VoiSmart®
IP Telephony & VoIP Solutions

VoiSmart SMS Server

User Manual
Installation Guide
Release 1.0.0

Last revised: 15/01/2008

Contents

1. Foreword

This manual describes VoiSmart SMS server, a system for transmitting and receiving SMS messages based on Asterisk.

Asterisk is an Open Source software, released with GNU, General Public License:

(GPL, http://www.gnu.org/copyleft/gpl.html)

SMS messages to and from this server are managed as emails.

VoiSmart SMS Server can operate as:

- Mail server
- Client

In the first case (Mail server) you can send an SMS simply sending an email to:

<mobilenumber>@<serverdomain>

while in the second case (Client modality) your SMS Server will send the requested SMSs after having downloaded their contents, received through emails received in POP3 through a mailbox located on an external server.

To forward the SMS to the real recipient, you shall send an email to:

<mailbox>@<externalserver>

you will have to insert the mobile phone number of the recipient in the Subject field of the email.

This manual describes the VoiSmart SMS server in its minimum configuration, with 4 channels. Nevertheless, the information here contained is easily applied to larger systems, making refrence to the different cards and channels.

2. Before starting

We remind you that a correct use of this card, as well as of similar equipment, cannot be done without adequate knowledge of information systems, Linux OS, Asterisk and IP telephony systems. A knowledge of context and extensions in Asterisk environment can be necessary for integration activities or high level programming.

Please refer to:

http://open.voismart.it

for upgrades of software and functions of VoiSmart products.

Using this card must be performed according to the usual safety precautions for electronics equipment.
Never use in wet environment, in proximity of heat sources, in an open case. Never connect using peeled off or damaged cables.

Never insert anything through the device slots. Operate in a safe, dry and adequately ventilated environment, and take care that the case slots are kept free in order to allow proper air passage (the system in minimum configuration is a fanless one).

3. First steps

Opening the carton box, you will find the server, in a metal case, and a set of antennas (one antenna for each GSM channel in the system).

Before starting the configurations steps, please follow carefully the procedure described above, to install the system properly and to avoid any damage to your SMS server.

First of all choose a plain surface in a dry and clean place. Plug the system into the network and the power supply, and install antennas through the screws which are to be tightened to the rear jacks on the metal case.

Warning:

For a proper operation of the system, verify that every antenna is at a minimum sistance of 1 m from the server.

Insert the SIMs in the SIM holders, like shown in the picture.

Please notice the numbering of the SIM holders, and their correspondance with antennas and with the Module definitions in the system configuration software.

4. Main Menu

After switching the system on, link to it through the network using a PC and a browser. The server will be reached at a default IP address, which is the following one:

http://192.168.0.250:8080

A menu will appear, containing the following options:

- General Setup
- GSM Modules Setup
- Mail Client Setup
- Email Messages Setup
- Web SMS Server
- Admin's Password Setup

You can return to the Main Menu page from all pages simply clicking on the VoiSmart logo in the upper right corner of the screen.

4.1. GSM Modules / Antennas / Configuration software correspondance

Please consider the SMS server in the picture.

The four Sim modules, from right to left, are denominated here Mod 1, Mod 2, Mod 3 and Mod 4.

The corresponding antennas are, looking at the server from the antenna jacks side:

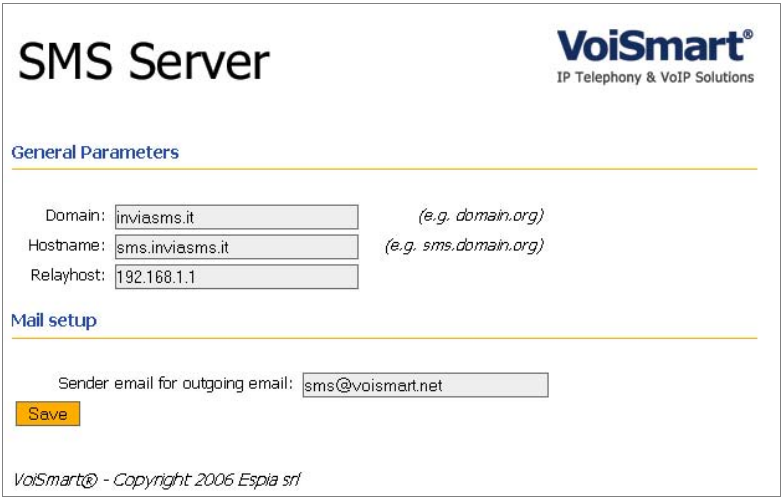
Mod 1: Ant 1
Mod 2: Ant 2
Mod 3: Ant 3
Mod 4: Ant 4

The 4 modules are identified in the configuration software as follows:

Mod 1: Module 1
Mod 2: Module 2
Mod 3: Module 3
Mod 4: Module 4

4.2. General Setup

Choosing General Setup, you will enter a page which will ask you to enter the following values:



- **Domain:** It's the domain name of the system itself when it operates as a Mail Server.
  Please notice that the domain owner must manage that the mail addressed to this domain is sent to the public IP of the SMS Server

- **Hostname:** It's the name of the system when it operates as a Host

- **Relayhost:** It's the IP address of the system which outgoing mail will be sent to.
  Warning: The current version of software does not support hosts which need authentication

- **Sender Email for Outgoing SMS:** It's the email address which will appear in the Sender field of the messages outgoing from the system

All these fields must have non-null values.

Choosing Save at the bottom of the page, the settings will be recorded and immediately made operative. If the update of the system has been successfully performed, the following message will appear on the screen:

Operation executed successfully

clicking on it (or on the VoiSmart logo) you will go back to the Main Menu page.

4.3. GSM Modules Setup

This option allows to set up the parameters of single GSM modules.

Choosing this option, the system will show one page which permits to define:


Setup gsm module
DeviceName: gsm0 enable1
Device: /dev/vgsm2_me0
Device Sim Controller: /dev/vgsm2_mesim0
Sim Local Device Filename: /dev/vgsm2_sim0
Pin: ****
Sim Proto: local
Recipient address for sms in: sebastien@viapass.com
Sender domain:
DeviceName: enable2
Device: /dev/vgsm2_me1
Device Sim Controller: /dev/vgsm2_mesim1
Sim Local Device Filename: /dev/vgsm2_sim1
Pin:
Sim Proto: local
Recipient address for sms in:
Sender domain:
DeviceName: enable3
Device: /dev/vgsm2_me2
Device Sim Controller: /dev/vgsm2_mesim1
Sim Local Device Filename: /dev/vgsm2_sim1
Pin:
Sim Proto: local
Recipient address for sms in:
Sender domain:
DeviceName: enable3
Device: /dev/vgsm2_me2
Device Sim Controller: /dev/vgsm2_mesim2
Sim Local Device Filename: /dev/vgsm2_sim2
Pin:
Sim Proto: local
Recipient address for sms in:
Sender domain:
DeviceName: enable4
Device: /dev/vgsm2_me3
Device Sim Controller: /dev/vgsm2_mesim3
Sim Local Device Filename: /dev/vgsm2_sim3
Pin:
Sim Proto: local
Recipient address for sms in:
Sender domain:
Save
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- **Devicename**: it is a label of the System Administrator wich identifies the SIM

- **Device**: it is a system information, non modifiable from the user

- **Device Sim Controller:** this is an advanced parameter to be used with SIM Server

- **Sim Local Device Filename:** this is an advanced parameter to be used with SIM Server

- **PIN**: this is the PIN (Personal Identification Number) of the SIM

- **Sim Proto:** this is an advanced parameter to be used with SIM Server

- **Reicipient address for SMS in:** insert here the email address where this module's incoming SMS have to be forwarded

- **Sender Domain**: it is the name of the domain used in "Sender" filed of email, while the email related to SMS will be received to the address <Receiver Address>.

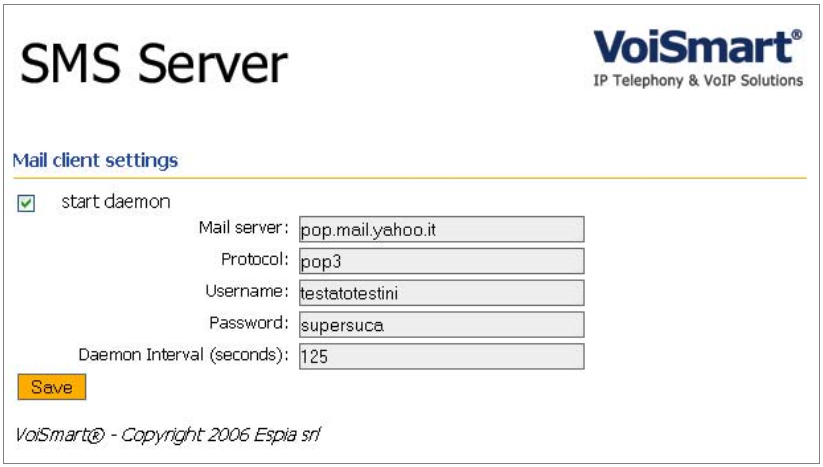
Choosing Save at the bottom of the page, the settings will be recorded and immediately made operative. If the update of the system has been successfully performed, the following message will appear on the screen:

Operation executed successfully

clicking on it (or on the VoiSmart logo) you will go back to the Main Menu page.

Attention: please remember to select the checkbox with "Enable". The parameters will be set up when the checkbox will be selected.

4.4. Mail Client Setup



Choosing this option, it is possible to set up the System as a Client.

The Server can works as a Server or as a Client, both a the same time.

The page allows the configuration of the following elements:

- **Start Daemon**: selecting the checkbox, the system will works as a Client.

- **Mail Server**: it is the name of mail server where the external mailbox is situated

- **Protocol:** it is possible to choose between POP3 or IMAP

- **Username:** it is the name of the external mailbox, or the user name of the mailbox.

- **Password:** it is the password for the external mailbox.

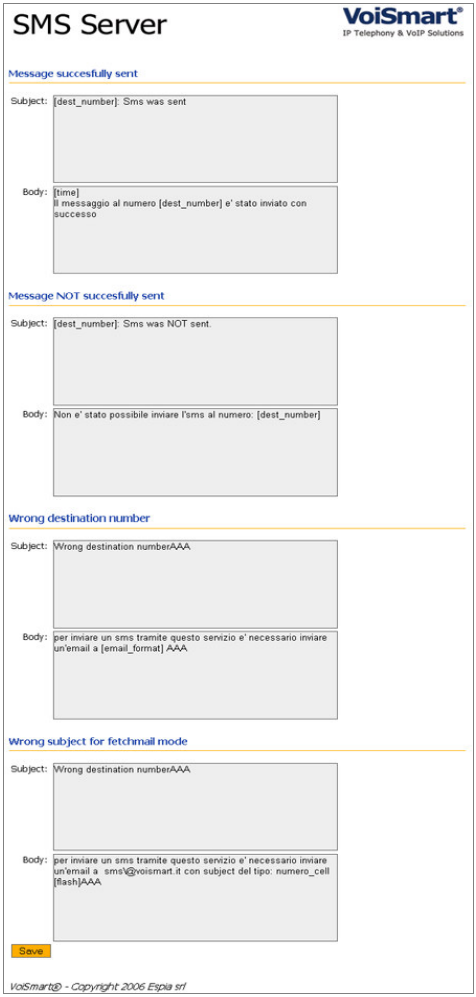
- **Daemon Interval**: expressing in seconds, it is the time break where the system makes the poll to download the sent messages

Choosing Save at the bottom of the page, the settings will be recorded and immediately made operative. If the update of the system has been successfully performed, the following message will appear on the screen:

Operation executed successfully

clicking on it (or on the VoiSmart logo) you will go back to the Main Menu page.

4.5. Email Messages Setup



In this page it's possible to set the definition of service & diagnostic email text sent by the system after the results of some operations.
Everything presented by squared parenthesis ([and]) will be changed with the current value of the variable, wich name is between the parenthesis.

It is possible to configure these events messages:

- **Message successfully sent**: this is the message sent when the SMS has been successfully transmitted.

- **Message NOT successfully sent**: this is the message received when the SMS transmission was not successfully

- **Wrong destination number**: this message appears when the sintax of the sent email receiver field is wrong (a name instead a mobile phone number ecc..).

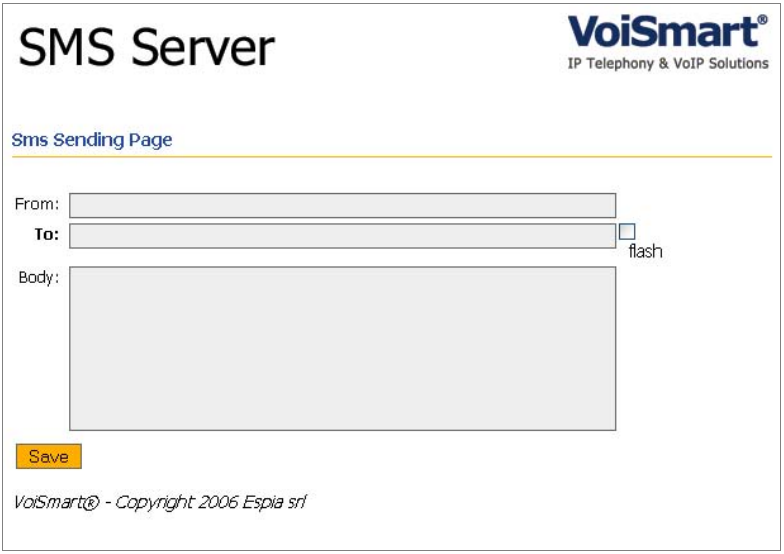
- **Wrong Subject for fetchmail mode**: this is the message received when the "Subject" field of the mail is not well formatted in sending SMS through Email.

Choosing Save at the bottom of the page, the settings will be recorded and immediately made operative. If the update of the system has been successfully performed, the following message will appear on the screen:

Operation executed successfully

clicking on it (or on the VoiSmart logo) you will go back to the Main Menu page.

4.6. Web SMS Sender



The page allows the configuration of the following elements:

- **From**:

  (Optional) Enter here the e-mail address to receive notification

- **To:**

  Enter here the destination phone number.

It's also possible to chose the GSM module to be used for sending SMSs, the format is

```
X-dest_number
```

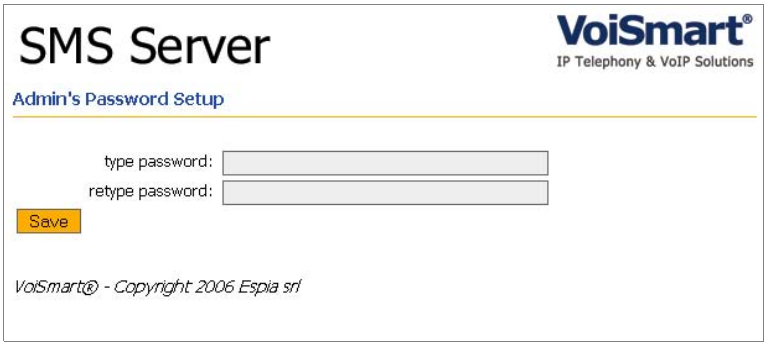
where X is the GSM module's number (1-4) and dest_number is the destination number.

- **Body**

  Fill this field with the SMS text message. If the text exceeds 160 characters, the message will be slit in several messages.

4.7. Admin's Password Setup

This page allows the configuration of the following elements:



- **Type Password:**

Insert here the Administrator's password

- **Retype Password:**

  Confirm here the password entered above.

5. Examples of typical operations

Example 1:

How to send an SMS through email when the unit is configured as a **Mail Server**

Attention: values between parenthesis (< e >) have to be changed with effective values.

The email has to be addressed to:

<mobilephonenumber>@domain

the domain has to be configured through the parameters in "General Setup" options.

It's also possible to chose the GSM module to be used for sending SMSs, the format is

`X-dest_number`

where X is the GSM module's number (1-4) and dest_number is the destination number.

Email Subject: it is a free field and its contents will be ignored. Just one exception: if the word "flash" it's in the subject field, the message will be sent as a class 0 message.

Email text: the text that has to be sent in the SMS.

Example 2:

How to send and SMS when the unit is in **Client mode** (it send and download email through and external mailbox)

The email fields mean:

Shipping address: shipping address

Subject: it has to contains the phone number (no spaces, just numbers) of the receiver. If it is an international transmission, it has to be completed with the nation receiver dialling code (+39 for Italy, +1 for USA ecc.)
Please notice that international dialling code has to be wrote with "+" and no 00.

Email text: it is the text that has to be sent

Example 3:

How to send the same SMS message to many receivers synchronously in Server mode.

It is the same as multiple email forwarding. It works as your email program (outlook, ecc..)

The system sends successfully once the receivers are signed as main receivers, once the receivers are in CC list.

6. Troubleshooting

6.1. The unit does't direct the calls correctly

Please PING to Server IP address to verify that System respond.

If yes, connect to the console through SSH and verify the status of GSM modules giving this commands:

```
rasterisk
```

if the console appears, digit:

```
show vgsm modules
```

The System will show the interface status and if the SIM modules are registered.

If the calls still not directed correctly, it is possible to have a configuration problem in dialplan.

If the SIM are not registered, please verify:

- SIM have credit
- there is a signal for the antennas

If the command

```
rasterisk
```

doesn't allow you to enter in the console, it will be a System problem. Please contact the Technical Assistance reference.

If the unit doesn't respond to the PING, please verify:

- the IP address is correct

if yes, connect you to the System in serial mode, through a null modem cable, with the following configuration:

115200, 8, n, 1

using a terminal emulator.

Once connected, turn off and on the System. Control what appears, and if you need support, contact the Techinical Assistance.

7. Mechanical and Electrical Features

The following mechanical and electrical features are related to the small system (4 GSM channels, that is one vGSM board inside)

Size: 30 x 7 x 20 cm
Weight: 3 kg

power supply: 110-240 V CA, output +12V CC, 1.2A max (15W max)

Environment specifications:

Operating temperature: from 0 to 45°C
Relative Humidity: from 10 to 95% non-condensing

General Features

VoIP dedicated motherboard
Linux OS, based on Asterisk
Aluminum case, fanless, compact (for the 4 channel version)
Fully configurable for a complete integration with external applications.

vGSM Card Features:

Compatible with Europe, USA, Brazil, japan GSM standards (900/1800/1900 MHz)
External Interface: 4 antenna jacks for SMA/F 50 Ohm antennas
Radio Interface: GSM Triband (900/1800/1900 MHz), compliant phase 2/2+. Class: Small MS, output power: Class 4 (2W) in EGSM 900, Class 1 (1W) in GSM 1800 and GSM 1900.
SIM: supports SIM cards (3V)
Performances: voice interface on the 4 GSM channels (900/1800/1900 MHz)

SMS Management:

Sends and receives messages on all channels at the same time
Supports multinumber
Supports long messages partitioning
Delivery verification
Non-Latin alphabets support (through Unicode – Cyrillic, Chinese, etc.-)
Multiple networks supported
Native mode SMTP and POP3 support

8. Serial Number and Conformance Statement

Each vGSM VoiSmart card is given a serial number for certification purposes and verification of conformance statements. The VoiSmart Serial Number of this products id on the label that you find on the the printed circuit of the card. To ask for information about the certification of this product, always refer to this serial number.

Products carrying the CE symbol are compliant to the

EMC (89/336/CEE) and (73/23/CEE) directives of the European Community Committee. If the products operates in telecommunications, they imply the compliance to R&TTE (1999/5/CE) directives.

Being compliant to these rules implies the compliance to the following European rules (international equivalent standards are in brackets):

- EN 55022 (CISPR 22) Electromagnetical interference
- EN 55024 (IEC 61000-4-2,3-4-5-6-8-11) Electromagnetic Immunity
- EN 301489-7
- EN 301511
- EN 60950-1

The VoiSmart vGSM card is compliant with RoHS directives. (direttiva 2002/95/CE).

9. About this manual

Greatest accuracy has been put in the preparation of this manual.

Nevertheless, Espia takes no responsibility for the completeness of the information herein contained, for the suitability of the product and of the examples here given to the Customer's and to the Customer's Customer needs and applications.

Espia can modify this product in its hardware or software features and characteristics without preliminary notice.

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