



Documentation of Elastix (English Version)

Elastix 0.9-alpha

For more information visit www.elastix.org



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1. Introduction



Elastix is an appliance software that integrates the best tools available for Asterisk-based PBXs into a single, easy-to-use interface. It also adds its own set of utilities and allows for the creation of third party modules to make it the best software package available for open source telephony.

The goals of Elastix are reliability, modularity and ease-of-use. These characteristics added to the strong reporting capabilities make it the best choice for implementing an Asterisk-based PBX.

The features provided by Elastix are many and varied. Elastix integrates many software packages, each including their own set of great features. However, Elastix adds new interfaces for control and reporting of its own, to make it a complete package. Some of the features provided natively by Elastix are:

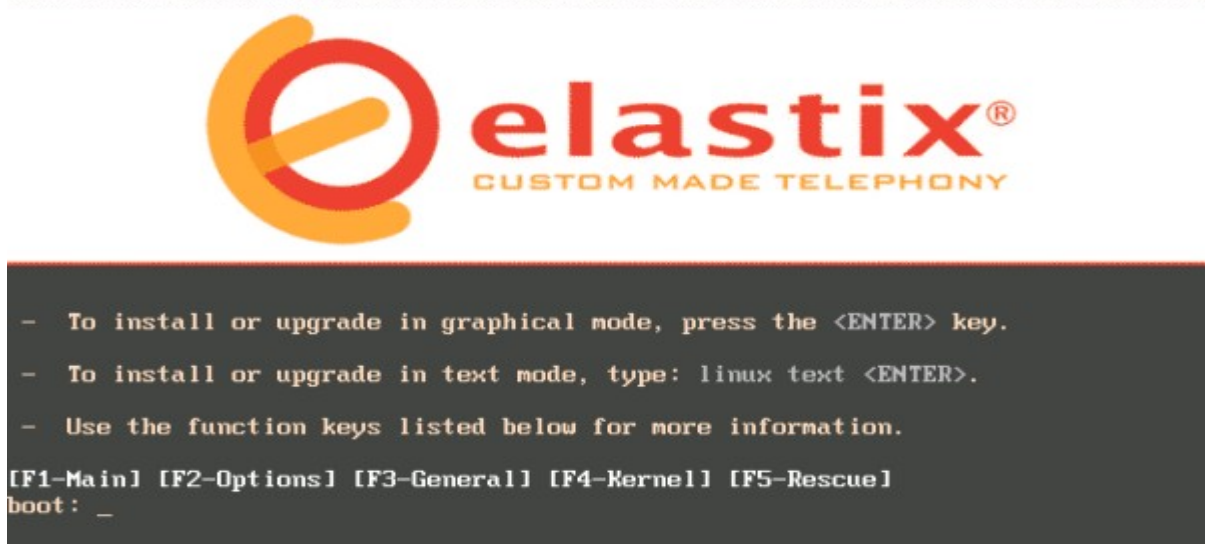
- VIDEO support. You can use videophones with Elastix!
- Virtualization support. You can run multiple Elastix virtual machines on the same box.
- Really friendly Web user interface.
- "Fax to email" for incoming faxes. Also, you can send any digital document to a fax number through a virtual printer.
- Billing interface.
- Graphical configuration of network parameters.
- Resource usage reporting.
- Remote restart/shutdown options.
- Incoming/outgoing calls and channel usage reports.
- Integrated voicemail module.
- Voicemail Web interface.
- Integrated operator panel module.
- Extra SugarCRM and Calling Card modules included.
- Download section with commonly used accessories.
- Embedded help interface.
- Instant messaging server (Openfire) integrated.
- Multi-lingual support. Languages supported include:
 - English
 - Spanish
 - Russian
 - Korean
 - Greek
 - Chinese
 - Polish
 - German

- French
- Romanian
- Slovenian
- Portuguese
- Danish
- Italian
- Mail server integrated including multi-domain support.
- Web based email interface.

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2. ELASTIX Installation

Insert the Elastix installation CD at the same time that you turn on the machine. After this is done, the following screen will appear:

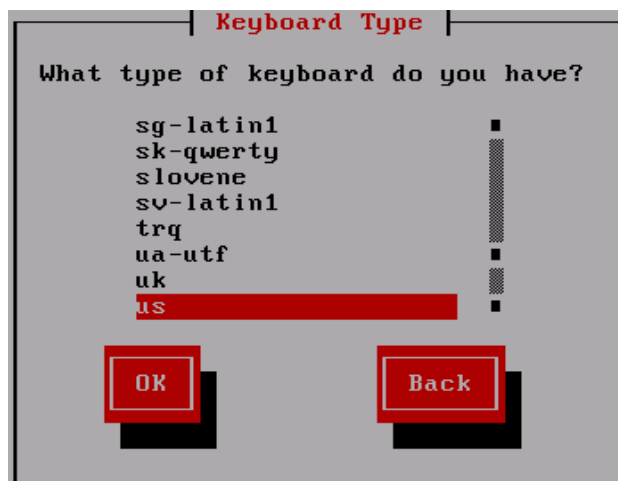


If you are an expert user, you can enter in an advanced mode by typing the command:

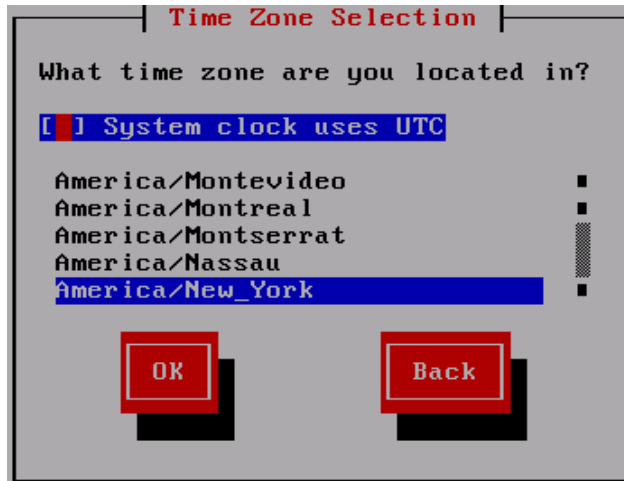
advanced

Otherwise, wait and the installation CD will start the installation automatically or you can press enter.

Proceed to select the type of keyboard that corresponds to your language. If your keyboard is Spanish, select option es:



Select the timezone of your region:

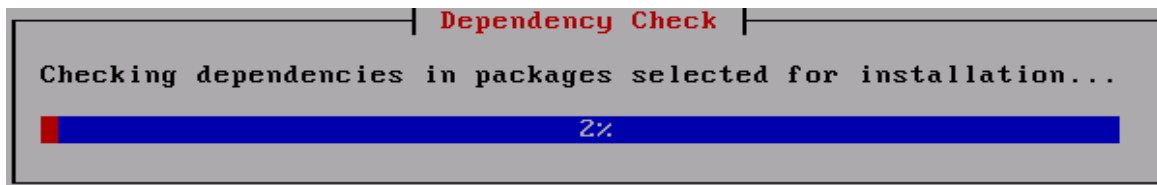


Enter the password that will be used by the Elastix administrator. Remember that this is a critical part of the security of the system.



Note: The following will provide details for the automatic installation of the CD.

First, a check of the necessary dependencies for the installation is required:



Then, the installation will continue, and you will see something like this in the beginning:

```
Package Installation
Name   : glibc-common-2.5-12-i386
Size   : 64166k
Summary: Common binaries and locale data for glibc

20%

Total   :           Packages      Bytes      Time
Completed:           11           8M      0:00:14
Remaining:           397         1012M     0:28:54

0%
```

Image of the installation process near completion:

```
Package Installation
Name   : elastix-utigercrm-0.8-5.1-noarch
Size   : 24377k
Summary: Package that install UTigerCRM.

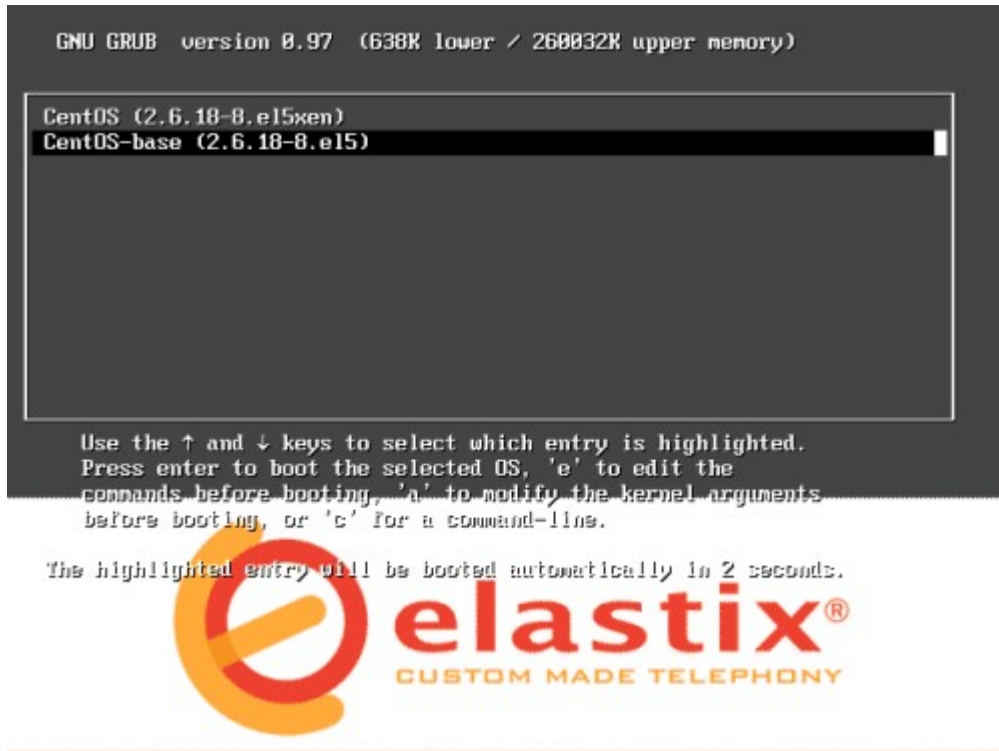
100%

Total   :           Packages      Bytes      Time
Completed:           407          996M     0:12:33
Remaining:            1           24M      0:00:17

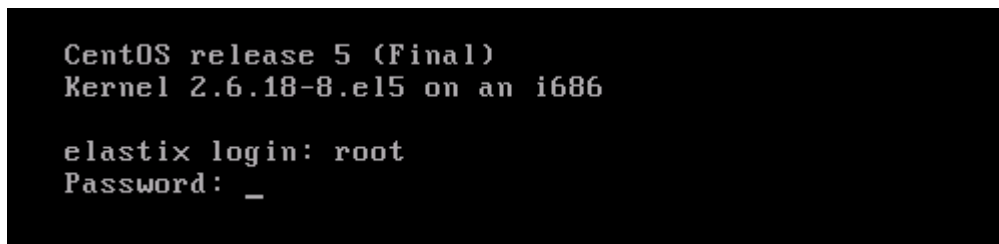
97%
```

After the installation is complete, the system will reboot.

After the system reboots, you can choose the Elastix distro among the boot options.



Login as the root user and enter the password that was entered at the time of installation.



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3. WEB Administration Interface

3.1. Configuration

a) Network Parameters

Go to [Network section](#).

b) Configuration of telephonic hardware

Go to [Port Details](#).

c) Creation of new extension

This area is for handsets, softphones, paging systems, or anything else that could be considered an 'extension' in the classical PBX context.

Defining and editing extensions is probably the most common task performed by a PBX administrator, and as such, you'll find you'll become very familiar with this page. There are presently four types of devices supported - SIP, IAX2, ZAP and 'Custom'.

To create a "New Extension", go to the "PBX" menu, which by default goes to the "Configuration PBX" section; in this section, choose the option "Extensions" on the left panel. Now we can create a new extension.

First, choose the device from among the available options:

Add an Extension

Please select your Device below then click Submit

Device

Device

- Add Extension
- Recepcion <201>
- Recepcion <202>
- Recepcion <203>
- Edgar Landivar Ch <212>
- Walter Verdesoto <213>
- Temporal <215>
- Fabiola Torres <216>
- Jose Landivar <218>
- Nadia Gracia <219>
- Ana Belen Castro <220>
- Desarrollo 1 <402>

- Generic SIP Device: SIP is the Standard protocol for VoIP handsets and ATA's.
- Generic IAX2 Device: IAX is 'Inter Asterisk Protocol', a newer protocol supported by only a few devices (eg, PA1688 based phones, and the IAXy ATA).
- Generic ZAP Device: ZAP is a hardware device connected to your Asterisk machine - Eg, a TDM400, TE110P
- Other (Custom) Device: Custom is a 'catch all', for any non standard device, eg H323. It can also be used for "mapping" an extension to an "outside" number. For example, to route extension 211 to 1-800-555-1212, you could create a custom extension 211 and in the "dial" text box you could enter: Local/18005551212@outbound-allroutes.

Once the correct device has been chosen, click on Login.

Note: Now we proceed to input the necessary fields (obligatory) to create a new extension.

Continue to enter the corresponding information:

Add SIP Extension

Add Extension

User Extension

Display Name

Extension Options

Direct DID

DID Alert Info

Outbound CID

Emergency CID

Device Options

This device uses sip technology.

secret

dtmfmode

- User Extension: This must be unique. This is the number that can be dialed from any other extension, or directly from the Digital Receptionist if enabled. This may be any length, but conventionally a three or four digit extension is used.
- Display Name: The Caller ID name for calls from this user will be set to this name. Only enter the name. Not the number.
- Secret: This is the password used by the telephony device to authenticate to the Asterisk server. This is usually configured by the administrator before giving the phone to the user, and is usually not required to be known by the user. If the user is using a soft-phone, then they'll need to know this password to configure their software.

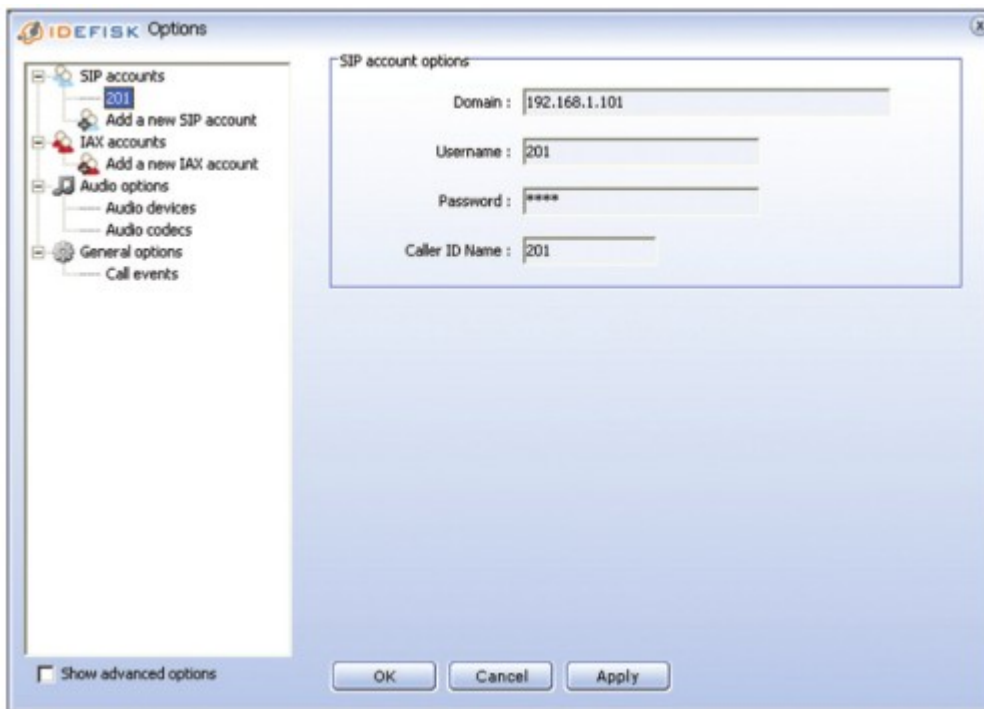
d) Configuration of softphone telephone

By configuring a softphone telephone, what we achieve is to have a connected PC that serves the same functions as a conventional telephone. For this, we will need to install a software that will convert your PC into a telephone. Also, headphones and a microphone are necessary. There are various options for softphones, and among them are the following:

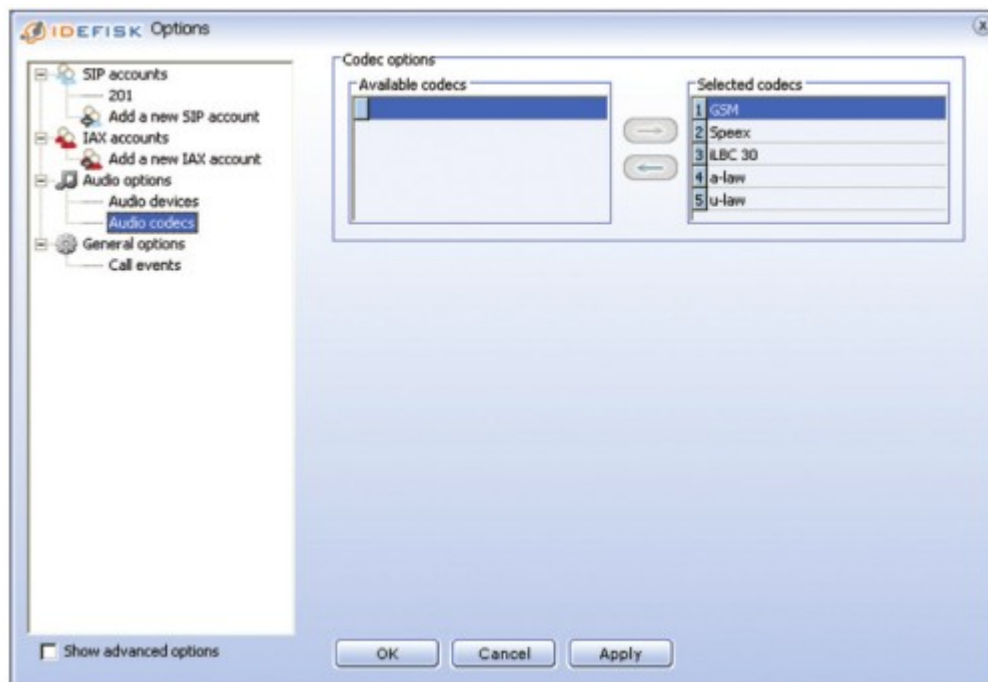
- IDEFISK: This software allows us to work with SIP and IAX extensions, and it's also multiplatform compatible. You can download it here:
<http://www.asteriskguru.com/idefisk/>
- XtenLite: This software works only with SIP extensions, it's also multiplatform compatible, and you can download it here:
<http://www.xten.com/index.php?menu=download>

For this case, we will use IDEFISK.

Once we have downloaded and installed IDEFISK, let's proceed to its configuration. For that, click on the icon that looks like a tool and create a SIP extension. In this example, extension 201 is configured and it's supposed that the IP assigned to the system is 192.168.1.101.



Next, let's go to the "Audio Codecs" section and select all of the available codecs. We apply the changes and click on the "Register" button, so that our telephone registers in the system.



Finally, you can make a call from one extension to another.

e) Recording of welcome/greeting message

This section describes how to record a message or activate one that was created in another medium.

To access this module, go to the “PBX” menu, where the “Configuration PBX” section will appear by default. In the left panel, choose the “System Recordings” option.

System Recordings

Add Recording

Step 1: Record or upload

If you wish to make and verify recordings from your phone, please enter your extension number here:

Alternatively, upload a recording in any supported asterisk format. Note that if you're using .wav, (eg, recorded with Microsoft Recorder) the file **must** be PCM Encoded, 16 Bits, at 8000Hz:

Step 2: Name

Name this Recording:

Click "SAVE" when you are satisfied with your recording

The first option that we have is to create an announcement by recording it directly. For this, we will need to enter the extension from which we want to make the recording, which in this case is extension 201, then we can click on the “Go” button.

Next, Asterisk will be waiting for our recording at extension 201, and to continue, we have to punch in *77. After recording our message, press the pound sign (#).

To review our recording, press *99, enter the name of the recording and click on the “Save” button.

The second option that we have is to upload a recording that was created in another medium. For that, we will need to have a file that's supported by Asterisk; click on the “Find” button and locate our file. Then, continue to give the recording a name and, finally, click on the “Save” button.

f) Configuration of welcome IVR

The IVR allows us to record a welcome message and allows us to have a menu controlled by the telephone keys (10 number keys, plus the symbols pound '#' and asterisk '*'). With this, it is possible to send the call to another destination or to the IVR that sent the announcement.

To access the “IVR” module, go to the “PBX” menu, which appears by default in the “Configuration PBX” section. In the left panel, choose the “IVR” option.

Digital Receptionist

Add IVR
Horas Laborables
Unnamed

Instructions

You use the Digital Receptionist to make IVR's, Interactive Voice Responce systems.

When creating a menu option, apart from the standard options of 0-9, * and #, you can also use 'i' and 't' destinations. 'i' is used when the caller pushes an invalid button, and 't' is used when there is no response. If those options aren't supplied, the default 't' is to replay the menu three times and then hang up, and the default 'i' is to say 'invalid option, please try again' and replay the menu. After three invalid attempts, the line is hung up.

freePBX 2.2.2 licensed under GPL :: UI Design ©2006 Fischer Design, licensed under Creative Commons

To record a welcome or greeting message, go to the “System Recordings” section, for example:

IVR: “Thank you for calling Elastix. If you know the extension, please dial it now. Otherwise, stay on the line and an operator will be with you shortly”.

Digital Receptionist

Edit Menu Unnamed

Delete Digital Receptionist Unnamed

Change Name
Timeout
Enable Directory
Directory Context
Enable Direct Dial
Announcement

Increase Options

Save

Decrease Options

Return to IVR

Queues:
 IVR:
 Time Conditions:
 Core:
 Phonebook Directory:
 Custom App:

To add a new IVR, it's not necessary to complete all of the fields, and in our case (a welcome/greeting IVR), we do not need options. The necessary fields are the following:

Change Name: To change the name, we'll put Welcome.

Timeout: Waiting time (in seconds) before the call is routed to an operator after the welcome message is played. For this example, we will use 3.

Enable direct dial: An option that permits the caller to dial an extension directly en case he or she knows it, without having to wait for the operator.

Announcement: This is the announcement or welcome message that was recorded earlier. It will appear in a list with all of the available messages.

Now we can proceed to configure certain options that are frequently used. The first is the option 0 (zero) that allows us to go directly to the operator and the second is also to go to the operator, but the caller has to listen to the welcome message and wait for the time that was configured earlier to pass.

Among the available options on the menu, in the left part there is a box where you should put the option. For the first one (zero), we'll put that in the box and assign an extension that was previously configured; this extension will be the operator.

These extensions will appear after the option "Core".

Now we'll proceed to configure the second option (to go to the operator after the welcome message is played and the waiting time is over). In the box to the left, put the letter "t", which means timeout and we'll assign the operator's extension.

Finally, let's record the IVR.

g) Fax Configuration

Go to [MENU: FAX](#).

3.2. Reference to available modules

a) MENU SYSTEM

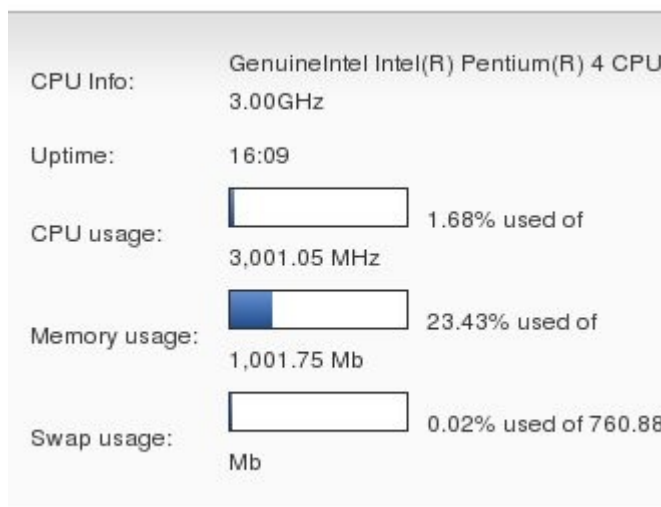
1 System Info

The option “System Info” of the Menu “System” in Elastix lets us monitor the server’s hardware resources.

Within this option, we have two sections:

System Resources

“System Resource” shows us the values of actual use of both the memory as well as the processor.



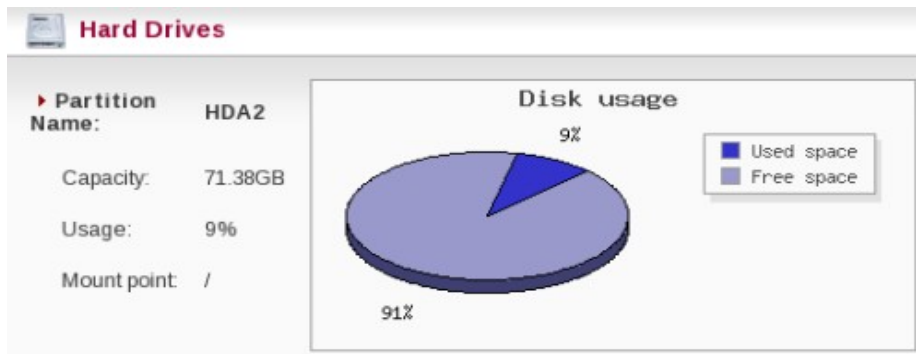
CPU Info	Information about brand, model and processor speed
Uptime	Time from the last reboot of the server
CPU usage	Percentage of use of processor capacity
Memory usage	Percentage of RAM memory utilized
Swap usage	Percentage of SWAP memory utilized

Here is a graphic with the statistics of simultaneous calls, percentage of use of processor and percentage of use of RAM memory.



Hard Drives

This section shows a summary of the utilization of storage available on the server.



2 Network

The option “Network” of the Menu “System” in Elastix lets us view and configure the parameters of the network of the server.

Within this option we have two sections:

Network Parameters

Network Parameters

Edit Network Parameters * Required field

Host (Ex. host.example.com): asterisk1.local Primary DNS: *

Default Gateway: * Secondary DNS:

This corresponds to the general network parameters of the server:

Host	Server Name, for example: pbx.subdomain.com
Default Gateway	IP Address of the Port of Connection (Default Gateway)
Primary DNS	IP Address of the Primary Domain Name Server (DNS)
Secondary DNS	IP Address of the Secondary or Alternative Domain Name Server (DNS)

To change any of these parameters, click on the button “Edit Network Parameters”.

Ethernet Interfaces List

This shows the list of network interfaces available on the server, with the following data:



Device	Type	IP	Mask	MAC Address	HW Info	Status
Ethernet 0	STATIC		255.255.255.0			Connected

Device	Name of the Operating System that is assigned to the Interface
Type	The type of IP address that the Interface has, which could be STATIC when the IP address is fixed or DHCP when the IP address is obtained automatically when the equipment is booted up. To use the second option, there should be a DHCP server in the network.
IP	IP Address assigned to the Interface
Mask	The Network Mask assigned to the Interface
MAC Address	Physical Address of the network Interface
HW Info	Additional information about the network Interface
Status	Shows the physical status of the Interface, if it's connected or not

To change the parameters of any of the Interfaces, click on the name of the device. The only values that can be changed are: Type, IP and Mask



Edit Interface "Ethernet 0"

Save Cancel * Required field

Interface Type: * Static DHCP

IP Address: *

Network Mask: *

3 User Management

- **Users**

The option “Users” allows us to create and modify the users who will have access to the Elastix Web Interface. There are three types or groups of users:

1. Administrator
2. Operator
3. Telephone User

Each of these groups represents distinct levels of access to the Elastix Web Interface. These levels signify the group of menus to which each type of user has access. The distinct permissions for access to the menus are better illustrated in the following table:

Menu	Administrator	Operator	Telephone User
Menu: System			
System Info	Yes	Yes	No
PBX Configuration	Yes	No	No
Network	Yes	No	No
User Management	Yes	No	No
Shutdown	Yes	No	No
Operator Panel			
Flash Operator Panel	Yes	Yes	No
Voicemails			
Asterisk Recording Interface	Yes	Yes	Yes
Fax			
Virtual Fax List	Yes	Yes	No
New Virtual Fax	Yes	No	No
Reports			
CDR Report	Yes	Yes	No
Channels Usage	Yes	Yes	No
Billing			
Rates	Yes	No	No
Billing Report	Yes	No	No
Destination Distribution	Yes	No	No
Trunk Configuration	Yes	No	No
Extras			
SugarCRM	Yes	Yes	Yes
Calling Cards	Yes	Yes	Yes
Downloads			
Softphones	Yes	Yes	Yes
Fax Utilities	Yes	Yes	Yes

- **Group Permission**

The option “Group Permission” of the Menu “System” in Elastix lets us determine the menus to which each group of users will have access.

The list below shows the names of the Elastix menus; you should select the ones that each group should have permission to access, and then click the “Apply” button.

Apply	Resource
<input checked="" type="checkbox"/>	FreePBX
<input checked="" type="checkbox"/>	Flash Operator Panel
<input checked="" type="checkbox"/>	Asterisk Recording Interface
<input checked="" type="checkbox"/>	SugarCRM
<input checked="" type="checkbox"/>	Virtual Fax List
<input checked="" type="checkbox"/>	New Virtual Fax
<input checked="" type="checkbox"/>	Softphones
<input checked="" type="checkbox"/>	Fax Utilities
<input checked="" type="checkbox"/>	Calling Cards
<input checked="" type="checkbox"/>	User List
<input checked="" type="checkbox"/>	System Information
<input checked="" type="checkbox"/>	Network Configuration
<input checked="" type="checkbox"/>	Shutdown

4 Language

The option “Language” of the Menu “System” in Elastix lets us configure the language for the Elastix Web Interface.

Language
Select language: <input type="text" value="English"/> <input type="button" value="Change"/>

Select the language from the list and click the “Change” button.

5 Date and Time Configuration

The option “Date and Time Configuration” of the Menu “System Info” in Elastix lets us configure the Date, Hour and Timezone for the Elastix Web Interface.



The screenshot shows the "Date and Time Configuration" section. At the top, there is a "Date and Time Configuration" header with a dropdown arrow. Below it is an "Apply changes" button. The main configuration area includes:

- Current Datetime:** September 20, 2007 16:17:09
- New Date:** Three dropdown menus for year (2007), month (September), and day (20).
- New Time:** Three dropdown menus for hour (16), minute (16), and second (20).
- New Timezone:** A dropdown menu showing "America/Guayaquil".

Select the new date, hour and timezone and click on the “Apply changes” button.

6 Load Module

To upload a new module, click on the “Examinar” button, select the file and, finally, click on the “Save” button.

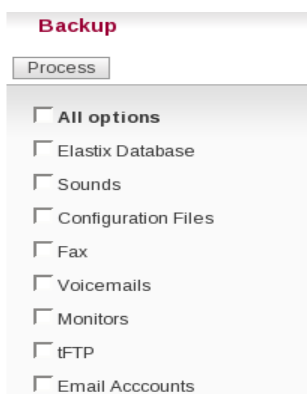


The screenshot shows the "Load Module" section. It features a "Save" button on the left and a "* Required field" label on the right. Below these is a text input field labeled "Module File (module.tar.gz):*" and an "Examinar..." button.

Para subir el nuevo módulo de click en el botón “Examinar”, seleccione el archivo y finalmente de click en el botón “Guardar”.

7 Backup

The option “Backup” of the Menu “System Info” in Elastix lets us choose the configurations that we desire to backup Elastix.



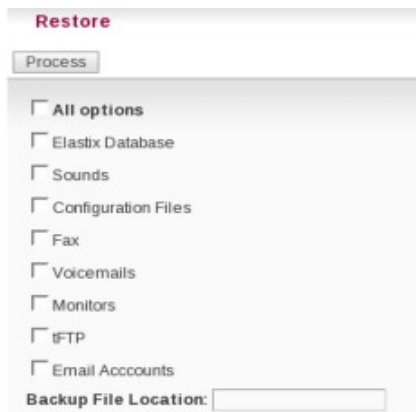
The screenshot shows the "Backup" section. It has a "Process" button at the top. Below it is a list of checkboxes for backup options:

- All options
- Elastix Database
- Sounds
- Configuration Files
- Fax
- Voicemails
- Monitors
- tFTP
- Email Accounts

To make a Backup of the Elastix configurations, select from the available options, and click on the “Process” button.

8 Restore

The option “Restore” of the Menu “System Info” in Elastix lets us choose the configurations to restore Elastix, apart from the aforementioned “Backup”.



To restore the Elastix configurations, select from the available options, input the path of the restore file and click on the “Process” button.

9 Shutdown

This option allows for the shutdown and rebooting of the telephone system. Upon choosing whichever of the two options, you will be prompted to confirm the desired option to execute.



10 Themes

The option “Themes” of the Menu “System Info” in Elastix lets us choose a theme for the Elastix Web Interface.



To change the theme, choose from the available options and click on the “Change” button.

11 Port Details

The option “Port Details” from the “System Information” menu in Elastix allows us to detect telephone hardware that is available on our machine. That’s to say, the telephone cards that are installed.

The list that you will see after logging into this section will be all of the cards that have been installed and are functioning. Also, you can see the ports that are still available (not in use) for new telephone cards.



The screenshot shows a web interface for "PCI Slopt" with a "Hardware Detect" button. Below the button is a table titled "PCI Slopt # 1: WCTDM/0 'ZMA8xx REV E Board 1'". The table has 8 columns representing ports, each labeled "Port # 1" through "Port # 8" and "FXS". Each port's status is shown as "Active" in a green box.

Port # 1	Port # 2	Port # 3	Port # 4	Port # 5	Port # 6	Port # 7	Port # 8
FXS	FXS	FXS	FXS	FXS	FXS	FXS	FXS
Active	Active	Active	Active	Active	Active	Active	Active

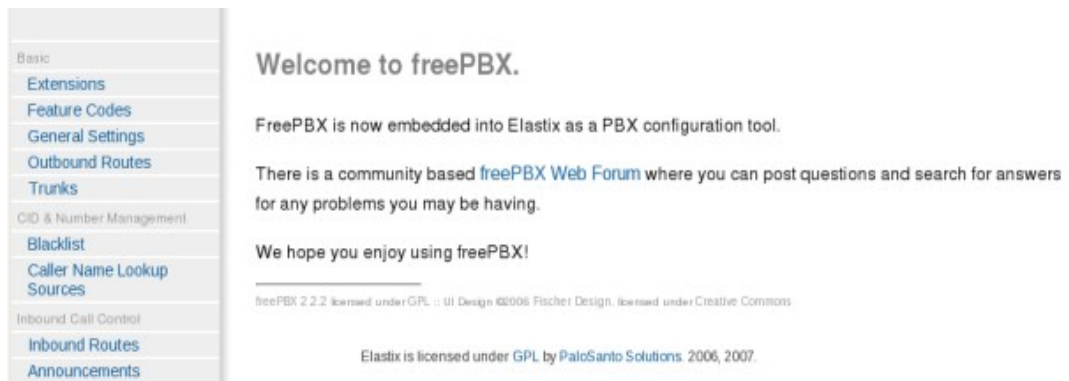
To detect new telephonic hardware, click on the “Detect Hardware” button and it will list all of the available cards including “Recently Installed New Cards”.

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b) MENU: PBX

1 PBX Configuration

The option “PBX Configuration” of the Menu “PBX” lets us achieve the configuration of Elastix.



In the left part, we can observe that we have different options for configuration.

Elastix uses the free software FreePBX like a tool for administration of Asterisk; for more information check out the following link:

<http://www.freepbx.org/support/documentation/module-documentation>

2 Asterisk-Cli

The option “Asterisk-Cli” of the Menu “PBX” in Elastix lets us input Asterisk commands and execute them.

To execute a command, input the same in Command and click on the “Execute”



button.

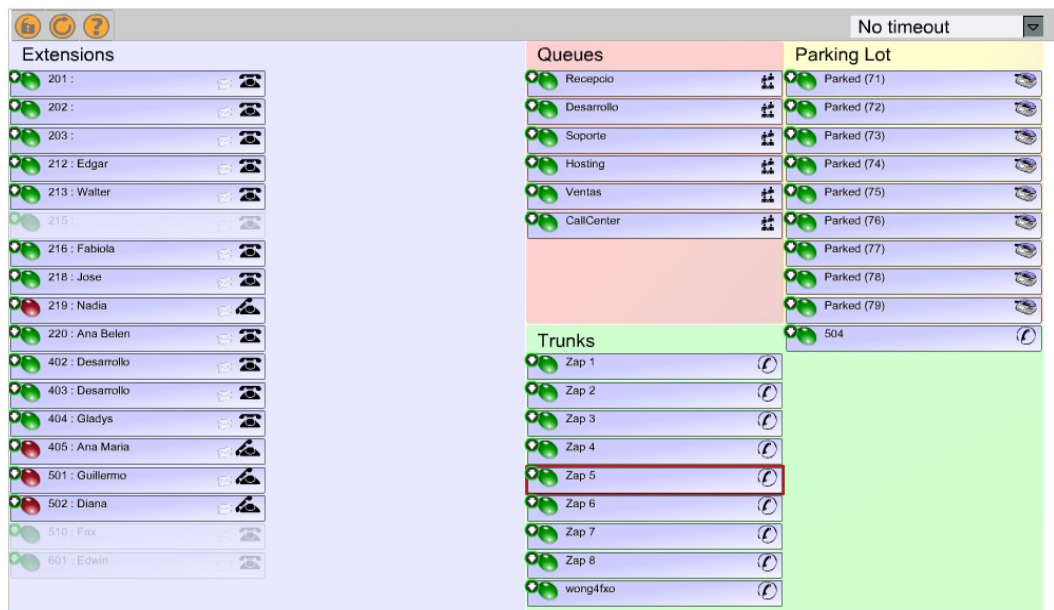
Example:

* show channels

Shows whichever channel that is in use at the moment.

3 Flash Operator Panel

The “Flash Operator Panel” of the Menu “PBX” in Elastix is a Flash manager of extensions in Asterisk for monitoring channels and terminals that are produced in a server with Asterisk.



4 Voicemail

The option “Voicemails” of the Menu “PBX” in Elastix lets us view a list with details of the voicemails for the extension of a connected user.

The report will change depending on the values of the filter:

Start Date	Start date for the selection of voicemails.
End Date	End date for the selection of voicemails.

5 Monitoring

The option “Monitoring” of the Menu “PBX” in Elastix lets us view a list with details of calls recorded automatically or manually, for the extension of a connected user.

Date	Time	Source	Destination	Duration	Type	Message
2007-09-21	12:01:15	402	404	8sec.	auto - incoming	Listen Download

The report will change depending on the values of the filter:

Start Date	The start date for the calls to be selected.
End Date	The end date for the calls to be selected.

Also, we can listen to the calls by clicking on the option “Listen” for each call, or we can download an audio file with the .wav extension of the selected call.

6 File Editor

The option “File Editor” of the Menu “PBX” in Elastix lets us edit the files of the configuration of Elastix.

File List

- [users.conf](#)
- [_agents.conf.swp](#)
- [jax.conf](#)
- [codecs.conf](#)
- [say.conf](#)
- [extensions.conf](#)
- [cdr_pgsq1.conf](#)
- [voicemail.conf.template](#)
- [additional_a2billing_iax.conf](#)
- [sip_registrations.conf](#)
- [zapcan.conf](#)

To edit a file, click on the file and the file will appear in edit mode:



```
users.conf
:
: User configuration
:
: Creating entries in users.conf is a "shorthand" for
: creating individual
: entries in each configuration file. Using users.conf is
: not intended to
: provide you with as much flexibility as using the separate
: configuration
: files (e.g. sip.conf, iax.conf, etc) but is intended to
: accelerate the
: simple task of adding users. Note that creating
: individual items (e.g.
: custom SIP peers, IAX friends, etc.) will allow you to
: override specific
: parameters within this file. Parameter names here are the
: same as they
: appear in the other configuration files. There is no way
```

<< Back Saved

Proceed to edit the file of configuration, and after it is complete, click on the “Saved” button to save the new configuration. To return without saving the changes, click on the “Back” button.

[Return to Index](#)

c) MENU: FAX

1 Virtual Fax List

The option “Virtual Fax List” of the Menu “FAX” in Elastix lets us verify the list of all the virtual faxes, including the status of each one.



Virtual Fax Name	Fax Extension	Secret	Destination Email	Caller ID Name	Caller ID Number	Status
Desarrollo Fax Virtual	511	1234	afgueroa@palosanto.com	Palosanto	2294440	Waiting for modem to come free

Also, clicking in the virtual fax's name displays it's information:



View Virtual Fax

Edit Delete * Required field

Virtual Fax Name: * Desarrollo Fax Virtual Fax Extension (IAX): * 511
Destination Email: * afgueroa@palosanto.com Secret (IAX): * 1234
Caller ID Name: Palosanto
Caller ID Number: 2294440

In the upper part, there are two buttons. The first button “Edit” lets us edit the data about the virtual fax.

And the second button “Delete” lets us delete the virtual fax.

If we proceed to edit, we’ll have the following:



Edit Virtual Fax

Apply changes Cancel * Required field

Virtual Fax Name: * Desarrollo Fax Virtual Fax Extension (IAX): * 511
Destination Email: * afgueroa@palosanto.com Secret (IAX): * 1234
Caller ID Name: Palosanto
Caller ID Number: 2294440

Once we modify the values, click on the “Apply Changes” button to save the changes or “Cancel” to return without saving the changes.

2 New Virtual Fax

The option “New Virtual Fax” from the Menu “FAX” in Elastix lets us create a new virtual fax. You should have previously created an IAX type of fax extension; for more information about this, go to: [Creating a new extension](#).



To create a new virtual fax, input the name, e-mail, extension and secret code for the virtual fax --these are the required fields. Besides these, there are 2 other fields that are the name of the Caller ID and the number of the Caller ID. After this information is added, click on the “Save” button to save the virtual fax or “Cancel” to leave without saving.

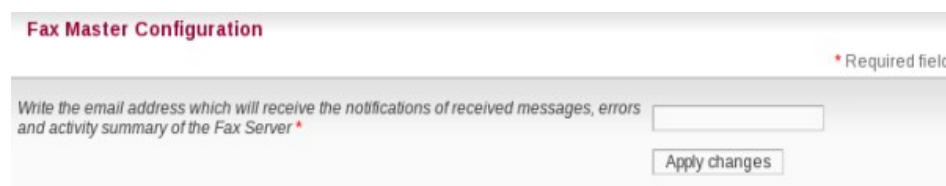
Note that the extension of the virtual fax will be used to receive the fax.

Here are more details about the data to input:

Virtual Fax Name	Name to identify the virtual fax.
Fax Extension (IAX):	Extension used for fax. This extension should have been previously created as a type IAX in the module “Extensions” of the Menu “PBX Configuration”.
Destination Email:	Email to which the notifications will be sent by the telephone system of the faxes received and of errors, in case there are any.
Secret (IAX):	It should be the same as the one inputted at the creation of the fax extension.
Caller ID Name:	The name of the caller. This field is not mandatory; if it is not filled in who receives the fax at that extension, the name will not be shown.
Caller ID Number:	The number of the caller. Similar to the “Caller ID Name,” this field is not required. And if it is not filled in who receives the fax at that extension, the number will not be shown.

3 Fax Master

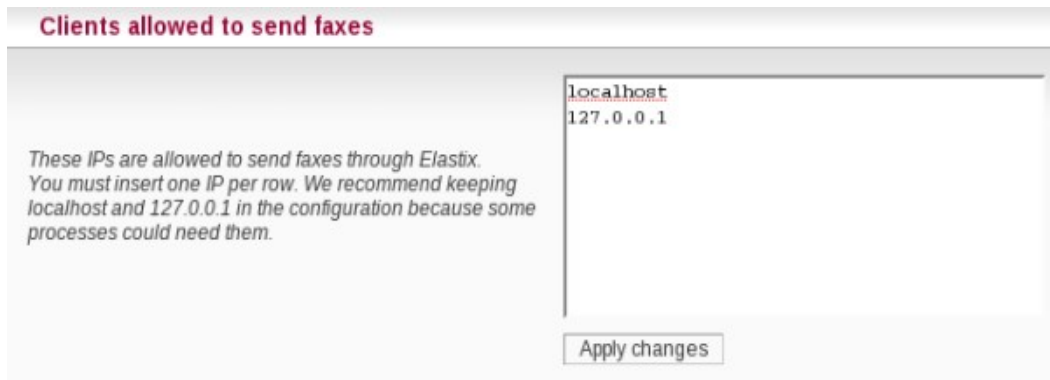
The option “Fax Master” of the Menu “FAX” in Elastix lets us input the email address of the administrator of the Fax, and this email will receive notifications of the messages received, errors and other activities of the Fax Server.



Proceed to input the email of the administrator of the fax and click on the “Apply Changes” button.

4 Fax Clients

The option “Fax Clients” of the Menu “FAX” in Elastix lets us input the IPs that have permission to send faxes through Elastix.



Proceed to input the IPs, one IP per line and click on the “Apply Changes” button.

It is recommended that you input the IP 127.0.0.1 and localhost in the configuration because some processes might need to use them.

5 Fax Visor

The option “Fax Visor” of the Menu “Fax” in Elastix lets us view a list with details of the faxes received.



File	Company Name	Company Fax	Fax Destiny	Fax Date
fax00000000.pdf	5934229024400000	5934229024400000	Desarrollo Fax Virtual - 511	2007-09-24 18:30:27
fax00000009.pdf	5934229024400000	5934229024400000	Desarrollo Fax Virtual - 511	2007-09-24 18:44:26
fax00000010.pdf	5934229024400000	5934229024400000	Desarrollo Fax Virtual - 511	2007-09-24 18:48:51
fax00000011.pdf	5934229024400000	5934229024400000	Desarrollo Fax Virtual - 511	2007-09-24 18:50:43

Besides this, we have the option to download the fax in PDF format, by clicking on the desired file in the list of faxes received.

The report will change depending on the values of the filter:

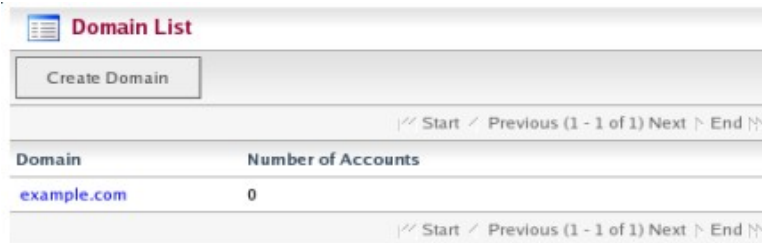
Company Name:	Name of the company that is sending the fax.
Company Fax:	Number of the Fax of the company that is sending the fax.
Fax Date:	Sent date of fax.

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d) MENU: EMAIL

1 Domains

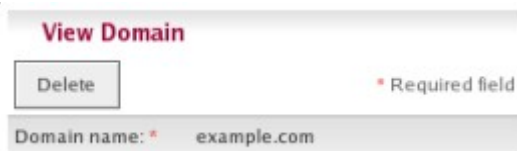
The option “Domains” of the Menu “Email” in Elastix lets us view and configure the domains in the email server.



Domain	Number of Accounts
example.com	0

View and Delete

Clicking on the names of the domains will bring us to a screen that shows the data of the domain.



Domain name: * example.com

To delete a domain, click on the “Delete” button.

Create Domain

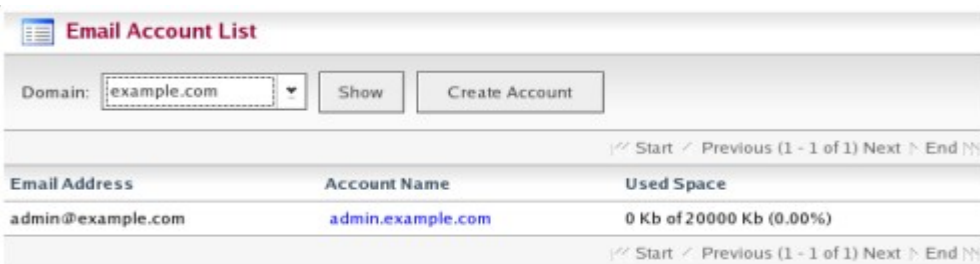
To add a domain, click on the “Create Domain” button. A form will be shown where you will input the name of the new domain:



Domain name: *

2 Accounts

The option “Accounts” of the Menu “Email” in Elastix lets us view and configure the email accounts for each of the domains specified in the server.



Email Address	Account Name	Used Space
admin@example.com	admin.example.com	0 Kb of 20000 Kb (0.00%)

View, Edit and Delete

Clicking on the name of the account will bring us to a screen that shows the data for the account.

View Account

Edit Delete * Required field

Account Name: * admin.example.com Password: *

Quota (Kb): * 20000 Retype password: *

To delete an account, click on the “Delete” button.

You can also modify the account information by clicking on the “Edit” button. The information that can be changed are: Quota and Password.

Edit Account

Apply changes Cancel * Required field

Account Name: * admin.example.com Password: *

Quota (Kb): * 20000 Retype password: *

Create Account

To add a new account, select the domain under which it will be created and click on the “Create Account” button. A form will appear in which you will input the information for the following fields:

New Email Account

Save Cancel * Required field

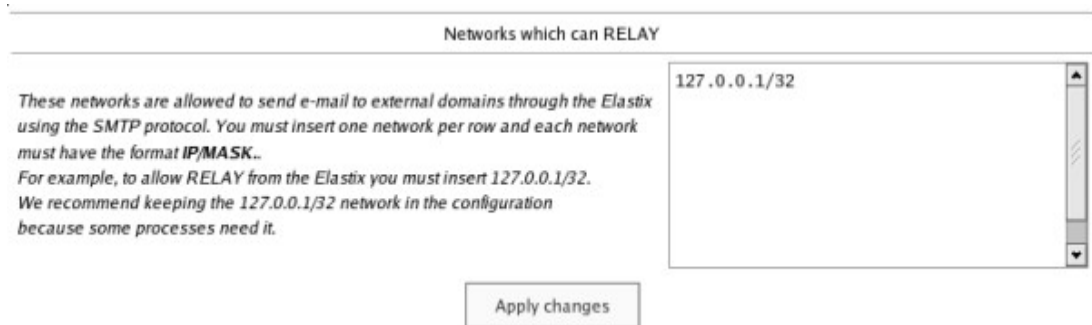
Email Address: * @example.com Password: *

Quota (Kb): * Retype password: *

Email Address	This is the text that comes before the @ symbol
Quota	The maximum space that this email account can use for the storage of emails on the server. The space is measured in kilobytes, so please be aware of this when the quota amounts are assigned for each user.
Password	The password of the user of the email account
Retype password	Confirmation of the password of the user

3 Relay

By default, the email server doesn't receive emails for accounts that are not found in the domains. The purpose of this is to prevent the server from being used for spam applications or trash and to prevent the unnecessary utilization of system resources. But there are some cases where it is necessary to activate this option for certain networks, such as, the internal network of a company. This way, the users can use the email server in Elastix to send emails to destinations that are outside of the domain of the system. In the option "Relay" it is specified the networks in which Elastix allows you to connect and use the server to send emails. The networks should be inputted as IP/MASCARA. For example: 192.168.1.0/24.



Networks which can RELAY

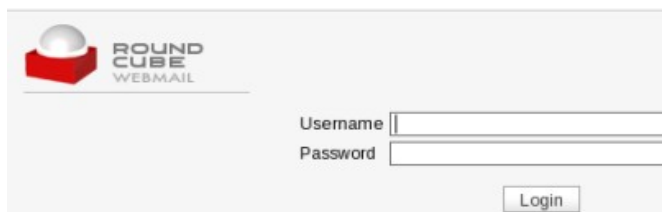
These networks are allowed to send e-mail to external domains through the Elastix using the SMTP protocol. You must insert one network per row and each network must have the format IP/MASK..
For example, to allow RELAY from the Elastix you must insert 127.0.0.1/32.
We recommend keeping the 127.0.0.1/32 network in the configuration because some processes need it.

127.0.0.1/32

Apply changes

4 Webmail

The option "Webmail" of the Menu "Email" in Elastix lets us review the email of the domains configured.



ROUND CUBE WEBMAIL

Username

Password

Login

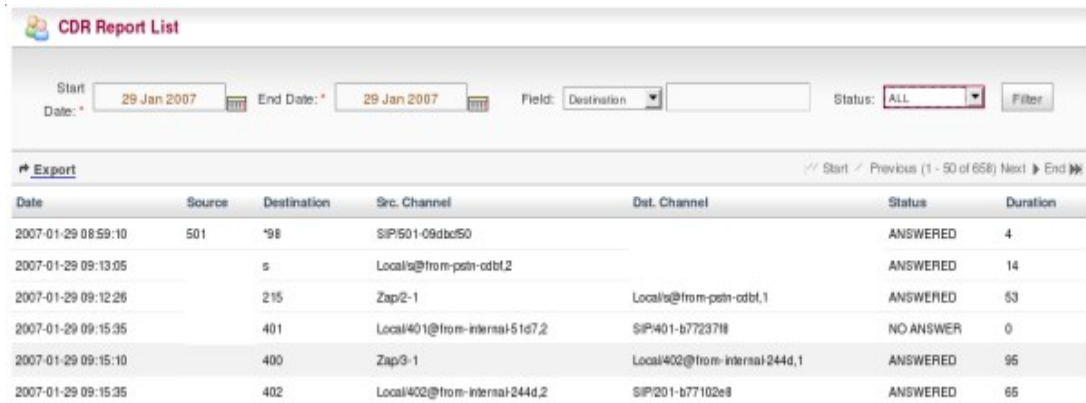
To enter, input your username and password, and click on the "Login" button.

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e) MENU: REPORTS

1 CDR Reports

The option “CDR Reports” of the Menu “Reports” in Elastix lets us view a list with the details of the calls.



CDR Report List

Start Date: 29 Jan 2007 End Date: 29 Jan 2007 Field: Destination Status: ALL Filter

Export Start / Previous (1 - 50 of 658) Next / End

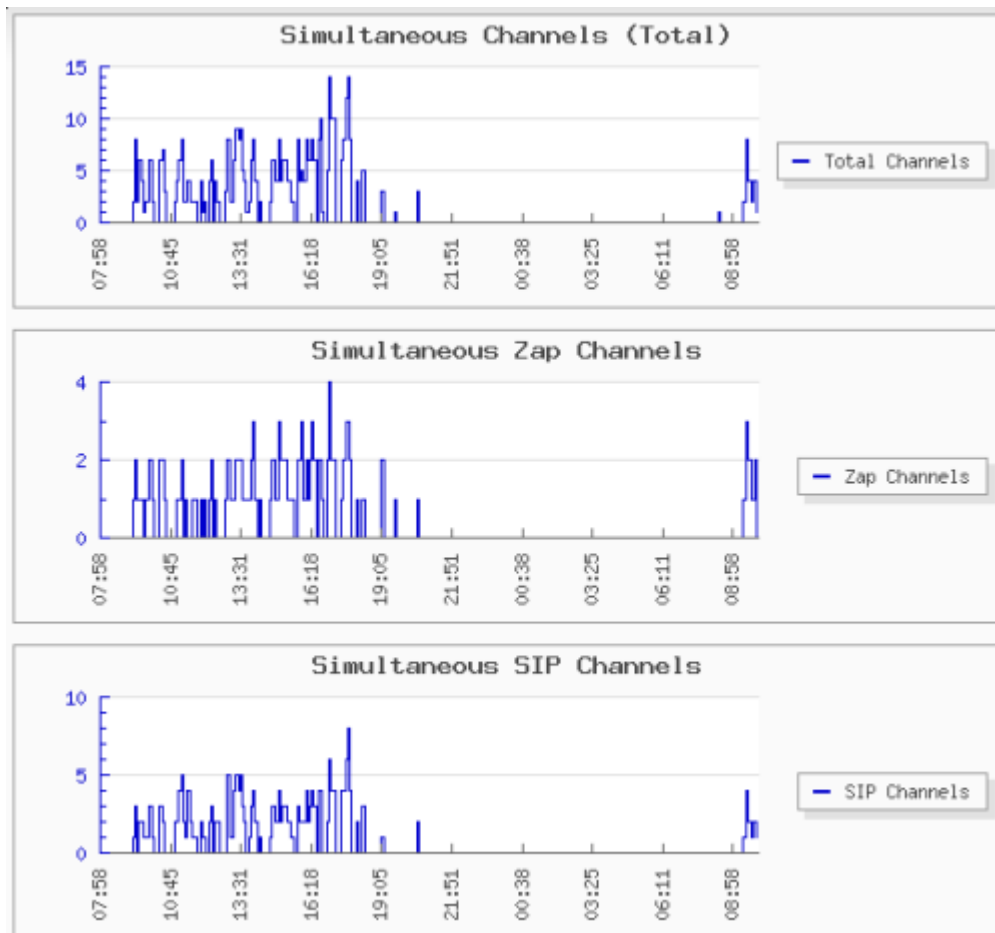
Date	Source	Destination	Src. Channel	Dst. Channel	Status	Duration
2007-01-29 08:59:10	501	*98	SIP/501-09dcb50		ANSWERED	4
2007-01-29 09:13:05		s	Local@s@from-pstn-cdbf2		ANSWERED	14
2007-01-29 09:12:26		215	Zap/2-1	Local@s@from-pstn-cdbf,1	ANSWERED	53
2007-01-29 09:15:35		401	Local401@from-internal-51d7,2	SIP/401-b77237ff	NO ANSWER	0
2007-01-29 09:15:10		400	Zap/3-1	Local402@from-internal-244d,1	ANSWERED	95
2007-01-29 09:15:35		402	Local402@from-internal-244d,2	SIP/201-b77102e8	ANSWERED	65

The report will change depending on the values of the filter:

Start Date:	The start date of the calls to be selected.
End Date:	The end date of the calls to be selected.
Field:	Additional fields for filtering: Source, Destination, Dst. Channel.
Status:	Status of call: Answered, Busy, Failed, No Answer.

2 Channels Usage

The option “Channels Usage” of the Menu “Reports” in Elastix lets us view graphically the number of simultaneous calls for each channel.



3 Billing

- **Rates**

The option “Rates” of the Menu “Billing” in Elastix lets us view and configure the rates that will be used for the billing of the calls.

Rates List			
Create New Rate			
⏪ Start / Previous (1 - 1 of 1) Next / End ⏩			
Prefix	Name	Rate	Rate Offset
2	Local	0.020	0.001
⏪ Start / Previous (1 - 1 of 1) Next / End ⏩			

View, Edit and Delete

The link View will take us to a screen where we will see the rate details.

View Rate

Edit Delete * Required field

Prefix: *	2	Rate: *	0.10
Name: *	Local	Rate Offset: *	0.00

To delete a rate, click on the “Delete” button.

You can also modify the values of the rate by clicking on the “Edit” button. The only values that can change are: Name, Rate and Rate Offset.

Edit Rate "Local"

Apply changes Cancel * Required field

Prefix: *	2	Rate: *	<input type="text" value="0.10"/>
Name: *	<input type="text" value="Local"/>	Rate Offset: *	<input type="text" value="0.00"/>

Create Rate

To add a new rate, click on the “Create New Rate” button. A form will be shown in which you will input the following fields:

New Rate

Save Cancel * Required field

Prefix: *	<input type="text"/>	Rate: *	<input type="text"/>
Name: *	<input type="text"/>	Rate Offset: *	<input type="text"/>

Prefix	The telephone prefix in which the rate will be applied.
Name	Name of the rate.
Rate	Value of the rate.
Rate Offset	Value of the connection.

- **Billing Report**

The option “Billing Report” of the Menu “Billing” in Elastix lets us view the details of the call with respect to cost and applied rate.

Date	Source	Destination	Dst. Channel	Duration in seconds	Cost	Rate Applied
2007-01-10 09:55:05	201	2392712	Zap/1-1	168	0.280	Local
2007-01-10 12:55:43	212	2393522	Zap/1-1	39	0.065	Local
2007-01-10 12:56:32	212	2393522	Zap/1-1	27	0.045	Local
2007-01-10 12:57:09	212	2393522	Zap/1-1	194	0.323	Local
2007-01-10 14:46:05	213	2397749	Zap/1-1	83	0.155	Local
2007-01-10 15:02:20	213	2393522	Zap/1-1	3	0.005	Local
2007-01-10 15:02:46	213	2393522	Zap/1-1	32	0.053	Local

The report will change depending on the values of the filter:

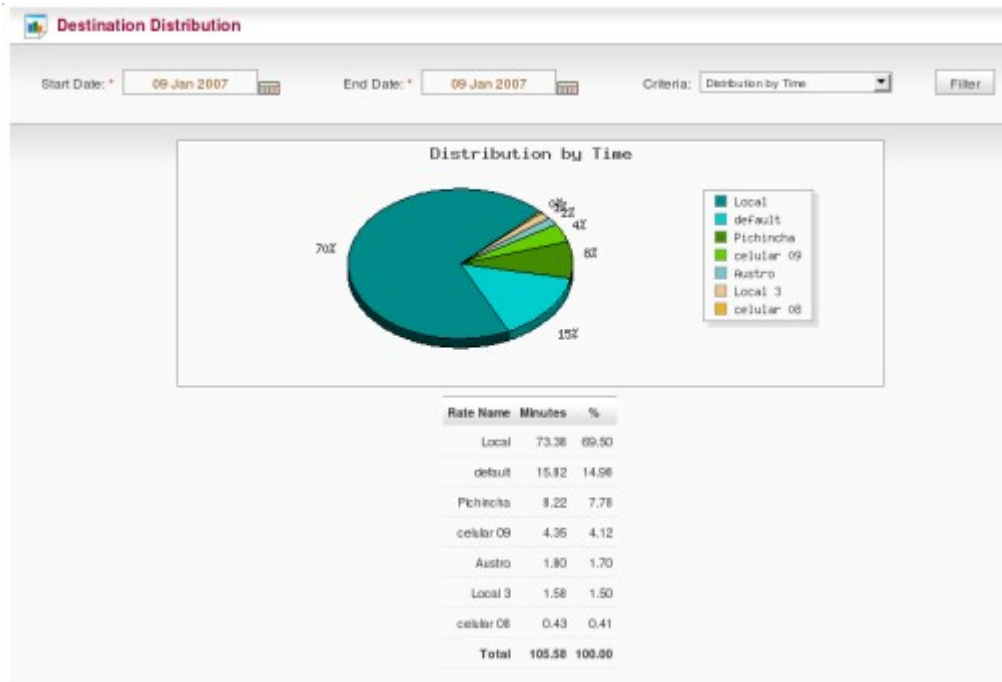
Start Date	The start date for the calls to be selected.
End Date	The end date for the calls to be selected.
Field	Additional fields for filtering: Source, Destination, Dst. Channel

- **Destination Distribution**

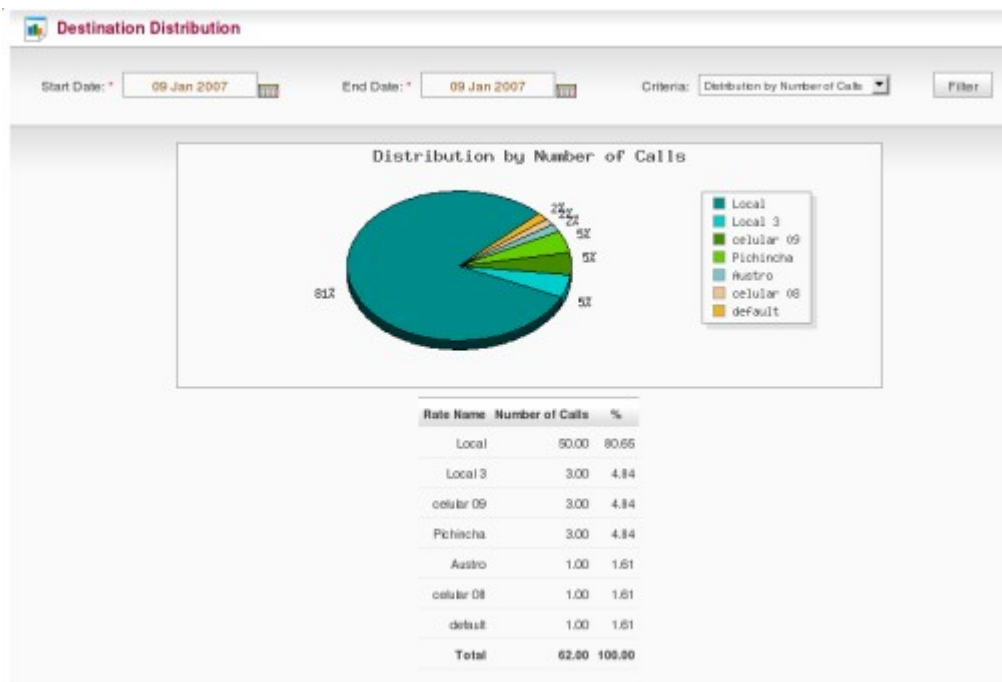
The option “Destination Distribution” of the Menu “Billing” in Elastix lets us view graphically the distribution of the outgoing calls grouped by rate. The graph will change depending the values of the filter:

Start Date	The start date for calls to be selected.
End Date	The end date for calls to be selected.
Criteria	Criteria for distribution: Distribution by Time, Distribution by Number of Calls, Distribution by Cost.

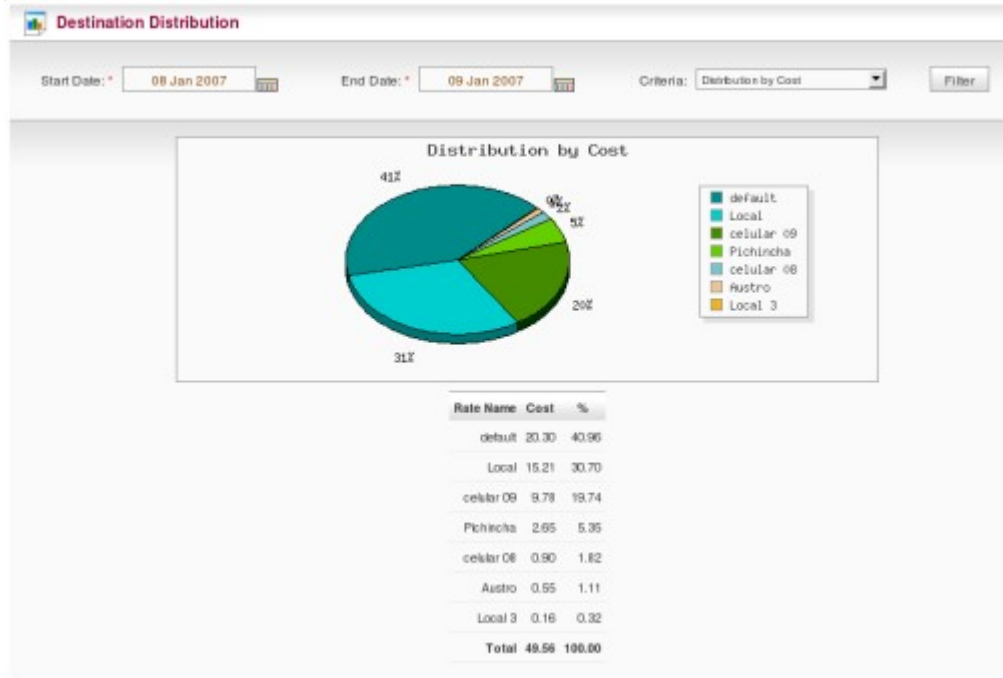
Distribution by Time



Distribution by Number of Calls



Distribution by Cost



- **Billing Setup**

Within this option there are two sections:

Default Rate Configuration

The option “Default Rate Configuration” of the Menu “Billing” in Elastix lets us determine the cost per minute of the connection for the route by omission.



The screenshot shows a form titled "Default Rate Configuration". At the top left is an "Edit" button. At the top right is a red asterisk followed by the text "* Required field". Below this are two rows of configuration fields:

Default Rate: *	1.0
Default Rate Offset: *	0.0

Trunk Bill Configuration

The option “Trunk Configuration” of the Menu “Billing” in Elastix lets us determine which of the trunks will be used for obtaining the calls for the billing process.



The screenshot shows a form titled "Trunk Bill Configuration". At the top left is a "Billing Capable" button. Below this is a table with a header row "Trunk" and one data row "ZAP/g0". The data row has a checkbox to its left. At the bottom right of the table are navigation links: "|<< Start / Previous (1 - 1 of 1) Next / End >>|".

	Trunk
<input type="checkbox"/>	ZAP/g0

The list shows all of the registered trunks; you should select the ones that will be used for billing and click on the “Billing Capable” button.

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f) MENU: EXTRAS

1 SugarCRM

The option “SugarCRM” of the Menu “Extras” in Elastix lets us use the information system application, which allows us to administer all that is related to the clients in a company.

Welcome to
SUGAR OPEN SOURCE.

Please enter your username and password.


User Name

Password

 Options

2 Calling Cards

The option “Calling Cards” of the Menu “Extras” in Elastix offers us the possibility of making international calls for a price that is lower than normal, through a number that the telephone company provides for making calls. These companies can be the typical telephone companies of each country or businesses specializing in telephone services.

 **AUTHENTICATION**

User:

Password:

3 Downloads

- **Softphones**

The option “Softphones” lets us download Xten Lite or Idefisk, which are software for the simulation of a conventional phone on a computer.



Xten Lite

Xten Lite is an SIP client for Linux, Windows and Mac OS X. At the moment there is a free version and a commercial one.

Manufacturer Description

“Superior audio and video quality, zero-touch configuration, IM & Presence, and a comprehensive personal address book.”

Download Link:

<http://www.xten.com/index.php?menu=download>

Manufacturer: [CounterPath](#)



Idefisk

Idefisk is a softphone for Windows, Linux and MacOS

Manufacturer Description

A free softphone with SIP and IAX support. Version 2.0 features a complete new look and a new user-friendlier interface.

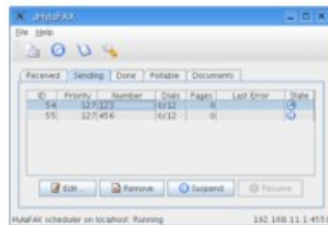
Download Link: <http://www.asteriskguru.com/idefisk/free/>

Manufacturer: <http://www.asteriskguru.com/idefisk/>

To download one of these Softphones, click on the link corresponding to each software.

- **Fax Utilities**

The option “Fax Utilities” lets us download JHylaFAX or Winprint Hylafax, software for sending and receiving faxes in a fast and easy manner.



JHylaFAX

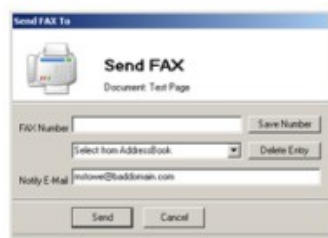
JHylafax y a Hylafax frontend written in Java. It can be installed in Linux, Windows and MacOS.

Manufacturer Description

“A Java client licensed under the GPL for the HylaFAX fax server. JHylaFAX is purely written in Java and runs on any Java 5.0 enabled platform. It has a small footprint, starts up fast and features a sleek user interface.”

Download Link: http://sourceforge.net/project/showfiles.php?group_id=136485

Manufacturer: [JHylaFAX](#)



Winprint Hylafax

Winprint HylaFAX is a utility created to send faxes from any Windows machine through a HylaFAX Server.

Manufacturer Description

“Winprint HylaFAX is a Windows print monitor designed to send its output directly to a HylaFAX Server. Once installed, you can print to a HylaFAX Server from any application, and it will pop up a simple dialog box, allowing you to enter the destination FAX number. It's not intended to be fancy or all encompassing, just a quick and easy way to send FAXes from any Windows application.”

Download Link: http://sourceforge.net/project/showfiles.php?group_id=91606

Manufacturer: [Winprint Hylafax](#)

To download any of these Utilities, click on the link corresponding to each software.

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3.3. Advanced Configuration

a) VIRTUALIZATION

This section describes how to install Elastix as a virtual Xen machine.

- Server CentOS 5 with XEN (in theory, it can be done with any server with Xen). Assume IP 192.168.21.25
- Web server activated (for this test, we will use as DocumentRoot this directory /var/www/html)
- Elastix image > 0.8-5 (in our case: Elastix-0.8-5-06sep2007.iso)

Procedures:

- Create the folder for the point of installation:
`mkdir /var/www/html/Elastix`
- Copy the “ks_xen.cfg” file to /var/www/html. This file can be downloaded at the URL provided in the Resources section below.
- Add the Elastix image.
`mount -o loop Elastix-0.8-5-06sep2007.iso /var/www/html/Elastix`
- Open “Virtual Machine Manager”:
`virt-manager`
- In the window “Open connection” choose: “Xen Local Host”
- Select the “New” button
- In the window “Create a new virtual system” click the button “Next”
- Choose a name for the virtual machine; in our case “ElastiXen”
- Choose the method of virtualization; in our case “Paravirtualization”
- Later, in the “Locating the installation medium” screen, use “URL of the Installation Medium” and type: `http://192.168.21.25/Elastix`. In “URL of Kickstart” type: http://192.168.21.25/ks_xen.cfg
- For the “Assigning storage space” window, choose “Simple file” and look for the path of the image file of the virtual machine. Also specify the size.
- Continue and create the file for the hard drive of the virtual machine and start the installation process. Proceed as usual.

Resources:

- The “ks_xen.cfg” file can be downloaded here:
http://www.elastix.org/downloads/ks_xen.cfg

Referencias:

- We recommend the following reading:
<http://www.centos.org/docs/5/pdf/Virtualization.pdf>

b) Calls with Video

This is an easy task because Elastix 0.8 has the video codecs already loaded. So you just have to set a couple of things in your SIP configuration to get your video calls working.



Under sip.conf ('general' section) add the following lines:

```
videosupport=yes  
maxcallbitrate=384
```

```
allow=h261  
allow=h263  
allow=h263p  
allow=h264
```

Reload your Elastix configuration and that's it! Yes, that's it!

To reload please run the following command from the CLI.

```
CLI> reload
```

Here is a list with some softphones that support video and have been tested against Elastix. Our choice is Ekiga.

Tested softphones		
Software	URL	Platform
Ekiga (Tested by Edgar)	http://www.ekiga.org	Linux
Adore Video (Tested by Edgar)	http://www.adoresoftphone.com/softphones/softphone-video.html	Windows
Eyebeam (Tested by Gabriel25)	http://www.counterpath.com/index.php?menu=Products&smenu=eyeBeam	Windows
Bria 2.0 (Tested by Gabriel25)	http://www.counterpath.com/index.php?menu=Products&smenu=bria	Windows

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