URL      |  | Testsip.com | Peer or SIP server's IP address or URL.   |  |  |  |
| 980710004                             | Phone Book #10 Name                |  | test        | Callee's name.  |  |  |  |
| 980710005                             | Phone Book #10 Type                | <0(Proxy)<br> 1(Non-Proxy)>                        | 0           | 0 to use your SIP account.<br>1 to use peer-to-peer or a<br>different SIP server. |  |  |  |
| 980710006                             | Phone Book #10 Speed<br>Number     |  | 1111        | Speed dial key combination.   |  |  |  |
|                                       |                                    |  |             |   |  |  |  |
| / Menu 98.                            | 8 VoIP Common Setup                |  |             |   |  |  |  |
| 980800001                             | VoIP Country Code                  |  | 21          | Country where the device is located.  |  |  |  |
| 980800002                             | VoIP Immediate Dial<br>Active      | <0(No)  1(Yes)>                                    | 1           | Turn on to dial when # is pressed, instead of waiting for the dialing interval.   |  |  |  |
| 980800003                             | PSTN FallBack                      | <0(No)  1(Force<br>SIP if PSTN<br>unplugged)>      | 1           | Use SIP if PSTN is disconnected.  |  |  |  |
| 980800004                             | VoIP RTP send after<br>receive ACK | <0(No)  1(Yes)>                                    | 0           | Start RTP Session After ACK Received.   |  |  |  |
| 980800005                             | VoIP Follow RFC3265                | <0(No)  1(Yes)>                                    | 0           | Use RFC3265.  |  |  |  |
| 980800006                             | SIP FallBack                       | <0(No)  1(Force<br>FXO LifeLine if<br>SIP failed)> | 0           | Use PSTN if SIP fails.  |  |  |  |
|                                       |                                    |  |             |   |  |  |  |
| / Menu 98.9 Auto Upgrade Common Setup |                                    |  |             |   |  |  |  |
| 980900001                             | Target_Firmware_Versio<br>n        |  | 360MN0b8    | The latest available f/w version.   |  |  |  |

### Table 6 Menu 98 VoIP, Phone and Auto Provision Setup
| FIN        | FN                           | PVA              | INPUT                                 | DESCRIPTION  |
|------------|------------------------------|------------------|---------------------------------------|--|
| 980900002  | Firmware_Download_Addr       |                  | ftp://<br>172.21.3.144<br>/p2002L/ras | The FTP site for f/w upgrade.                      |
| 980900003  | Fw_Notify_Voice_Type         |                  | it                                    | IVR language for f/w notification.                 |
| 980900004  | Target_Firmware_Userna<br>me |                  | justin                                | Username for f/w upgrade.                          |
| 980900005  | Target_Firmware_Passwo<br>rd |                  | 1234                                  | Password for f/w upgrade.                          |
|            |                              |                  | •                                     |  |
| / Menu 98. | 10 VoIP FXO Setup            |                  |                                       |  |
| 981000001  | FXO dial long Interval       |                  | 3000                                  | Time interval to dial first digit.                 |
| 981000002  | Mapping to Phonel            | <0(No)   1(Yes)> | 0                                     | Allow the first phone port to receive PSTN Calls.  |
| 981000003  | Mapping to Phone2            | <0(No)   1(Yes)> | 0                                     | Allow the second phone port to receive PSTN Calls. |
| 981000004  | DTMF Pause Duration          | (>65ms)          | 70                                    | Silent time during dialing interval.               |
| 981000005  | DTMF Digit Duration          | (>65ms>)         | 70                                    | DTMF digit duration.                               |

 Table 6
 Menu 98 VoIP, Phone and Auto Provision Setup

# 3.7 Using the Auto Provision Encryption Utility

Do the following to generate encrypted SIP configuration text files:

- **1** Open the Windows DOS or Linux command prompt.
- **2** Go to the directory where the utility is saved.
- **3** Use the following command.

#### Syntax

```
ZyConfigGen_Win32 [-NoEnc] [-C <Common File> | -O <Output Directory> | -D] <Account Field File> <Account File>
```

#### or

```
ZyConfigGen_Linux [-NoEnc] [-C <Common File> | -O <Output Directory> | -D] <Account Field File> <Account File>
```

where:

Optional fields are enclosed in square brackets [].

Required fields are enclosed in angle brackets < >.

"|" means "or".

| -NoEnc                               | = | Add this to the command to have the utility not encrypt the SIP configuration text files that it generates. It is recommended that you use encryption since the SIP configuration text files include the subscriber's username and password.           |
|--------------------------------------|---|--|
| -C <common file=""></common>         | = | This specifies the file of common SIP settings.  |
| -0 <output directory=""></output>    | = | Specify the folder on your computer where you want the utility to<br>save the generated IP configuration text files. The utility places<br>the generated files in the root directory (hard drive folder) if you<br>do not specify an output directory. |
| -D                                   | = | This has the utility display debug messages.   |
| <account field="" file=""></account> | = | This specifies the account field file.   |
| <account file=""></account>          | = | This specifies the account file.   |

The utility generates a separate file for each entry in the account file. The file names of the generated files include the MAC addresses in the account file.

# 3.8 Auto Provision Encryption Utility Usage Example 1

The following is an example of generating encrypted SIP configuration text files with some common settings updated. The files need to be encrypted.

Do the following:

- 1 Capture all of the available fields from device's CI command 'voice autopro dbdisplay'.
- **2** Save the captured fields as a text file (the common file).
- **3** Cut the subscriber specific fields and paste them into an account field text file.
- 4 Remove any fields from the common file that you don't want to change.
- **5** Configure the values for the fields in the common file that you do want to change.
- 6 Prepare the account file from your database.
- 7 Create an account field file that identifies the fields in the account file.
- **8** Run the utility. See the following figure for an example of the command.
- The first line takes you into the directory where the utility is saved.
- The "common" file is named "P2002L.txt".
- The encrypted SIP configuration text files are saved in a "Results" folder that is located inside of the folder that the utility is in.
- The debug messages are turned on.
- The account field file is named "Field.txt".
- The account file is named "Account.txt".

```
Figure 8 Utility Command Example 1
```

```
C:\>cd\Program Files\ZyXEL
C:\Program Files\ZyXEL>ZyConfGen Win32 -C P2002L.txt -O Results -D
Field.txt Account.txt
Auto Provision Encryption Utility
Version: 1.2.0.0
Field: 0 Name: 980101014 = SIP #1 Phone Number
Field: 1 Name: 980101012 = SIP #1 UserId
Field: 2 Name: 980101013 = SIP #1 Password
Field: 3 Name: 980102014 = SIP #2 Phone Number
Field: 4 Name: 980102012 = SIP #2 UserId
Field: 5 Name: 980102013 = SIP #2 Password
MACAddress: 00A0C5891805
980101014 = SIP #1 Phone Number = 52711
980101012 = SIP #1 UserId = user1
980101013 = SIP #1 Password = 111
Results\sip00A0C5891805.txt File Generated
MACAddress: 00A0C5999897
 980101014 = SIP #1 Phone Number = 52293
 980101012 = SIP #1 UserId = user3
 980101013 = SIP #1 Password = 1234
 980102014 = SIP #2 Phone Number = 52294
 980102012 = SIP #2 UserId = user4
 980102013 = SIP #2 Password = 1234
Results\sip00A0C5999897.txt File Generated
MACAddress: 00A0C5522903
 980101014 = SIP #1 Phone Number = 52295
 980101012 = SIP #1 UserId = user5
 980101013 = SIP #1 Password = 5555
Results\sip00A0C5522903.txt File Generated
MACAddress: 00A0C5EBEC95
 980101014 = SIP #1 Phone Number = 12345
 980101012 = SIP #1 UserId = test1234
 980101013 = SIP #1 Password = 111111
 980102014 = SIP #2 Phone Number = 98765
980102012 = SIP #2 UserId = test0000
980102013 = SIP #2 Password = 222222
Results\sip00A0C5EBEC95.txt File Generated
Total 4 Files Created
```

# 3.9 Auto Provision Encryption Utility Usage Example 2

In this next example, the common settings remain the same, and are not included.

Do the following:

- 1 Modify the Account Field File for fields needed in Account File.
- **2** Prepare Account File from database.
- **3** Run the utility. See the following figure for an example of the command.
- The first line takes you into the directory where the utility is saved.
- The encrypted SIP configuration text files are saved in a "Results" folder that is located inside of the folder that the utility is in.
- The debug messages are turned on.
- The account field file is named "Field.txt".
- The account file is named "Account.txt".

```
Figure 9 Utility Command Example 2
```

```
C:\>cd\Program Files\ZyXEL
C:\Program Files\ZyXEL>ZyConfGen Win32 -O Results -D Field.txt Account.txt
Auto Provision Encryption Utility
Version: 1.2.0.0
Field: 0 Name: 980101014 = SIP #1 Phone Number
Field: 1 Name: 980101012 = SIP #1 UserId
Field: 2 Name: 980101013 = SIP #1 Password
Field: 3 Name: 980102014 = SIP #2 Phone Number
Field: 4 Name: 980102012 = SIP #2 UserId
Field: 5 Name: 980102013 = SIP #2 Password
MACAddress: 00A0C5891805
980101014 = SIP #1 Phone Number = 52711
980101012 = SIP #1 UserId = user1
980101013 = SIP #1 Password = 111
Results\sip00A0C5891805.txt File Generated
MACAddress: 00A0C5999897
980101014 = SIP #1 Phone Number = 52293
 980101012 = SIP #1 UserId = user3
 980101013 = SIP #1 Password = 1234
 980102014 = SIP #2 Phone Number = 52294
 980102012 = SIP #2 UserId = user4
 980102013 = SIP #2 Password = 1234
Results\sip00A0C5999897.txt File Generated
MACAddress: 00A0C5522903
980101014 = SIP #1 Phone Number = 52295
980101012 = SIP #1 UserId = user5
 980101013 = SIP #1 Password = 5555
Results\sip00A0C5522903.txt File Generated
MACAddress: 00A0C5EBEC95
 980101014 = SIP #1 Phone Number = 12345
 980101012 = SIP #1 UserId = test1234
 980101013 = SIP #1 Password = 111111
 980102014 = SIP #2 Phone Number = 98765
980102012 = SIP #2 UserId = test0000
980102013 = SIP #2 Password = 222222
Results\sip00A0C5EBEC95.txt File Generated
Total 4 Files Created
```

# CHAPTER 4 Auto Provisioning Server Installation

This chapter covers how to install the auto provisioning server software.

# 4.1 System Requirements

You need a minimum of the following in order to use the auto provisioning server software.

- CPU: Intel Xeon processor 3.4G X 2
- Hard Disk: U320 80GB, SCSI H.D.D \*3 (Raid 5)
- Memory: ECC 2GB DDR400
- Network: Intel 100/1000MB Ethernet NIC
- OS: RHEL 4

# 4.2 Requirements for Installation by Source Code

The following applications must be installed prior to the installation of the auto provisioning server software if you install it by source code:

- Apache Web Server
- PHP 4.3.1 + GD module + Mcrypt module
- MySQL 4.1

# 4.3 Installation Using the Installer CD

**Note:** Warning! The CD is auto-installing and will format and re-partition your computer's hard drive. This will delete any data stored on the hard drive.

- 1 Set up your CD-ROM as the primary boot device in BIOS.
- 2 Insert the installation CD into the CD-ROM drive and turn on the system.
- **3** Just press enter to begin the installation.





4 Select the disk partitioning setup type. The Autopartition option is recommended.

 Figure 11
 Disk Partitioning Setup



**5** Remove all partitions on this system.

Note: Warning: This will delete all data on your system.

| Figure 12 Automatic Partitioning: Remove All Partitions<br>Fedora Core (C) 2004 Red Hat, Inc.  |
|--|
| Automatic Partitioning<br>Before automatic partitioning can be set up by<br>the<br>use<br>You have chosen to remove all partitions<br>(ALL DATA) on the following drives:<br>/dev/sda<br>Which<br>Are you sure you want to do this?<br>No<br>Yes |
| <tab>/<alt-tab> between elements   <space> selects   <f12> next screen</f12></space></alt-tab></tab>   |

6 Select Yes.

\_..



| the<br>use<br>Re<br>Re<br>Ke<br>Which | You have chosen to remove all partitions<br>(ALL DATA) on the following drives:<br>/dev/sda<br>Are you sure you want to do this? | on? |  |
|---------------------------------------|--|-----|--|
|---------------------------------------|--|-----|--|

7 Check the partitioning status. Select **OK** to continue

#### Figure 14 Partitioning

|          |          |       | - Part | titioning |            |             | _ |
|----------|----------|-------|--------|-----------|------------|-------------|---|
| Dev      | vice     | Start | End    | Size      | Туре       | Mount Point |   |
| UG VolG  | roup00 👘 |       |        | 3936M     | VolGroup   |             |   |
| LV LogVe | o100     |       |        | 3680M     | ext3       | /           | # |
| LV LogVe | o 101    |       |        | 256M      | swap       |             |   |
| /dev/sda | a        |       |        |           |            |             |   |
| sda1     |          | 1     | 13     | 101M      | ext3       | ∕boot       |   |
| sda2     |          | 14    | 522    | 3992M     | physical v |             |   |
| Net      |          | Edit  | Delete | RA        | ID OK      | Back        |   |

- 8 The server restarts after a few seconds.
- **9** After the server restarts, it should be up and running. The server is pre-configured. You can use it with the default settings. If you want to change these settings, see Appendix B on page 79.

# 4.4 Manual Installation

**Note:** You do not need to use this section if you use the installation CD. You can continue to the next chapter.

Use the following steps to manually install the auto provisioning server software. VSS stands for VoIP Subscribing System, the sample CRM server software.

1 Open Public/Function/Config.php, modify the following values according to your operational environment

```
$mysql server = 'localhost';
                                // MySQL hostname or IP address
$user id = 'root';
                        // MySQL user
$user password = ";
                         // MySQL password (only needed)
$database = 'provisioning';
                               // Provisioning Server database name
$database connection error msg = 'database connect failure ';
$VSS WebService = "http://localhost/VSS/WebService/SubscriberService.php";// VSS Web Service
$ps web path = "/var/www/html/PS"; // Provisioning Server Path
$sys_logfile = "/var/log/httpd.log"; // Apache start and stop log file
$zyxel_3des_key = "this is a secret key";// ZyXEL 3des key is the key with which the data will be
encrypted. If it's smaller that the required keysize, it is padded with '\0'. It is better not to use ASCII
strings for keys. It is recommended to use the mhash functions to create a key from a string. It must
be less than 13 characters.
```

- 2 Change files and directories recursively for fold PS/temp/ and PS/bkup/ with Read and Write rights
- **3** Set PS/SystemMaintenance/\*.sh execute rights for apache user/group
- **4** Copy PS/SystemMaintenance/zpro.conf to /etc/zpro.conf, modify the following values according to your operating environment

##Provisioning MySQL hostname or IP address
mysql\_server="localhost"
## Mysql User
user\_id="zyxel"
## MySQL password
user\_password="1234"
## Provisioning Server Database Name
database="provisioning"
## Mysql Path
mysql\_run\_path="/usr/bin"
## Provisioning Server Web Path
pathps\_web\_path="/var/www/html/PS"
## apache run user crontab
USER CRON="/var/spool/cron/apache"

```
## apache run user
   RUN_AS="apache"
5 Modify /etc/rc.d/init.d/httpd, add or edit like the following (CONF value must be same as
  $sys logfile in step 1)
   CONF=/var/log/httpd.log
   DATE=`date +%Y.%m.%d-%X`
   case "$1" in
    start)
        detect
        echo "$DATE ---> httpd is starting" >> $CONF
   start
   ;;
    stop)
        detect
        echo "$DATE ---> httpd is stopping" >> $CONF
   stop
   ;;
    restart)
        echo "$DATE ---> httpd is stopping" >> $CONF
        detect
        echo "$DATE ---> httpd is starting" >> $CONF
   stop
        detect
   start
   ;;
```

- **6** Modify /etc/crontab, add the following line:
  - \* \* \* \* \* root /var/www/html/PS/SystemMaintenance/Scheduling.sh
- **7** Change files and directories recursively for fold /var/log/httpd.log with Read and Write rights
- **8** Modify apache conf file, add:

DirectoryIndex PS/GetSetting/GetSetting.php

# CHAPTER 5 Using the Auto Provisioning Server

This chapter provides instructions for using the features of your auto-provisioning server

Explanations are provided for:

- Using "Product Type"
- Using "Unit Device management"
- Using "Account Management"
- Using "Information Center"
- Using "System Maintenance"
- Using "Utilities"

# 5.1 General Information and Guidelines

Read this section before you use the auto provisioning server.

- This system allows two types of user, Administrator and Viewer. Administrators (sometimes abbreviated to "Admin") have the greatest privileges, and can modify the server's settings. A Viewer user can only see server information.
- The auto provisioning server software allows you to backup and restore your database; It is recommended that you use MySQL to back up and restore the database.
- When backing up or restoring the database, it is suggested that you take the server offline. This will stop outside transaction requests from coming in while you are backing up your database.
- The performance of the server depends on the hardware and bandwidth. Eliminate unnecessary functions and processes in order to maximize performance.

# 5.2 Web Manager Overview

The auto provisioning server has an HTML-based management interface that allows easy management via Internet browser. Use Internet Explorer 6.0 and later. The recommended screen resolution is 1024 by 768 pixels.

In order to use the web configurator you need to allow:

- Web browser pop-up windows from your device. Web pop-up blocking is enabled by default in Windows XP SP (Service Pack) 2.
- JavaScripts (enabled by default).
- Java permissions (enabled by default).

# 5.3 Web Manager Login

- **1** Launch your web browser.
- **2** Type "192.168.1.200/PS" as the URL (make sure you use the same casing).

#### Figure 15 Login Screen

|       | Provisioning Server                                      |
|-------|--|
| ZyXEL | Login ID admin<br>Password <sup>www</sup><br>Login Reset |
|       | (C) Copyright 1995-2005 by ZyXEL Communications Corp.    |

- **3** Type "admin" (default) as the login ID.
- **4** Type "1234" (default) as the password and click Login.

# 5.4 Navigation Panel

The following screen displays. Use the links in the navigation panel on the left to navigate the management screens.

| and the second sec |       |                        |                     |                  |        |
|--|-------|------------------------|---------------------|------------------|--------|
| View   | Produ | ict Type >> Product Ty | rpe List            |                  | BHEL   |
| Import   |       | Pr                     | oduct Type Lis      | st               |        |
| Export to SPTGEN   | NO.   | Product Type           |                     | Action           |        |
| Device Management  | 1     | P2002                  | Edit Setting        |                  | Delete |
| Unit Device  |       | F 2002                 | Edit Setting        | VICW ST TOEN     | Delete |
|  | 2     | P2002L                 | Edit Setting        | View SPTGEN      | Delete |
| Account Management   | 3     | P2302R                 | Edit Setting        | View SPTGEN      | Delete |
| Add a viewer   | 4     | P2602HW-61             | Edit Setting        | View SPTGEN      | Delete |
| Change Password  | 5     | P2602HW61              | Edit Setting        | View SPTGEN      | Delete |
| nformation Center  |       | D20021804_04           | Editocting          | Memor Tach       | D      |
| System Up Time   | 0     | P2602HWL-61            | Edit Setting        | View SPTGEN      | Delete |
| Loading Statistics   | 7     | P2602R                 | Edit Setting        | View SPTGEN      | Delete |
| New User Info.   |       | First  Previous  Nex   | kt  Last Current Pa | ge:1 Total Page( | s):1   |
| Registered Device Info.  |       |                        | Add a Product Type  |                  |        |
| Login History  |       |                        |                     |                  |        |
| System Maintenance   |       |                        |                     |                  |        |
| Import Unit Device   |       |                        |                     |                  |        |
| Database Backup  |       |                        |                     |                  |        |
| Database Restore   |       |                        |                     |                  |        |
| Jtilities  |       |                        |                     |                  |        |
| Configuration  |       |                        |                     |                  |        |
| Export DB as SPTGEN  |       |                        |                     |                  |        |

Figure 16 Navigation Panel

The following table describes the categories of links.

| Table 7 Navigat | ion Panel Summary |
|-----------------|-------------------|
|-----------------|-------------------|

| CATEGORY              | LINKS  | FUNCTION  |
|-----------------------|--|---|
| Product Type          | View<br>Import<br>Export to SPTGEN   | Use these screens to add, edit, view, and delete your list of VoIP subscriber product types and the parameters to use for each. You can also import and export SPTGEN files, which you can use to backup and move parameters to other machines. |
| Device<br>Management  | Unit Device<br>Lock History  | Use these screens to view and delete individual VoIP subscriber devices and edit their settings.  |
| Account<br>Management | Add a Viewer<br>Edit a Viewer<br>Change Password   | Use these screens to add, edit, view, and delete users of this server.  |
| Information<br>Center | System Up Time<br>Loading Statistics<br>New User Info.<br>Registered Device Info.<br>Login History | Use these screens to display server statistics and other server information, such as system loading, users, and login history.  |
| System<br>Maintenance | Import Unit Device<br>Database Backup<br>Database Restore  | Use these screens to import, backup, and restore your database.   |

| CATEGORY  | LINKS                                | FUNCTION  |
|-----------|--------------------------------------|---|
| Utilities | Configuration<br>Export DB as SPTGEN | Use these screens to change server settings and export device settings from the database. |
| Logout    |                                      | Use this link to exit the   |

| Table 7 | Navigation | Panel Summary | (continued) |
|---------|------------|---------------|-------------|
|---------|------------|---------------|-------------|

# 5.5 Help

Click **EFELP** to view on-line help descriptions.

# 5.6 Product Type

The product type management tool allows you to add, edit, view, and delete your list of VoIP subscriber product types and the parameters to use for each. It also allows the importing and exporting of SPTGEN files, which you can use to backup and move the parameters to other machines.

# 5.6.1 Edit Setting

**Product Type > View > Edit Setting** 

Administrators can edit SPTGEN parameters.

| Figure 17 | Product | Type List: | Edit | Setting |
|-----------|---------|------------|------|---------|
|           |         |            |      |         |

| Product Type >> Product Type List                             |                   |                               |     |  |  |
|---|-------------------|-------------------------------|-----|--|--|
|   | Product Type List |                               |     |  |  |
| NO.   | Product Type      | Action                        |     |  |  |
| 1   | P2002             | Edit Setting View SPTGEN Dela | ete |  |  |
| 2   | P2602HW-61        | Edit Setting View SPTGEN Dela | ete |  |  |
| 3   | P2602HW61         | Edit Setting View SPTGEN Dela | ete |  |  |
| 4   | P2602R            | Edit Setting View SPTGEN Dele | ete |  |  |
| First   Previous   Next   Last Current Page:1 Total Page(s):1 |                   |                               |     |  |  |
| Add a Product Type  |                   |                               |     |  |  |

When you click Edit Setting, the following screen displays.

| Product Type >> Edit Product Type Setting |   |                 |        |
|---|---|-----------------|--------|
|   | Edit Product Type Setting(P   | 2002)           |        |
| Parameter Group                           | All Group   |                 |        |
| Parameter NO.                             | Parameter Name  | Parameter Value | Action |
| 10000000                                  | Configured <0(No)   1 (Yes)>  | 0               | Edit   |
| 10000001                                  | System Name   |                 | Edit   |
| 10000002                                  | Location  |                 | Edit   |
| 10000003                                  | Contact Person's Name   |                 | Edit   |
| 10000004                                  | Route IP <0(No)   1(Yes)>   | 1               | Edit   |
| 10000006                                  | Bridge <0(No)   1(Yes)>   | 0               | Edit   |
| 10000007                                  | First System DNS Server Type <0(From ISP)   1 (User<br>Defined)   2(None)>  | 0               | Edit   |
| 10000008                                  | First System DNS Server IP address  | 0.0.0.0         | Edit   |
| 10000009                                  | Second System DNS Server Type <0(From ISP)   1 (User<br>Defined)   2(None)> | 0               | Edit   |
| 10000010                                  | Second System DNS Server IP address   | 0.0.0.0         | Edit   |
| 10000011                                  | Third System DNS Server Type <0(From ISP)   1(User                          | 0               | Edit   |

| Figure 18 | Product Type | e Edit Setting |
|-----------|--------------|----------------|
|-----------|--------------|----------------|

Click a parameter's **Edit** button to edit its setting. For example, the following displays if you click the **Parameter No** 100000008 **Edit** button:

Figure 19 Parameter Edit Field Example

| 10000008 | First System DNS Server IP address | 0.0.0.0 | Update Cancel |
|----------|------------------------------------|---------|---------------|
|----------|------------------------------------|---------|---------------|

Input the desired parameter and click the **Update** button to complete the editing process. Click the **Cancel** button to abort the action.

This page also provides a "grouping" function, to allow you to easily find parameters by groups.

| Product Type >> Edit Product Type Setting |   |                 |        |  |  |  |
|---|---|-----------------|--------|--|--|--|
|   | Edit Product Type Setting(P   | 2002)           |        |  |  |  |
| Parameter Group                           | Parameter Group All Group   |                 |        |  |  |  |
| Parameter NO.                             | All Group<br>Menu 1 General Setur   | Parameter Value | Action |  |  |  |
| 10000000                                  | Confi Menu 4 Internet Access Setup  | 0               | Edit   |  |  |  |
| 10000001                                  | Syste<br>Menu 12.1.1 IP Static Route Setup<br>Menu 12.1.2 IP Static Route Setup |                 | Edit   |  |  |  |
| 10000002                                  | Local Menu 12.1.3 IP Static Route Setup   |                 | Edit   |  |  |  |
| 10000003                                  | Conte Menu 12.1.4 IP Static Route Setup   |                 | Edit   |  |  |  |
| 10000004                                  | Route Menu 12.1.6 IP Static Route Setup   | 1               | Edit   |  |  |  |
| 10000006                                  | Bridg Menu 12.1.8 IP Static Route Setup   | 0               | Edit   |  |  |  |
| 10000007                                  | First System DNS Server Type <0(From ISP)   1(User<br>Defined)   2(None)>       | 0               | Edit   |  |  |  |
| 10000008                                  | First System DNS Server IP address  | 0.0.0.0         | Edit   |  |  |  |
| 10000009                                  | Second System DNS Server Type <0(From ISP)   1(User<br>Defined)   2(None)>      | 0               | Edit   |  |  |  |

Figure 20 Parameter Groups

### 5.6.2 View SPTGEN

#### **Product Type > View > View SPTGEN**

Administrators and Viewers can display the SPTGEN details of the products.

| Prod  | Product Type >> Product Type List |                                 |  |  |  |
|---|-----------------------------------|---------------------------------|--|--|--|
|   | Pr                                | oduct Type List                 |  |  |  |
| NO.   | Product Type                      | Action                          |  |  |  |
| 1   | P2002                             | Edit Setting View SPTGEN Delete |  |  |  |
| 2   | P2602HW-61                        | Edit Setting View SPTGEN Delete |  |  |  |
| 3   | P2602HW61                         | Edit Setting View SPTGEN Delete |  |  |  |
| 4   | P2602R                            | Edit Setting View SPTGEN Delete |  |  |  |
| First   Previous   Next   Last Current Page:1 Total Page(s):1 |                                   |                                 |  |  |  |
| Add a Product Type  |                                   |                                 |  |  |  |

Figure 21 Product Type List: View SPTGEN

Click View SPTGEN, to display the following screen.

Figure 22 View SPTGEN

| Product Type >> View SPTGEN                    | <b>BHELP</b> |
|--|--------------|
| View SPTGEN                                    |              |
| / Menu 1 General Setup                         |              |
| 10000000 = Configured <0(No)   1(Yes)> = 0     |              |
| 10000001 = System Name =                       |              |
| 10000002 = Location =                          |              |
| 10000003 = Contact Person's Name =             |              |
| 10000004 = Route IP <0(No)   1(Yes)> = 1       |              |
| 10000006 = Bridge <0(No)   1(Yes)> = 0         |              |
| / Menu 3.1 General Ethernet Setup              |              |
| 30100001 = Input Protocol filters Set 1 = 256  |              |
| 30100002 = Input Protocol filters Set 2 = 256  |              |
| 30100003 = Input Protocol filters Set 3 = 256  |              |
| 30100004 = Input Protocol filters Set 4 = 256  |              |
| 30100005 = Input device filters Set 1 = 256    |              |
| 30100006 = Input device filters Set 2 = 256    |              |
| 30100007 = Input device filters Set 3 = 256    |              |
| 30100008 = Input device filters Set 4 = 256    |              |
| 30100009 = Output protocol filters Set 1 = 256 |              |
| 30100010 = Output protocol filters Set 2 = 256 |              |
| 30100011 = Output protocol filters Set 3 = 256 |              |
| 30100012 = Output protocol filters Set 4 = 256 |              |
| 30100013 = Output device filters Set 1 = 256   |              |
| 30100014 = Output device filters Set 2 = 256   |              |
| 30100015 = Output device filters Set 3 = 256   |              |
| 30100016 = Output device filters Set 4 = 256   |              |

# 5.6.3 Delete a Product Type

**Product Type > View > Delete** 

Administrators can delete a product and its settings from the server.

| Prod   | Product Type >> Product Type List |            |        |             |        |   |
|--|-----------------------------------|------------|--------|-------------|--------|---|
|  | Pr                                | oduct Type | List   |             |        |   |
| NO.  | Product Type                      |            |        | Action      |        | _ |
| 1  | P2002                             | Edit S     | etting | View SPTGEN | Delete |   |
| 2  | P2602HW-61                        | Edit S     | etting | View SPTGEN | Delete |   |
| 3  | P2602HW61                         | Edit S     | etting | View SPTGEN | Delete |   |
| 4  | P2602R                            | Edit S     | etting | View SPTGEN | Delete |   |
| First  Previous  Next  Last Current Page:1 Total Page(s):1 |                                   |            |        |             |        |   |
| Add a Product Type   |                                   |            |        |             |        |   |

Figure 23 Product Type List: Delete

Click **Delete** to display the following screen.

| Prod   | Product Type >> Product Type List |                               |          |  |  |
|--|-----------------------------------|-------------------------------|----------|--|--|
|  | Pro                               | duct Type List                |          |  |  |
| NO.  | Product Type                      | Action                        |          |  |  |
| 1  | P2002                             | Edit Settina View SPTGE       | N Delete |  |  |
| 2  | P200: Microso                     | ft Internet Explorer 🗵 PTGE   | N Delete |  |  |
| 3  | P2302 ?                           | Are you sure to delete ? PTGE | N Delete |  |  |
| 4  | P2602H\                           | PTGE                          | N Delete |  |  |
| 5  | P2602H                            | OK Cancel PTGE                | N Delete |  |  |
| 6  | P2602HV <mark>v⊑-01</mark>        | Ealt Setting View SPTGE       | N Delete |  |  |
| 7  | P2602R                            | Edit Setting View SPTGE       | N Delete |  |  |
| First  Previous  Next  Last Current Page:1 Total Page(s):1 |                                   |                               |          |  |  |
| Add a Product Type   |                                   |                               |          |  |  |

Figure 24 Product Type Delete

Click **OK** to remove the product from the server. Click **Cancel** to cancel the action.

### 5.6.4 Add a Product Type

#### **Product Type > View > Add a Product Type**

Administrators can add a new product type.

| Figure 25 | Product | Type List: Add |
|-----------|---------|----------------|
|-----------|---------|----------------|

| Prod   | Product Type >> Product Type List |                                 |  |  |  |
|--|-----------------------------------|---------------------------------|--|--|--|
|  | Product Type List                 |                                 |  |  |  |
| NO.  | Product Type                      | Action                          |  |  |  |
| 1  | P2002                             | Edit Setting View SPTGEN Delete |  |  |  |
| 2  | P2602HW-61                        | Edit Setting View SPTGEN Delete |  |  |  |
| 3  | P2602HW61                         | Edit Setting View SPTGEN Delete |  |  |  |
| 4  | P2602R                            | Edit Setting View SPTGEN Delete |  |  |  |
| First  Previous  Next  Last Current Page:1 Total Page(s):1 |                                   |                                 |  |  |  |
| Add a Product Type   |                                   |                                 |  |  |  |

Click the Add a Product Type button to display the following screen.

#### Figure 26 Product Type Add

| Product Type >> Add Product Type |                  | BHELP  |
|----------------------------------|------------------|--------|
|                                  | Add Product Type |        |
| Product Type*                    |                  |        |
| Import SPTGEN From               |                  | Browse |
|                                  | Submit Back      |        |

**1** You must enter a product name of up to 15 characters.

- **2** The **Import SPTGEN from** field can be empty. You may import a SPTGEN file later using the import function.
- **3** Click the **Submit** button to add a new product type into the server.

### 5.6.5 Import

#### **Product Type > Import**

Administrators can import a SPTGEN file associated with the selected product type. See Section 3.5 on page 25 for how to get an SPTGEN file from a device.

Figure 27 Import Product Type

| Product Type >>    | BHELP               |        |
|--------------------|---------------------|--------|
|                    | Import Product Type |        |
| Product Type*      | <b>•</b>            |        |
| Import SPTGEN From |                     | Browse |
|                    | Submit Back         |        |

- **1** You must select a product type from the drop-down list box.
- **2** You must select a valid SPTGEN file, the server will check the syntax. If the product already exists, all of its parameters will be overwritten by this action.

# 5.6.6 Notes on SPTGEN Files

It is recommended that your SPTGEN file only include VoIP and auto provisioning settings. It is not recommended to you include things like Internet access settings. For example, you would not want to assign the same PPPoE username and password to all of the auto-provisioned devices of the same product type.

Your SPTGEN file should include "/ Menu 1 General Setup" at the beginning.

Note: Make sure you remove any blank lines or extra spaces from the file.

The following example lists some key SIP account one settings as a sample. You can actually include all of the VoIP and auto provisioning settings. The auto provisioning server uses the information in the unit device file to specify individual account VoIP information even if you include it in the SPTGEN file.



```
/ Menu 1 General Setup
/ Menu 98.1.1 VoIP SIP #1 Setup
   980101001 = SIP #1 Active <0(No) | 1(Yes)> = 1
   980101002 = SIP #1 Server Address = 127.0.0.1
   980101003 = SIP #1 Server Port <1024~65535> = 5060
   980101004 = SIP #1 Registartion Server IP = 127.0.0.1
   980101005 = SIP #1 Registartion Server Port <1024~65535> = 5060
   980101006 = SIP #1 Registartion Expiration Time <2~65535> = 3600
   980101007 = SIP #1 Register ReSend Time <1~65535> = 180
   980101008 = SIP #1 Session Expire Time <30~3600> = 180
   980101009 = SIP #1 Local signaling Port <1024~65535> = 5060
   980101010 = SIP #1 RTP Port Range Start <1024~65535> = 50000
   980101011 = SIP #1 RTP Port Range End <1024~65535> = 65535
   980101012 = SIP #1 UserId = changeme
   980101013 = SIP #1 Password = *******
   980101014 = SIP #1 Phone Number = changeme
   980101015 = SIP #1 Minimun Session Expire Time <20~1800> = 30
   980101017 = SIP #1 Domain Name = 127.0.0.1
   980101022 = SIP #1 CODEC Type 1 <0(G711mu) |8(G711A) |18(G729)> = 0
   980101023 = SIP #1 CODEC Type 2 <0(G711mu) |8(G711A) |18(G729)> = 18
   980101024 = SIP #1 DTMF Key Type <0 (RFC 2833) |1(PCM) |2(SIP INFO)
|3(RFC 2833 LIKE SIP INFO)> = 0
   980101025 = SIP #1 Transport Type <0(UDP) |1(TCP)> = 0
   980101026 = SIP #1 Hide Caller ID <0(No) |1(Yes)> = 0
   980101027 = SIP #1 Auto Redial <0(No) |1(Yes)> = 0
   980101028 = SIP #1 STUN Server Active <0(No) | 1(Yes)> = 0
   980101029 = SIP #1 STUN Server Address =
   980101030 = SIP #1 STUN Server Port <1024~65535> = 0
   980101031 = SIP #1 Call Forward Index <1\sim4> = 1
   980101032 = SIP #1 Outbound Proxy Active <0 (No) | 1 (Yes) > = 0
   980101033 = SIP #1 Outbound Proxy Address =
   980101034 = SIP #1 Outbound Proxy Port <1024~65535> = 0
   980101035 = SIP #1 Outbound Proxy KA Active <0(No) | 1(Yes)> = 0
   980101036 = SIP \#1 Outbound Proxy KA Interval = 0
   980101037 = SIP #1 Session Timer Active <0(No) | 1(Yes)> = 0
   980101038 = SIP #1 Mapping to POTS Phone1 <0(No) | 1(Yes)> = 1
   980101039 = SIP #1 Mapping to POTS Phone2 <0(No) | 1(Yes)> = 1
```

### 5.6.7 Export to SPTGEN

**Product Type > Export to SPTGEN** 

Administrators can export an existing product and its parameters into an SPTGEN file.

| Figure 29 | Export Product | Туре |
|-----------|----------------|------|
|-----------|----------------|------|

| Product | t Type >> Export to SPTGEN | BHELP |
|---------|----------------------------|-------|
|         | Export to SPTGEN           |       |
|         | Product Type               |       |
|         | P2002                      |       |
|         | P2602HW-61                 |       |
|         | P2602HW61                  |       |
|         | P2602R                     |       |
|         | Export Back                |       |

Select at least one product and click **Export** to display the following screen.

Figure 30 Export Product Type Successful

| Produ | ict Type >> Exp | ort to SPTGEN               | <b>BHELP</b> |
|-------|-----------------|-----------------------------|--------------|
|       | E               | Export to SPTGEN            |              |
|       |                 | Product Type                |              |
|       | P2002           |                             |              |
|       | P2002L          | Microsoft Internet Explorer | ×            |
| ~     | P2302R          | Export Successfully!        |              |
|       | P2602HW-61      | _ <u>.</u>                  |              |
|       | P2602HW61       | ОК                          |              |
|       | P2602HWL-61     |                             |              |
|       | P2602R          |                             |              |
|       |                 | Export Back                 |              |

All the exported files will be stored in the directory home\apache2\hotdocs\PS\temp\ExporttoSPTGEN\.

The file will be named as ProductName.txt. For example, P2002.txt

# 5.7 Device Management

The device management tool allows you to view and delete individual VoIP subscriber devices and edit their settings.

### 5.7.1 Device Search

#### **Device Management > Unit Device**

You can search for a subscriber's device by entering its **MAC Address**, **SIP No.**, **User ID**, or **Product Type**. You must also select an item from **Product Type** drop-down list box, and the **Unit Device List** page will be displayed.

Note: "Unit Device" refers to subscriber devices.

Figure 31 Device Search

| Device Management >> Unit Device Search |               |  |  |  |
|---|---------------|--|--|--|
| Unit                                    | Device Search |  |  |  |
| MAC Address                             |               |  |  |  |
| SIP No.                                 |               |  |  |  |
| User ID                                 |               |  |  |  |
| Product Type                            |               |  |  |  |
| Registered/Unregistered                 |               |  |  |  |
| 2                                       | Search Clear  |  |  |  |

After entering appropriate information, click Search to display the following screen.

| Device Management >> Unit Device List |                  |              |             |           |             |                  | BHELP  |                    |  |
|---------------------------------------|------------------|--------------|-------------|-----------|-------------|------------------|--------|--------------------|--|
|                                       | Unit Device List |              |             |           |             |                  |        |                    |  |
| NO                                    | User ID          | Product Type | SIP No      | Password  | PIN Code    | MAC Address      | Locked | Action             |  |
| 1                                     | 093612345        | P2002        | 093612345   | 1234      | 1234        | 00A0C5001122     |        | Edit Delete DnLock |  |
| 2                                     | H99              | P2002        | 87920771    | 1234      | 1234        | 00A0C0000002     |        | Edit Delete UnLock |  |
| 3                                     | H101             | P2002        | 87920772    | 1234      | 1234        | 00A0C0000003     |        | Edit Delete UnLock |  |
| 4                                     | 10000002         | P2002        | 10000002    | 12345     | 29338       | 00A0C0000016     |        | Edit Delete UnLock |  |
| 5                                     | C01              | P2002        | 87920782    | 1234      | 1234        | 00A0C0000013     |        | Edit Delete UnLock |  |
| 6                                     | H01              | P2002        | 87920770    | 1234      | 1234        | 00A0C0000001     |        | Edit Delete UnLock |  |
| 7                                     | 20000001         | P2002        | 20000001    | 1234      | 1234        | 01A0C0000001     |        | Edit Delete UnLock |  |
| 8                                     | 20000004         | P2002        | 20000004    | 1234      | 1234        | 01A0C0000004     |        | Edit Delete UnLock |  |
| 9                                     | 20000003         | P2002        | 20000003    | 1234      | 1234        | 01A0C0000003     |        | Edit Delete UnLock |  |
| 10                                    | 20000002         | P2002        | 20000002    | 1234      | 1234        | 01A0C0000002     |        | Edit Delete UnLock |  |
|                                       |                  | Firs         | t  Previous | Next  Las | t Current I | Page:1 Total Pag | e(s):1 |                    |  |

Figure 32 Device List

Click Edit or Delete to modify or remove specified information for each device

### 5.7.2 Edit Device

#### **Device Management > Unit Device > Unit Device List > Edit**

Administrators can edit a subscriber's device settings by clicking Edit in the Unit Device List.

The following table lists details about the device fields.

| TEXT FIELD   | LIMITATION               |
|--------------|--------------------------|
| Product Type | Fixed, cannot be changed |
| User ID      | Maximum 20 characters    |
| Password     | Maximum 12 characters    |
| SIP NO.      | Must be 8 characters     |
| PIN Code     | Maximum 15 characters    |
| MAC Address  | Fixed, cannot be changed |

 Table 8
 Device Editing Details

Click the Edit button in the Device List screen, to display the following screen.

| Device Manageme | BHELP            |  |
|-----------------|------------------|--|
|                 | Edit Unit Device |  |
| Product Type    | P2002            |  |
| User ID *       | 093612345        |  |
| Password*       | ****             |  |
| SIP NO          | 093612345        |  |
| PIN Code        | 1234             |  |
| macAddress      | 00A0C5001122     |  |
|                 | Update Back      |  |

Figure 33 Edit Device

Administrators can update the settings by clicking Update. Click Back to cancel this action.

### 5.7.3 Delete Device

#### **Device Management > Unit Device > Unit Device List > Delete**

Administrators can delete device entries.

When you click the **Delete** button in the **Device List** screen, the following screen displays.

| De  | Device Management >> Unit Device List |   |         |                    |      |                 |              |        |                    |
|---|---------------------------------------|---|---------|--------------------|------|-----------------|--------------|--------|--------------------|
|   | Microsoft Internet Evplorer           |   |         |                    |      |                 |              |        |                    |
| NO  | User ID                               | - |         |                    | word | <b>PIN Code</b> | MAC Address  | Locked | Action             |
| 1   | slavo                                 | ? | Are you | u sure to delete ? | /0   | 1234            | 00A0C5D15C14 |        | Edit Delete UnLock |
| 2   | 1007                                  |   |         |                    | 17   | 1234            | 00A0C5F51F22 |        | Edit Delete UnLock |
| 3   | 1008                                  | 0 | К       | Cancel             | 18   | 1234            | 00A0C5F51F11 |        | Edit Delete UnLock |
| First   Previous   Next   Last Current Page:1 Total Page(s):1 |                                       |   |         |                    |      |                 |              |        |                    |

Figure 34 Delete Device

Click **OK** to remove the specified device from the server. Click **Cancel** to abort this action.

## 5.7.4 Unlock Device

#### **Device Management > Unit Device > Unit Device List > Unlock**

If a device sends 3 incorrect PIN codes consecutively in 10 minutes, the server locks the device. This means that the server will not accept any authentication attempts from the device (regardless of whether or not the PIN is correct) for a specific period of time (see Section 5.11.1 on page 70 for setting the lock time period). This feature deters unauthorized access through "brute force" hacking (repeated trial and error).

Administrators can unlock a locked device.

You can click the **UnLock** button when it is enabled as in the **Device List** screen, as in the following figure.

#### Figure 35 Unlock Device

| De | Device Management >> Unit Device List                         |              |           |          |          |               |        |                    |
|----|---|--------------|-----------|----------|----------|---------------|--------|--------------------|
|    | Unit Device List  |              |           |          |          |               |        |                    |
| NO | User ID   | Product Type | SIP No    | Password | PIN Code | MAC Address   | Locked | Action             |
| 1  | 093612345   | P2002        | 093612345 | 1234     | 1234     | 00A0C5001122  |        | Edit Delete UnLock |
| 2  | 30000911  | P2602HW61    | 30000911  | 1234     | 1234     | 300A0C0000911 | 8      | Edit Delete UnLock |
| 3  | 30000811  | P2602HW61    | 30000811  | 1234     | 1234     | 300A0C0000811 |        | Edit Delete UnLock |
|    | First   Previous   Next   Last Current Page:1 Total Page(s):1 |              |           |          |          |               |        |                    |

When you click the Unlock button, the specified device will be unlocked from the server.

### 5.7.5 Lock History

#### **Device Management > Lock History**

Administrators can view device lock history.

Click Lock History in the left menu to display the following screen.

| Dev | BHELP   |              |                     |                     |             |  |  |
|-----|---|--------------|---------------------|---------------------|-------------|--|--|
| L   | ocked Date:   | 2005 🗨 - 8 💌 | - 25 💌 ~ 2005 💌 - 8 | <b>▼</b> 25 ▼       |             |  |  |
| MA  | AC Address :  |              | Subrr               | iit                 |             |  |  |
|     | Lock History List   |              |                     |                     |             |  |  |
| NO. | MAC Address   | Phone Number | Locked Time         | UnLock Time         | UnLock User |  |  |
| 1   | 001349000006  | 10069321     | 2005-08-25 15:41:09 |                     |             |  |  |
| 2   | 001349000005  | 10000001     | 2005-08-25 15:40:54 |                     |             |  |  |
| 3   | 001349000008  | 10000008     | 2005-08-25 10:01:28 |                     |             |  |  |
| 4   | 001349000007  | 10000006     | 2005-08-25 09:55:39 | 2005-08-25 09:56:05 | Admin       |  |  |
|     | First   Previous   Next   Last Current Page:1 Total Page(s):1 |              |                     |                     |             |  |  |

Figure 36 Lock History

# 5.8 Account Management

The account management tool allows you to add, edit, view, and delete users of this server.

### 5.8.1 Add a Viewer

#### Account Management > Add a Viewer

Administrators can create a viewer account by entering the required text fields (Viewer ID, Viewer Name, Password and Retype Password). The other fields are optional (Telephone, E-Mail, Mobile Phone and Title).

| Figure | 37 | Add a | Viewer |
|--------|----|-------|--------|
|        |    |       |        |

| Account Management >> Add a Viewer |     |                  |  |  |
|------------------------------------|-----|------------------|--|--|
|                                    | Add | l a Viewer       |  |  |
| Viewer ID*                         |     | Viewer Name*     |  |  |
| Password*                          |     | Retype Password* |  |  |
| Telephone                          |     | E-Mail           |  |  |
| Mobile                             |     | Title            |  |  |
| Submit Clear                       |     |                  |  |  |

### 5.8.2 Viewer Search

#### Account Management > Edit a Viewer

User can search the viewers by viewer ID, viewer name, and e-mail address (leaving all the text fields blank will display all the viewer accounts).

| igaio do vienci courci |
|------------------------|
|------------------------|

| Account Mana | <b>HELP</b>   |  |  |  |  |
|--------------|---------------|--|--|--|--|
|              | Viewer Search |  |  |  |  |
| Viewer ID    |               |  |  |  |  |
| Viewer Name  |               |  |  |  |  |
| E-Mail       |               |  |  |  |  |
| Submit Reset |               |  |  |  |  |

When you click **Submit**, the system searches and displays the matching accounts.

| Figuro | 30 | Viewer | Liet |
|--------|----|--------|------|
| гідиге | 33 | viewei | LISI |

| Account Ma   | Account Management >> Edit a Viewer |             |         |             |  |  |
|--|-------------------------------------|-------------|---------|-------------|--|--|
|  | View List                           |             |         |             |  |  |
| NO.  | Viewer ID                           | Viewer Name | Status  | Action      |  |  |
| 1  | admin                               | Admin       | Active  |             |  |  |
| 2  | H21                                 | H01_N       | Active  | Edit Delete |  |  |
| 3  | Henry                               | Henry01     | Active  | Edit Delete |  |  |
| 4  | H55                                 | H55         | Active  | Edit Delete |  |  |
| 5  | H69                                 | Henry69     | Active  | Edit Delete |  |  |
| 6  | H101                                | _Henry101   | Active  | Edit Delete |  |  |
| 7  | ssssf                               | hhhdfsghfhs | Suspend | Edit Delete |  |  |
| First  Previous  Next  Last Current Page:1 Total Page(s):1 |                                     |             |         |             |  |  |

Click Edit to go to the Edit a Viewer screen. Click Delete to go to the Delete a Viewer screen.

# 5.8.3 Edit a Viewer

#### Account Management > Edit a Viewer > Viewer List > Edit

Administrators can edit a viewer's settings.

| Figure | 40 | Viewer Edit |
|--------|----|-------------|
|        | -  |             |

| Account Management >> Edit a Viewer |             |   |                  |         | ELP |  |
|-------------------------------------|-------------|---|------------------|---------|-----|--|
|                                     | Edit Viewer |   |                  |         |     |  |
| Viewer ID*                          | Henry       |   | Viewer Name*     | Henry01 |     |  |
| Password*                           | ****        | ] | Retype Password* | ****    |     |  |
| Telephone                           |             | ] | E-Mail           |         |     |  |
| Mobile                              |             | ] | Title            |         |     |  |
| Status                              |             |   |                  |         |     |  |
| Update Back                         |             |   |                  |         |     |  |

Click **Update** to update the information. The browser will go back to the previous screen if you click the **Back** button.

### 5.8.4 Delete a Viewer

#### Account Management > Edit a Viewer > Viewer List > Delete

Administrators can delete viewer accounts.

#### Figure 41 Viewer Delete

| ovune m | anagement 22 Et | iit a viewei             |        |             |
|---------|-----------------|--------------------------|--------|-------------|
|         |                 | View List                |        |             |
| NO.     | Viewer ID       | Viewer Name              | Status | Action      |
| 1       | admin           | Admin                    | Active |             |
| 2       | H21             |                          | Active | Edit Delete |
| 3       | Henry           | sont Internet Explorer   | Active | Edit Delete |
| 4       | н55 孝           | Are you sure to delete ? | Active | Edit Delete |
| 5       | Н69             |                          | Active | Edit Delete |
| 6       | H101            | OK Cancel                | Active | Edit Delete |
| 7       | cccc            | 000                      | Active | Edit Delete |
| 8       | studerus        | Paul                     | Active | Edit Delete |

Click **OK** to delete this viewer. The action will be cancelled, if you click **Cancel**.

### 5.8.5 Change Password

#### Account Management > Change Password

Use this function to change your password.

#### Figure 42 Change Password

| Account Management >> Change Password |                 |  |  |  |  |
|---------------------------------------|-----------------|--|--|--|--|
|                                       | Change Password |  |  |  |  |
| Old Password*                         |                 |  |  |  |  |
| New Password*                         |                 |  |  |  |  |
| Retype Password*                      |                 |  |  |  |  |
| Submit Back                           |                 |  |  |  |  |

After you enter the appropriate information, click **Update** to change your password. Click **Back** to return to the previous screen.

# 5.9 Information Center

The information center tool displays server statistics and other server information, such as system loading, users, and login history.

## 5.9.1 System Up Time

#### **Information Center > System Up Time**

This function shows the current system up time, the time since the first start up and a record of start and stop times.

| Figure 43 | System | Up Time |
|-----------|--------|---------|
|-----------|--------|---------|

| Info | Information Center >> System Up Time |                      |   |  |  |  |
|------|--------------------------------------|----------------------|---|--|--|--|
|      | System Up Time                       |                      |   |  |  |  |
| Curr | ent System Up Time: 2005.07          | 7.23-16:47:45 The Sy | stem has Started:3 Days 0 Hours 12 Minutes 39 Seconds |  |  |  |
|      |                                      | System Up Tim        | e History   |  |  |  |
| No.  | Launch Time                          | Stop Time            | The System has Started                                |  |  |  |
| 1    | Null                                 | 2005.07.21-02:27:17  | Unexpected Crash/Shut Down                            |  |  |  |
| 2    | 2005.07.21-02:30:23                  | Null                 | Unexpected Crash/Shut Down                            |  |  |  |
| 3    | 2005.07.21-07:19:55                  | Null                 | Unexpected Crash/Shut Down                            |  |  |  |
| 4    | 2005.07.21-21:12:37                  | 2005.07.22-10:52:20  | 0 Days 13 Hours 39 Minutes 43 Seconds                 |  |  |  |
| 5    | 2005.07.22-10:55:33                  | 2005.07.22-12:01:13  | 0 Days 1 Hours 5 Minutes 40 Seconds                   |  |  |  |
| 6    | 2005.07.22-12:04:26                  | 2005.07.22-14:59:29  | 0 Days 2 Hours 55 Minutes 3 Seconds                   |  |  |  |
| 7    | 2005.07.22-15:02:36                  | 2005.07.23-10:39:41  | 0 Days 19 Hours 37 Minutes 5 Seconds                  |  |  |  |
| 8    | 2005.07.23-10:42:52                  | 2005.07.23-16:31:27  | 0 Days 5 Hours 48 Minutes 35 Seconds                  |  |  |  |
| 9    | Null                                 | 2005.07.23-16:31:38  | Unexpected Crash/Shut Down                            |  |  |  |
| 10   | 2005.07.23-16:31:38                  | 2005.07.23-16:38:57  | 0 Days 0 Hours 7 Minutes 19 Seconds                   |  |  |  |
| 11   | Null                                 | 2005.07.23-16:39:03  | Unexpected Crash/Shut Down                            |  |  |  |
| 12   | 2005.07.23-16:39:04                  | 2005.07.23-16:42:42  | 0 Days 0 Hours 3 Minutes 38 Seconds                   |  |  |  |
| 13   | Null                                 | 2005.07.23-16:42:47  | Unexpected Crash/Shut Down                            |  |  |  |
| 14   | 2005.07.23-16:42:48                  | 2005.07.23-16:44:27  | 0 Days 0 Hours 1 Minutes 39 Seconds                   |  |  |  |
| 15   | Null                                 | 2005.07.23-16:44:32  | Unexpected Crash/Shut Down                            |  |  |  |
| 16   | 2005.07.23-16:44:32                  | 2005.07.23-16:47:39  | 0 Days 0 Hours 3 Minutes 7 Seconds                    |  |  |  |
| 17   | Null                                 | 2005.07.23-16:47:45  | Unexpected Crash/Shut Down                            |  |  |  |
| 18   | 2005.07.23-16:47:45                  |                      |   |  |  |  |
|      | Print                                |                      |   |  |  |  |

### 5.9.2 Loading Statistics

#### **Information Center > Loading Statistics**

Use this screen to display how many sessions (provisioning process only) have been requested from this server in a single day or a time period. Data is shown as the average number of sessions per hour of the day.

You can specify a time period (including dates and times).



Figure 44 Loading Statistics

### 5.9.3 New User Info

#### **Information Center > New User Info**

This screen displays the number of newly registered users per day.

You can specify a time period (including dates and times) for details.

| Information Center >> New User Info | BHELP                      |  |  |
|-------------------------------------|----------------------------|--|--|
| New User / Day                      |                            |  |  |
| Date : 2005 - 5 - 26 - ~            | 2005 🔽 _ 7 💌 _ 26 💌 Submit |  |  |
| Date                                | New User                   |  |  |
| 2005-07-06                          | 3                          |  |  |
| 2005-06-30                          | 997                        |  |  |
| 2005-06-24                          | 1                          |  |  |
| 2005-06-13                          | 2                          |  |  |
| 2005-06-09                          | 1                          |  |  |
| Back                                | Print                      |  |  |

| Figuro | 15 | Νοω  | lleor | Info  |
|--------|----|------|-------|-------|
| rigure | 45 | INEW | USEI  | IIIIO |

# 5.9.4 Registered Device Info

#### Information Center > Registered Device Info

This screen displays registered and unregistered device statistics in a pie chart diagram. Registered devices have already authenticated themselves with the auto provisioning server. Unregistered devices exist in the CRM server and have a subscriber profile in the CRM user database, but have not yet authenticated themselves with the auto provisioning server. The auto provisioning server gets the number of unregistered devices from the CRM server. You can also display statistics for a specific product type.



Figure 46 Registered Device Info

### 5.9.5 Login History

#### **Information Center > Login History**

This screen displays a record of who has logged into the server. You can also specify the login ID of a particular Admin or Viewer to display.

| Figure  | 47 | Login  | History |
|---------|----|--------|---------|
| i igaio |    | Logini | inotory |

| Information Center >> Login History |  |                           |  |  |
|-------------------------------------|--|---------------------------|--|--|
| Date :                              | 2005 • 7 • 26 • ~ 2005 • 7                                 | <ul> <li>■ 26 </li> </ul> |  |  |
| Login ID :                          | Submit   |                           |  |  |
| Login History List                  |  |                           |  |  |
| NO.                                 | Login ID   | Login Time                |  |  |
| 1                                   | admin  | 2005-07-26 11:01:25       |  |  |
| 2                                   | admin  | 2005-07-26 13:33:31       |  |  |
| 3                                   | admin  | 2005-07-26 13:39:09       |  |  |
| 4                                   | admin  | 2005-07-26 14:16:07       |  |  |
| 5                                   | admin  | 2005-07-26 15:35:56       |  |  |
| 6                                   | admin  | 2005-07-26 16:34:03       |  |  |
| Firs                                | First  Previous  Next  Last Current Page:1 Total Page(s):1 |                           |  |  |

# 5.10 System Maintenance

The system maintenance management tool allows you to import, backup, and restore your database.

### 5.10.1 Import Unit Device

#### System Maintenance > Import Unit Device

Administrators can import information for multiple devices from a text file.

The file information must use the following format:

MAC address, user ID, password, phone number, pin code, sip#

Note: Make sure you remove any blank lines from the file.

Figure 48 Unit Device File Example

```
#PRODUCT = P2602R
#DATA_START
00A0C5001132,Jim,1111,093612345,1234,1
00A0C5001132,Henry,1SDF3ASD,093600001,1234,1
00A0C5001134,Larry,RSDFASDC,093311111,1334,1
00A0C5001135,John Doe,141234D4,093311112,5234,1
00A0C5001136,Jessica Alba,ZXEF2334,093500001,6264,1
00A0C5001137,Jennifer Garner,xelfvd,093500044,8089,1
#DATA_END
```

#### Figure 49 Import Device Info

| System Maintenance >> Import Unit Device |              | BHELP  |
|--|--------------|--------|
| Import Unit Device                       |              |        |
| Please Choose A File                     |              | Browse |
|  | Submit Reset |        |

Choose a valid file and click **Submit** to import the device information stored in the file.

### 5.10.2 Database Backup

#### System Maintenance > Database Backup

Administrators can use this screen to backup the database. There are two backup modes:

- 1 Complete Backup Use this to backup the database immediately. The backup file will be stored in the directory home\apache2\hotdocs\*PS*\*bkup\mysql*\.
- **2** Schedule Backup Administrators can set the backup process to be triggered periodically or turn it off. The filenames will use the following format: YYYYMMDD-HH:MM:SS.sql

#### Figure 50 Database Backup

| System Maintenance >> Database Backup |                 |  |  |
|---------------------------------------|-----------------|--|--|
| Database Backup                       |                 |  |  |
| C Complete Backup                     | Schedule Backup |  |  |
| 1.                                    |                 |  |  |
| 2. O Weekly                           |                 |  |  |
| 3. C Monthly                          |                 |  |  |
| 4. O Off                              |                 |  |  |
|                                       | Backup Reset    |  |  |

### 5.10.3 Database Restore

#### System Maintenance > Database Restore

Administrators can use this screen to restore the database from a backup file.

#### Figure 51 Database Restore

| System Maintenance >> Database Restore |  |  |
|--|--|--|
| Database Restore                       |  |  |
| Please Choose A File                   |  |  |
| C 20050601-14_45_40.sql                |  |  |
| Restore                                |  |  |

# 5.11 Utilities

Utilities provides powerful tools to change server settings and export device settings from the database.

### 5.11.1 Configurations

#### **Utilities > Configuration**

Administrators can change the server's security settings.

- **1** Transfer Mode: Select **With 3DES** to apply triple DES encryption to the configuration files sent during the provisioning process. The default value is **Without 3DES**.
- **2** User locked Time: If a device sends 3 incorrect PIN codes consecutively in 10 minutes, the server locks the device. This means that the server will not accept any authentication attempts from the device (regardless of whether or not the PIN is correct). This parameter sets for how long it will be locked. Default value is 30 minutes. This feature deters unauthorized access through "brute force" hacking (repeated trial and error).



| Utilities >> Server Configuration  | <b>HELP</b> |  |
|--|-------------|--|
| Transfer Mode :  |             |  |
| Protocol   |             |  |
| • Without 3DES   |             |  |
| O With 3DES  |             |  |
| User locked time = This value determines how long locked device will be activated. |             |  |
| Set Default Save   |             |  |

### 5.11.2 Export Database as SPTGEN

#### **Utilities > Export DB as SPTGEN**

Administrators can export the SPTGEN files of products and devices from the database. They will be stored in directory **home\apache2\hotdocs\PS\temp\ExportDBasSPTGEN\**.

There are two options:

- **1** With 3DES: Select this to encrypt all of the device SPTGEN files by 3DES. The product type SPTGEN files will not be encrypted.
- **2** Without 3DES: Select this to export all of the SPTGEN files are plain text (not encrypted).

Figure 53 Export Database as SPTGEN

| 🥔 E: | cport Database as SPTGEN - Microsoft Internet Explorer | _ 🗆 🗙 | BigHELP      |
|------|--|-------|--------------|
|      |  | _     |              |
|      | Export DB as SPTGEN                                    |       |              |
|      | with 3DES without 3DES Cancel                          |       |              |
|      |  | _     |              |
|      |  |       | : activated. |
|      |  |       |              |
|      |  |       | Save         |
|      |  |       |              |
|      |  |       |              |
# CHAPTER 6 Using the Auto Provisioning Server

After you have installed the auto provisioning server and integrated it with the CRM system, do the following to prepare the auto provisioning server to configure VoIP devices.

- 1 Upload a file of SIP accounts (System Maintenance > Import Unit Device). See Section 5.10.1 on page 69 for the file format and an example file.
- 2 Upload an internal SPTGEN file for the type of VoIP device that you want to configure (**Product Type > Import**).
- **3** Configure the SPTGEN file with the desired VoIP and auto provisioning settings if you have not already done so (**Product Type > View > Edit Setting**).

# CHAPTER 7 Troubleshooting

1 When I use Export DB as SPTGEN with 3DES, the system freezes up.

3DES is a very powerful encryption algorithm and requires a lot of CPU power. It is suggested that you perform the function during an off-peak period or offline. It will be safer and won't affect usage performance.

**2** The hard disk storage is almost full.

Backup files will stay in the directory "**home**\**apache2**\**hotdocs**\**PS**\**bkup**\**mysql**\" unless deleted or moved. The system Administrator should be responsible for managing these files. When the hard disk storage approaches its limit, the system Administrator should archive (move) the files to another location.

If there is still not enough space, you should expand your storage space by adding new hardware.

**3** Why is it suggested to disable the Linux firewall on this server?

It is better to have a dedicated firewall device. This allows the server to dedicate more resources to the provisioning service.

**4** Is there any solution to provide redundant databases?

MySQL supports one-way replication. One server acts as the master, while one or more other servers act as slaves (refer to Figure 54 on page 76). The master server writes updates to its binary log files and maintains an index of the files to keep track of log rotation. These logs serve as a record of updates to be sent to slave servers. When a slave server connects to the master server, it informs the master of its last position within the logs since the last successfully propagated update. The slave gets any updates that have occurred since then, and then blocks and waits for the master to notify it of new updates.

A slave server can also serve as a master if you want to set up chained replication servers.

Note that when you are using replication, all updates to the tables that are replicated should be performed on the master server. Otherwise, you must always be careful to avoid conflicts between updates that users make to tables on the master and updates that they make to tables on the slave.

One-way replication has benefits for robustness, speed, and system administration:

• Robustness is increased with a master/slave setup. In the event of problems with the master, you can switch to the slave as a backup.

- Better response time for clients can be achieved by splitting the load for processing client queries between the master and slave servers. SELECT queries may be sent to the slave to reduce the query processing load of the master. Statements that modify data should still be sent to the master so that the master and slave do not get out of sync. This load-balancing strategy is effective if non-updating queries dominate, which is the normal case.
- Another benefit of using replication is that you can perform backups using a slave server without disturbing the master. The master continues to process updates while the backup is being made.



### Figure 54 Database Replication

# **APPENDIX A**

# **Auto Provisioning Service Flowchart**

This flow chart illustrates how the auto provisioning service (PS) handles a request from a device.

Figure 55 Auto Provisioning Flowchart



Authenticate Successfully, send SPT GEN file to device

# APPENDIX B Auto Provisioning Server System Configuration

The server is pre-configured. You can use it with the default settings. If you want to change these settings, you must log into the server's Linux command line as "root". The default password is "password". Modify settings in /var/www/html/PS/Public/Function/ Config.php.inc. This table lists and describes the variable names in the auto provisioning server system configuration.

| NO. | VARIABLE NAME                   | DESCRIPTION   | DEFAULT VALUE               |
|-----|---------------------------------|---|-----------------------------|
| 1   | \$mysql_server                  | MySQL hostname or IP address                                | localhost                   |
| 2   | \$user_id                       | MySQL user name   | root                        |
| 3   | \$user_password                 | MySQL password (only needed)                                |                             |
| 4   | \$database                      | Provisioning Server database name                           | provisioning                |
| 5   | \$database_connection_error_msg | database connection error message                           | database connect<br>failure |
| 6   | \$VSS_Server                    | http://localhost/VSS/ /WebService/<br>SubscriberService.php | http://localhost/VSS/       |
| 7   | \$ps_web_path                   | Provisioning Server Path                                    | /var/www/html/PS            |
| 8   | \$sys_logfile                   | Apache start and stop log file                              | /var/log/httpd.log          |
| 9   | \$ zyxel_3des_key               | Provisioning 3DES Key                                       | this is a secret key        |

| Table 9 | Auto Provisionina   | Server S | vstem | Configuration |
|---------|---------------------|----------|-------|---------------|
|         | / ato i rovisioning |          | yotom | Configuration |

# APPENDIX C Auto Provisioning Server Database Description

In some advanced scenarios, you might want to move the provisioning server's database to another server. The auto provisioning server uses a MySQL-based database.

The following tables describe the auto provisioning server's database structure.

| ID | COLUMN NAME | DATATYPE     | NULL | KEY | DEFAULT VALUE     | DESCRIPTION                        |
|----|-------------|--------------|------|-----|-------------------|------------------------------------|
| 1  | RowID       | int (11)     |      | PRI |                   | Auto_increment                     |
| 2  | macAddress  | varchar(100) |      |     |                   | Subscriber device mac address      |
| 3  | phoneNumber | varchar(50)  | Yes  |     |                   | Phone number                       |
| 4  | LockTime    | timestamp    | Yes  |     | CURRENT_TIMESTAMP | When the device was locked         |
| 5  | LockMinutes | int(11)      |      |     | 0                 | How long the device will be locked |

Table 10 LockedDevice

## Table 11 LoginLog

| ID | COLUMN NAME | DATATYPE     | NULL | KEY | DEFAULT VALUE     | DESCRIPTION          |
|----|-------------|--------------|------|-----|-------------------|----------------------|
| 1  | RowID       | Int(11)      |      | PRI |                   | Auto_increment       |
| 2  | SessionID   | Varchar(100) |      |     |                   | Account's session ID |
| 3  | LoginID     | Varchar(100) |      |     |                   | Account ID           |
| 4  | LoginName   | Varchar(100) |      |     |                   | Account name         |
| 5  | LoginTime   | Datetime     |      |     | 00:00:00:00:00:00 | Login time           |
| 6  | LogoutTime  | Datetime     | Yes  |     | 00:00:00:00:00:00 | Logout time          |

Table 12 LoginLog

| ID | COLUMN NAME | DATATYPE     | NULL | KEY | DEFAULT VALUE | DESCRIPTION          |
|----|-------------|--------------|------|-----|---------------|----------------------|
| 1  | RowID       | Int(11)      |      | PRI |               | Auto_increment       |
| 2  | SessionID   | Varchar(100) |      |     |               | Account's session ID |
| 3  | LoginID     | Varchar(100) |      |     |               | Account ID           |

| ID | COLUMN NAME | DATATYPE     | NULL | KEY | DEFAULT VALUE     | DESCRIPTION  |
|----|-------------|--------------|------|-----|-------------------|--------------|
| 4  | LoginName   | Varchar(100) |      |     |                   | Account name |
| 5  | LoginTime   | Datetime     |      |     | 00:00:00:00:00:00 | Login time   |
| 6  | LogoutTime  | Datetime     | Yes  |     | 00:00:00:00:00:00 | Logout time  |

## Table 12 LoginLog (continued)

## Table 13 PinFailLog

| ID | COLUMN<br>NAME | DATATYPE     | NULL | KEY | DEFAULT VALUE     | DESCRIPTION                   |
|----|----------------|--------------|------|-----|-------------------|-------------------------------|
| 1  | RowID          | int (11)     |      | PRI |                   | Auto_increment                |
| 2  | macAddress     | varchar(100) |      |     |                   | Subscriber device MAC address |
| 3  | phoneNumber    | varchar(50)  | Yes  |     |                   | Phone number                  |
| 4  | PinFailTime    | timestamp    | Yes  |     | CUPPENT_TIMESTAMP | Pin fail time                 |
| 5  | PinErrMsg      | varchar(200) | Yes  |     |                   | Pin fail error message        |

## Table 14 ProductType

| ID | COLUMN NAME | DATATYPE     | NULL | KEY | DEFAULT VALUE | DESCRIPTION                    |
|----|-------------|--------------|------|-----|---------------|--------------------------------|
| 1  | ProductType | varchar(100) |      | PRI |               | Subscriber device product type |
| 2  | Memo        | varchar(100) | Yes  |     |               | Product type memo (reserved)   |

## Table 15 RequestLog

| ID | COLUMN NAME | DATATYPE     | NULL | KEY | DEFAULT VALUE     | DESCRIPTION                                       |
|----|-------------|--------------|------|-----|-------------------|---|
| 1  | RowID       | int (11)     |      | PRI |                   | auto_increment                                    |
| 2  | RequestDate | timestamp    | Yes  |     | CUPPENT_TIMESTAMP | Request date                                      |
| 3  | RequestPage | varchar(100) |      |     |                   | The page which is<br>requested(reserved)          |
| 4  | MACAddress  | varchar(100) | Yes  |     |                   | Mac address of<br>subscriber device<br>(reserved) |

| ID | COLUMN NAME    | DATATYPE     | NULL | KEY | DEFAULT VALUE | DESCRIPTION                                   |
|----|----------------|--------------|------|-----|---------------|---|
| 1  | Protocal       | varchar(100) |      |     |               | Provisioning protocol                         |
| 2  | PIN            | varchar(100) |      |     |               | Encrypted pin? (reserved)                     |
| 3  | MaximumBackup  | Int(11)      |      |     | 0             | Maximum backup file<br>(reserved)             |
| 4  | Userlockedtime | varchar(100) |      |     |               | How long the subscriber device will be locked |
| 5  | IsDefault      | varchar(100) |      |     | 0             | This setting is default or not.               |

 Table 16
 ServerConfiguration

## Table 17 SpecifySetting

| ID | COLUMN NAME | DATATYPE     | NULL | KEY | DEFAULT VALUE | DESCRIPTION                      |
|----|-------------|--------------|------|-----|---------------|----------------------------------|
| 1  | RowID       | int (11)     |      | PRI |               | auto_increment                   |
| 2  | UserID      | varchar(50)  |      |     |               | Subscriber ID                    |
| 3  | ProductType | varchar(100) |      |     |               | Subscriber device product type   |
| 4  | PhoneNumber | varchar(50)  |      | U   |               | Phone number                     |
| 5  | Password    | varchar(50)  |      |     |               | Password                         |
| 6  | PINCode     | varchar(50)  |      |     |               | PIN code                         |
| 7  | MACAddress  | varchar(100) |      |     |               | MAC address                      |
| 8  | Flag        | Char(1)      |      |     | 0             | Provisioned or not<br>(reserved) |
|    |             |              |      |     |               | 0: un-provisioned                |
|    |             |              |      |     |               | 1: provisioned                   |
| 9  | SIPOrder    | Int(11)      |      |     | 1             | SIP order (CPE Port#)            |

## Table 18 Sptgen

| ID | COLUMN NAME    | DATATYPE     | NULL | KEY | DEFAULT VALUE | DESCRIPTION  |
|----|----------------|--------------|------|-----|---------------|--|
| 1  | AttributeNO    | varchar(100) | Yes  |     |               | Attribute number   |
| 2  | Attribute      | varchar(250) | Yes  |     |               | Attribute  |
| 3  | AttributeValue | varchar(250) | Yes  |     |               | Attribute value  |
| 4  | ProductType    | varchar(100) | Yes  |     | P2002         | Subscriber device product type   |
| 5  | GroupID        | int (11)     | Yes  |     |               | Product type group ID. Refer<br>to <b>GroupID</b> in Table 19 on<br>page 84. |
| 6  | RowID          | int (11)     |      | PRI |               | auto_increment   |

Table 19 Sptgengroup

| ID | COLUMN NAME     | DATATYPE     | NULL | KEY | DEFAULT VALUE | DESCRIPTION                          |
|----|-----------------|--------------|------|-----|---------------|--------------------------------------|
| 1  | RowID           | int (11)     |      | PRI |               | auto_increment                       |
| 2  | ProductType     | varchar(100) |      |     |               | Product type of<br>subscriber device |
| 3  | SPTGenGroupName | varchar(100) |      |     |               | Group name of product type           |
| 4  | GroupID         | int(11)      | Yes  |     |               | Group ID of product type             |

### Table 20 UnLockedDevice

| ID | COLUMN<br>NAME | DATATYPE     | NULL | KEY | DEFAULT VALUE     | DESCRIPTION                                    |
|----|----------------|--------------|------|-----|-------------------|--|
| 1  | RowID          | int (11)     |      | PRI |                   | Auto_increment                                 |
| 2  | macAddress     | varchar(100) |      |     |                   | Subscriber device mac address                  |
| 3  | phoneNumber    | varchar(50)  | Yes  |     |                   | Phone number                                   |
| 4  | LockTime       | datetime     |      |     | CURRENT_TIMESTAMP | When the device was locked                     |
| 5  | LockMinutes    | int(11)      |      |     | 0                 | How long the device will<br>be locked          |
| 6  | UnLockTime     | timestamp    |      |     |                   |  |
| 7  | UnLockUser     | varchar(20)  | Yes  |     |                   | Refer to <b>UserID</b> in Table 21 on page 84. |

## Table 21 User

| ID | COLUMN NAME | DATATYPE    | NULL | KEY | DEFAULT VALUE | DESCRIPTION                             |
|----|-------------|-------------|------|-----|---------------|---|
| 1  | UserID      | varchar(20) |      | Pri |               | Account name                            |
| 2  | Password    | varchar(20) |      |     |               | Password                                |
| 3  | UserName    | varchar(20) |      |     |               | User name                               |
| 4  | EMail       | varchar(50) |      |     |               | Email                                   |
| 5  | Phone       | varchar(50) | Yes  |     |               | Phone                                   |
| 6  | Mobile      | varchar(50) | Yes  |     |               | Mobile                                  |
| 7  | Title       | varchar(50) | Yes  |     |               | Title                                   |
| 8  | UserType    | Char(1)     |      |     | 2             | Account's type<br>1: Admin<br>2: Viewer |

| ID | COLUMN NAME | DATATYPE  | NULL | KEY | DEFAULT VALUE     | DESCRIPTION                                 |
|----|-------------|-----------|------|-----|-------------------|---|
| 9  | Status      | Char(1)   |      |     | A                 | Account's status<br>A: Active<br>S: Suspend |
| 10 | CreateDate  | timestamp | Yes  |     | CURRENT_TIMESTAMP | Account's creation date                     |

## Table 21User (continued)

# APPENDIX D Sample CRM Server Database Description

These tables describe the database structure of the VoIP Subscribing System (VSS) sample CRM server software.

| ID | COLUMN NAME    | DATATYPE    | NULL | KEY | DEFAULT VALUE | COMMENT                      |
|----|----------------|-------------|------|-----|---------------|------------------------------|
| 1  | UserID         | varchar(50) | No   | PRI |               |                              |
| 2  | CardType       | varchar(50) | No   |     |               | Credit card type             |
| 3  | CardNumber     | varchar(50) | No   |     |               | Credit card number           |
| 4  | ExpirationDate | varchar(20) | No   |     |               | Credit card expiration date  |
| 5  | HolderName     | varchar(50) | No   |     |               | Credit card holder's name    |
| 6  | SecurityID     | varchar(50) | No   |     |               | Security code of credit card |

#### Table 22 Creditcard

### Table 23 Itspphone

| ID | COLUMN NAME | DATATYPE      | NULL | KEY | DEFAULT VALUE | COMMENT          |
|----|-------------|---------------|------|-----|---------------|------------------|
| 1  | PhoneNumber | Varchar(50)   | No   | PRI |               | SIP phone number |
| 2  | Price       | Decimal(19,4) | Yes  |     | Null          | Price            |
| 3  | State       | char(1)       | No   |     |               | Status           |
|    |             |               |      |     |               | 1: unused        |
|    |             |               |      |     |               | 2: used          |
| 4  | Comment     | Varchar(50)   | Yes  |     | Null          | Comment          |

## Table 24 Subscriber

| ID | COLUMN NAME  | DATATYPE     | NULL | KEY | DEFAULT<br>VALUE | COMMENT               |
|----|--------------|--------------|------|-----|------------------|-----------------------|
| 1  | SubscriberID | Int(11)      | No   | PRI |                  | Subscriber index      |
| 2  | UserID       | Varchar(100) | No   |     |                  | User's account name   |
| 3  | MACAddress   | Varchar(50)  | No   |     |                  | MAC address           |
| 4  | PhoneNumber  | Varchar(50)  | No   | U   |                  | Phone number          |
| 5  | SIPOrder     | Int(11)      | NO   |     | 1                | SIP order (CPE Port#) |
| 6  | Password     | Varchar(50)  | Yes  |     | NULL             | Password              |

| ID | COLUMN NAME     | DATATYPE     | NULL | KEY | DEFAULT<br>VALUE       | COMMENT   |
|----|-----------------|--------------|------|-----|------------------------|---|
| 7  | EMail           | Varchar(50)  | Yes  |     | NULL                   | E-mail  |
| 8  | FirstName       | Varchar(50)  | Yes  |     | NULL                   | First name  |
| 9  | LastName        | Varchar(50)  | Yes  |     | NULL                   | Last name   |
| 10 | CurrentPhone    | Varchar(50)  | Yes  |     | NULL                   | Current phone   |
| 11 | Occupation      | Varchar(50)  | Yes  |     | NULL                   | Occupation  |
| 12 | StreetAddress   | longtext     | Yes  |     | NULL                   | Street address  |
| 13 | City            | Varchar(50)  | Yes  |     | NULL                   | City  |
| 14 | Province        | Varchar(50)  | Yes  |     | NULL                   | Province  |
| 15 | Country         | Varchar(50)  | Yes  |     | NULL                   | Country   |
| 16 | ZipCode         | Varchar(50)  | Yes  |     | NULL                   | Zip code  |
| 17 | PaymentMethod   | Varchar(50)  | Yes  |     | NULL                   | Payment method  |
| 18 | ResidentialPlan | Varchar(50)  | Yes  |     | NULL                   | Residential plan  |
| 19 | PINCode         | Varchar(50)  | Yes  |     | NULL                   | PIN code  |
| 20 | CreateType      | Varchar(50)  | Yes  |     | NULL                   | Account create type<br>1: User-registered<br>2: Created by administrator<br>(for reserve) |
| 21 | CreateDate      | timestamp    | Yes  |     | CURRENT_TIME<br>STAMP  | Account create date (for reserve)   |
| 22 | CreatePerson    | Varchar(50)  | Yes  |     | NULL                   | Account create person (for reserve)   |
| 23 | ModifyDate      | Datetime     | Yes  |     | 0000-00-00<br>00:00:00 | Last modified date (for reserve)  |
| 24 | ModifPerson     | Varchar(50)  | Yes  |     | NULL                   | Last modified person (for reserve)  |
| 25 | State           | char(1)      | Yes  |     | 0                      | Status<br>1: Provisioned<br>2: Unprovisioned  |
| 26 | BusinessPlan    | Varchar(100) | Yes  |     | NULL                   | Business plan   |

 Table 24
 Subscriber

## Table 25 Unitdevice

| ID | COLUMN NAME | DATATYPE     | NULL | KEY | DEFAULT VALUE | COMMENT                                    |
|----|-------------|--------------|------|-----|---------------|--|
| 1  | RowID       | Int(6)       |      | PRI |               | Subscriber device index                    |
| 2  | MACAddress  | Varchar(50)  |      |     |               | MAC address                                |
| 3  | ProductType | Varchar(100) |      |     |               | Product type                               |
| 4  | State       | char(1)      |      |     | 1             | Status<br>1: Unregistered<br>2: Registered |

# APPENDIX E VoIP Provisioning Server SOAP Description

This appendix describes how the ZyXEL auto provisioning server uses SOAP to communicate with the CRM system. Use this information when you integrate the ZyXEL auto provisioning server with the CRM system.

# setSubScriberRegistered Method

This is how the auto provisioning server synchronizes with the CRM server to provision a subscriber device for the first time.

| ID | PARAMETER NAME | DATA TYPE | COMMENT                     |
|----|----------------|-----------|-----------------------------|
| 1  | deviceModel    | string    | Device model (product type) |
| 2  | phoneNumber    | string    | Phone number                |
| 3  | macAddress     | string    | MAC address                 |

| Table 26 | setSubScriberRegistered | Method | Input |
|----------|-------------------------|--------|-------|
|----------|-------------------------|--------|-------|

Table 27 setSubScriberRegistered Method Output

| ID | PARAMETER NAME | DATA TYPE | NULL | KEY | DEFAULT VALUE | COMMENT |
|----|----------------|-----------|------|-----|---------------|---------|
|    |                |           |      |     |               | none    |

## **SOAP Request & Response Sample**

### Request

#### Response

```
<?xml version="1.0" encoding="ISO-8859-1"?>
	<SOAP-ENV:Envelope SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/
soap/encoding/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/
2001/XMLSchema-instance" xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/
encoding/" xmlns:si="http://soapinterop.org/xsd">
	<SOAP-ENV:Body>
		<soAP-ENV:Body>
			<nsl:setSubScriberRegisteredResponse xmlns:nsl="http://
tempuri.org"></nsl:setSubScriberRegisteredResponse
		</SOAP-ENV:Body>
		</SOAP-ENV:Body>
		</SOAP-ENV:Body>
		</SOAP-ENV:Body>
		</SOAP-ENV:Envelope>
```

# getTotalUnregistered Method

This is how the auto provisioning server gets the number of unregistered subscriber devices from the CRM server.

| ID | PARAMETER NAME | DATA TYPE | COMMENT          |
|----|----------------|-----------|------------------|
| 1  | ProductType    | string    | Product type     |
| 2  | SIPNO          | string    | SIP phone number |
| 3  | UserID         | string    | User ID          |
| 4  | macAddress     | string    | MAC Address      |

|  | Table 28 | getTotalUnregistered | Method | Input |
|--|----------|----------------------|--------|-------|
|--|----------|----------------------|--------|-------|

| Table 29 | getTotalUnregistered | Method Output |
|----------|----------------------|---------------|
|----------|----------------------|---------------|

| ID | PARAMETER NAME | DATA TYPE | COMMENT                                      |
|----|----------------|-----------|--|
| 1  | nums           | string    | The amount of the unregistered unit devices. |

## **SOAP Request & Response Sample**

#### Request

```
<?xml version="1.0" encoding="ISO-8859-1"?>
   <SOAP-ENV:Envelope SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/
soap/encoding/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/
2001/XMLSchema-instance" xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/
encoding/" xmlns:si="http://soapinterop.org/xsd">
      <SOAP-ENV:Body>
        <ns6358:getTotalUnregisteredUnitDevice xmlns:ns6358="http://
tempuri.org">
          <ProductType xsi:type="xsd:string">
           P2002
          </ProductType>
          <SIPNO xsi:type="xsd:string"></SIPNO>
          <UserID xsi:type="xsd:string"></UserID>
          <macAddress xsi:type="xsd:string"></macAddress>
        </ns6358:getTotalUnregisteredUnitDevice>
      </SOAP-ENV:Body>
   </SOAP-ENV:Envelope>
```

### Response

```
<?xml version="1.0" encoding="ISO-8859-1"?>
    <SOAP-ENV:Envelope SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/
soap/encoding/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/
2001/XMLSchema-instance" xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/
encoding/" xmlns:si="http://soapinterop.org/xsd">
      <SOAP-ENV:Body>
        <ns1:getTotalUnregisteredUnitDeviceResponse xmlns:ns1="http://
tempuri.org">
          <return xsi:type="SOAP-ENC:Array" SOAP-
ENC:arrayType="unnamed_struct_use_soapval[1]">
            <item>
              <soapVal xsi:type="xsd:string">
                16
              </soapVal>
              <nums xsi:type="xsd:string">
                16
              </nums>
            </item>
          </return>
        </nsl:getTotalUnregisteredUnitDeviceResponse>
      </SOAP-ENV:Body>
    </SOAP-ENV:Envelope>
```

# getTotalSubScriber Method

This is how the auto provisioning server gets the number of subscribers with a specified product type (from the CRM server).

Table 30 getTotalSubScriber Method Input

| ID | PARAMETER NAME | DATA TYPE | COMMENT      |
|----|----------------|-----------|--------------|
| 1  | ProductType    | string    | Product type |

 Table 31
 getTotalSubScriber Method Output

| ID | PARAMETER NAME | DATA TYPE | COMMENT  |
|----|----------------|-----------|--|
| 1  | totalnums      | string    | The amount of the specified product type subscribers |

## **SOAP Request & Response Sample**

## Request

```
<?xml version="1.0" encoding="ISO-8859-1"?>
        <SOAP-ENV:Envelope SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/soap/envelope/"
soap/encoding/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/
2001/XMLSchema-instance" xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/
encoding/" xmlns:si="http://soapinterop.org/xsd">
        <SOAP-ENV:Body>
        <SOAP-ENV:Body>
        <soap250:getTotalSubScriber xmlns:ns9250="http://tempuri.org">
        </soap250:getTotalSubScriber xmlns:ns9250="http://tempuri.org">
        </soap250:getTotalSubScriber>
        </soap250:getTotalSubScriber>
        </soap2001/SubScriber>
        </so
```

### Response

```
<?xml version="1.0" encoding="ISO-8859-1"?>
   <SOAP-ENV:Envelope SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/</pre>
soap/encoding/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/
2001/XMLSchema-instance" xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/
encoding/" xmlns:si="http://soapinterop.org/xsd">
      <SOAP-ENV:Body>
        <ns1:getTotalSubScriberResponse xmlns:ns1="http://tempuri.org">
          <return xsi:type="SOAP-ENC:Array" SOAP-
ENC:arrayType="unnamed struct use soapval[1]">
            <item>
              <soapVal xsi:type="xsd:string">
                18
              </soapVal>
              <totalnums xsi:type="xsd:string">
                18
              </totalnums>
            </item>
          </return>
        </nsl:getTotalSubScriberResponse>
      </SOAP-ENV:Body>
    </SOAP-ENV:Envelope>
```

## getPageUnregisteredUnitDevice Method

This is how the auto provisioning server gets a list of the unregistered subscriber devices (by search keyword and current page number) from the CRM server.

| ID | PARAMETER NAME | DATA TYPE | COMMENT                        |
|----|----------------|-----------|--------------------------------|
| 1  | ProductType    | string    | Product type                   |
| 2  | SIPNO          | string    | SIP phone number               |
| 3  | UserID         | string    | User ID                        |
| 4  | macAddress     | string    | MAC address                    |
| 5  | intCurPage     | string    | Current page number            |
| 6  | pageSize       | string    | Number of the devices per page |

Table 32 getPageUnregisteredUnitDevice Method Input

 Table 33
 getPageUnregisteredUnitDevice Method Output

| ID | PARAMETER NAME | DATA TYPE | COMMENT      |
|----|----------------|-----------|--------------|
| 1  | rowid          | string    | Row ID       |
| 2  | userid         | string    | User ID      |
| 3  | producttype    | string    | Product type |
| 4  | phonenumber    | string    | Phone number |

| ID | PARAMETER NAME | DATA TYPE | COMMENT     |
|----|----------------|-----------|-------------|
| 5  | password       | string    | Password    |
| 6  | pincode        | string    | PIN code    |
| 7  | macaddress     | string    | Mac address |

 Table 33
 getPageUnregisteredUnitDevice Method Output

## **SOAP Request & Response Sample**

### Request

```
<?xml version="1.0" encoding="ISO-8859-1"?>
    <SOAP-ENV:Envelope SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/
soap/encoding/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/
2001/XMLSchema-instance" xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/
encoding/" xmlns:si="http://soapinterop.org/xsd">
      <SOAP-ENV:Body>
        <ns7639:getPageUnregisteredUnitDevice xmlns:ns7639="http://
tempuri.org">
          <ProductType xsi:type="xsd:string">
           P2002
          </ProductType>
          <SIPNO xsi:type="xsd:string"></SIPNO>
          <UserID xsi:type="xsd:string"></UserID>
          <macAddress xsi:type="xsd:string"></macAddress>
          <intCurPage xsi:type="xsd:int">
            1
          </intCurPage>
          <pageSize xsi:type="xsd:int">
            20
          </pageSize>
        </ns7639:getPageUnregisteredUnitDevice>
      </SOAP-ENV:Body>
    </SOAP-ENV:Envelope>
```

### Response

```
<?xml version="1.0" encoding="ISO-8859-1"?>
    <SOAP-ENV:Envelope SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/
soap/encoding/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/
2001/XMLSchema-instance" xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/
encoding/" xmlns:si="http://soapinterop.org/xsd">
      <SOAP-ENV:Body>
        <ns1:getPageUnregisteredUnitDeviceResponse xmlns:ns1="http://
tempuri.org">
          <return xsi:type="SOAP-ENC:Array" SOAP-
ENC:arrayType="unnamed_struct_use_soapval[16]">
            <item>
              <soapVal xsi:type="xsd:string">
                4
              </soapVal>
              <rowid xsi:type="xsd:string">
                4
              </rowid>
              <soapVal xsi:type="xsd:string">
                H01
              </soapVal>
              <userid xsi:type="xsd:string">
                H01
              </userid>
              <soapVal xsi:type="xsd:string">
                P2002
              </soapVal>
              <producttype xsi:type="xsd:string">
                P2002
              </producttype>
              <soapVal xsi:type="xsd:string">
                87920770
              </soapVal>
              <phonenumber xsi:type="xsd:string">
                87920770
              </phonenumber>
              <soapVal xsi:type="xsd:string">
                1234
              </soapVal>
              <password xsi:type="xsd:string">
                1234
              </password>
              <soapVal xsi:type="xsd:string">
                1234
              </soapVal>
              <pincode xsi:type="xsd:string">
                1234
              </pincode>
              <soapVal xsi:type="xsd:string">
                00A0C000001
              </soapVal>
              <macaddress xsi:type="xsd:string">
                00A0C000001
              </macaddress>
            </item>
            <item>
```

```
<soapVal xsi:type="xsd:string">
    6
  </soapVal>
  <rowid xsi:type="xsd:string">
    6
  </rowid>
  <soapVal xsi:type="xsd:string">
    H102
  </soapVal>
  <userid xsi:type="xsd:string">
    H102
  </userid>
  <soapVal xsi:type="xsd:string">
    P2002
  </soapVal>
  <producttype xsi:type="xsd:string">
    P2002
  </producttype>
  <soapVal xsi:type="xsd:string">
    87920773
  </soapVal>
  <phonenumber xsi:type="xsd:string">
    87920773
  </phonenumber>
 <soapVal xsi:type="xsd:string">
    1234
  </soapVal>
  <password xsi:type="xsd:string">
    1234
  </password>
 <soapVal xsi:type="xsd:string">
    1234
  </soapVal>
  <pincode xsi:type="xsd:string">
    1234
  </pincode>
  <soapVal xsi:type="xsd:string">
    00A0C000003
  </soapVal>
  <macaddress xsi:type="xsd:string">
    00A0C000003
  </macaddress>
</item>
<item>
  <soapVal xsi:type="xsd:string">
 </soapVal>
  <rowid xsi:type="xsd:string">
   7
  </rowid>
  <soapVal xsi:type="xsd:string">
   H104
  </soapVal>
  <userid xsi:type="xsd:string">
   H104
  </userid>
  <soapVal xsi:type="xsd:string">
    P2002
  </soapVal>
```

```
<producttype xsi:type="xsd:string">
    P2002
  </producttype>
  <soapVal xsi:type="xsd:string">
    87920774
  </soapVal>
  <phonenumber xsi:type="xsd:string">
    87920774
  </phonenumber>
  <soapVal xsi:type="xsd:string">
    1234
  </soapVal>
  <password xsi:type="xsd:string">
    1234
  </password>
  <soapVal xsi:type="xsd:string">
    1234
  </soapVal>
  <pincode xsi:type="xsd:string">
    1234
  </pincode>
  <soapVal xsi:type="xsd:string">
    00A0C000004
  </soapVal>
  <macaddress xsi:type="xsd:string">
    00A0C000004
  </macaddress>
</item>
<item>
  <soapVal xsi:type="xsd:string">
    8
  </soapVal>
  <rowid xsi:type="xsd:string">
    8
  </rowid>
  <soapVal xsi:type="xsd:string">
   H105
  </soapVal>
  <userid xsi:type="xsd:string">
   H105
  </userid>
  <soapVal xsi:type="xsd:string">
    P2002
  </soapVal>
  <producttype xsi:type="xsd:string">
    P2002
  </producttype>
  <soapVal xsi:type="xsd:string">
    87920775
  </soapVal>
  <phonenumber xsi:type="xsd:string">
    87920775
  </phonenumber>
  <soapVal xsi:type="xsd:string">
    1234
  </soapVal>
  <password xsi:type="xsd:string">
    1234
  </password>
```

```
<soapVal xsi:type="xsd:string">
    1234
  </soapVal>
  <pincode xsi:type="xsd:string">
    1234
  </pincode>
  <soapVal xsi:type="xsd:string">
    00A0C000005
  </soapVal>
  <macaddress xsi:type="xsd:string">
    00A0C000005
  </macaddress>
</item>
<item>
  <soapVal xsi:type="xsd:string">
    9
  </soapVal>
  <rowid xsi:type="xsd:string">
    9
  </rowid>
  <soapVal xsi:type="xsd:string">
   H106
  </soapVal>
  <userid xsi:type="xsd:string">
   H106
  </userid>
  <soapVal xsi:type="xsd:string">
    P2002
  </soapVal>
  <producttype xsi:type="xsd:string">
    P2002
  </producttype>
  <soapVal xsi:type="xsd:string">
    87920776
  </soapVal>
  <phonenumber xsi:type="xsd:string">
    87920776
  </phonenumber>
  <soapVal xsi:type="xsd:string">
    1234
  </soapVal>
  <password xsi:type="xsd:string">
    1234
  </password>
  <soapVal xsi:type="xsd:string">
    1234
  </soapVal>
  <pincode xsi:type="xsd:string">
    1234
  </pincode>
  <soapVal xsi:type="xsd:string">
    00A0C0000006
  </soapVal>
  <macaddress xsi:type="xsd:string">
    00A0C000006
  </macaddress>
</item>
<item>
  <soapVal xsi:type="xsd:string">
```

```
10
  </soapVal>
  <rowid xsi:type="xsd:string">
    10
  </rowid>
  <soapVal xsi:type="xsd:string">
    H107
  </soapVal>
  <userid xsi:type="xsd:string">
    H107
  </userid>
  <soapVal xsi:type="xsd:string">
    P2002
  </soapVal>
  <producttype xsi:type="xsd:string">
    P2002
  </producttype>
  <soapVal xsi:type="xsd:string">
    87920777
  </soapVal>
  <phonenumber xsi:type="xsd:string">
    87920777
  </phonenumber>
  <soapVal xsi:type="xsd:string">
    1234
  </soapVal>
  <password xsi:type="xsd:string">
    1234
  </password>
  <soapVal xsi:type="xsd:string">
    1234
  </soapVal>
  <pincode xsi:type="xsd:string">
    1234
  </pincode>
  <soapVal xsi:type="xsd:string">
    00A0C000007
  </soapVal>
  <macaddress xsi:type="xsd:string">
    00A0C000007
  </macaddress>
</item>
<item>
  <soapVal xsi:type="xsd:string">
    11
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```

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  </soapVal>
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  </producttype>
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    1234
  </soapVal>
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    1234
  </pincode>
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    00A0C000011
  </soapVal>
  <macaddress xsi:type="xsd:string">
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  </soapVal>
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```

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  </soapVal>
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  </soapVal>
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    10000000
  </userid>
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  </soapVal>
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    12345
  </password>
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    10875
```

```
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    20
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```

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  </pincode>
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    00A0C000019
  </soapVal>
  <macaddress xsi:type="xsd:string">
    00A0C000019
```

```
</macaddress>
</item>
</return>
</ns1:getPageUnregisteredUnitDeviceResponse>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

## getNewSubScriberByDate Method

This is how the auto provisioning server gets the number of new subscribers for a specified time period from the CRM server.

Table 34 getNewSubScriberByDate Method Input

| ID | PARAMETER NAME | DATA TYPE | COMMENT                       |
|----|----------------|-----------|-------------------------------|
| 1  | startDate      | string    | Start date, YYYY/MM/DD format |
| 2  | endDate        | string    | End date, YYYY/MM/DD format   |

 Table 35
 getNewSubScriberByDate Method Output

| ID | PARAMETER NAME | DATA TYPE | COMMENT  |
|----|----------------|-----------|--|
| 1  | createdate     | string    | Date   |
| 2  | nums           | string    | The amount of the registered subscribers for each date |

## **SOAP Request & Response Sample**

#### Request

```
<?xml version="1.0" encoding="ISO-8859-1"?>
   <SOAP-ENV:Envelope SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/
soap/encoding/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/
2001/XMLSchema-instance" xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/
encoding/" xmlns:si="http://soapinterop.org/xsd">
      <SOAP-ENV:Body>
        <ns3783:getNewSubScriberByDate xmlns:ns3783="http://tempuri.org">
          <startDate xsi:type="xsd:string">
            2005/5/24
          </startDate>
          <endDate xsi:type="xsd:string">
            2005/5/24
          </endDate>
        </ns3783:getNewSubScriberByDate>
      </SOAP-ENV:Body>
    </SOAP-ENV:Envelope>
```

### Response

```
<?xml version="1.0" encoding="ISO-8859-1"?>
    <SOAP-ENV:Envelope SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/
soap/encoding/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/
2001/XMLSchema-instance" xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/
encoding/" xmlns:si="http://soapinterop.org/xsd">
      <SOAP-ENV:Body>
        <ns1:getNewSubScriberByDateResponse xmlns:ns1="http://tempuri.org">
          <return xsi:type="SOAP-ENC:Array" SOAP-
ENC:arrayType="unnamed struct use soapval[1]">
            <item>
              <soapVal xsi:type="xsd:string">
                05/05/24
              </soapVal>
              <createdate xsi:type="xsd:string">
                05/05/24
              </createdate>
              <soapVal xsi:type="xsd:string">
                4
              </soapVal>
              <nums xsi:type="xsd:string">
                4
              </nums>
            </item>
          </return>
        </nsl:getNewSubScriberByDateResponse>
      </SOAP-ENV:Body>
    </SOAP-ENV:Envelope>
```
# **APPENDIX F** Configuration File Example

This is a sample auto provisioning server configuration file. File Name: Config.php

```
//MySQL server setup
//== Start ==
$mysql server = '192.168.11.224';
$user id = 'admin';
$user password = '1234';
$database = 'provisioning';
// Error message of database connection
$database connection_error_msg = 'database connect failure';
//== Stop ==
//MySQL server setup
// VSS Web Service setup
$VSS Server = "http://192.168.11.224/VSS/";
// Database backup setup (better not to be modified)
// == Start ==
$mysql_backup_path = "../bkup/mysql/";
$mysql backup ScheduleTime file = "../bkup/ScheduleTime.conf";
// Path of provisioning database location
$mysql ps path = "/home/mysql/var/provisioning/";
$mysql run path = "/home/mysql/bin";
// == End ==
// Database backup setup
// Location of the apache log file.
$sys logfile = "/var/log/httpd.log";
// == No need to be modified ==
// == Start ==
// SPTGEN separate token
$SeparateSymbo = " = ";
// Export unit device's file prefix name
$ExportDeviceFilePrefixName = "sip";
// Export file's extended name
$ExportFileExtendedName = ".txt";
// Linux/Windows CR LF
$strReturnSymbo = "\n";
// Server Configuration
$ServerConfiguration file = "../bkup/ServerConfiguration.conf";
// == End ==
// Export location setup
// == Start ==
$ExporttoSPTGEN Path = "../temp/ExporttoSPTGEN/";
$ExportDBasSPTGEN_Path = "../temp/ExportDBasSPTGEN/";
```

```
// == End ==
// Export location setup
// == No need to be modified ==
// 3DES in PHP only supports 24bits encryption, zyxel_3des_key shouldn't be
longer than 13bits
// (Difference of total length and Mac Address)
$zyxel_3des_key = "this is a secret key";
// iv key size
$zyxel_iv_key_size = 8;
// == End ==
```

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