DINOMI Call Center Module

Administration Manual v 1.1

DINOMI
March 2017

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INTRODUCTION

The DINOMI Call Center Module is a Call Center software solution for Elastix®.

DINOMI provides enterprise-level features at a very competitive price, making it affordable to any medium to advanced contact center. DINOMI is available at any time. What does that means? You don't have to have a pre-commercial talk or requirement with us to purchase a license; you just proceed to our online Store and get as many licenses as you need.

Not sure if or DINOMI is for you? No problem! You can get a demo version from an existing Elastix® installation with just a few clicks. This version comes pre-activated for 45 days and up to 25 agents.

If you need instructions on how to install Elastix®, (versions 2.5 and 4) please refer to the Annex A, B and C of this manual. We suggest to you – if this is your first time using Elastix – to review that information prior read this document.

If you have any question or require support please write us to: sales@dinomi.com

DINOMI Call Center Module Installation

To install DINOMI Call Center Module it is necesary to count with an Elastix® server previously installed.

IMPORTANT: Do not install DINOMI from the addons menu available in the Elastix GUI

You can install DINOMI Call Center Module through SSH or the Linux Console of your server
First, install "wget" with the following command:

```
yum install wget
```

Note: if your server has wget already, skip this step.

Installation of DINOMI repositories

Go to the following directory: /etc/yum.repos.d

```
cd /etc/yum.repos.d
```

Once in the directory – /etc/yum.repos.d – execute:

For Elastix 2.5: `wget http://repo.dinomi.com/dinomi/dinomi-pbx-addons-25.repo`

For Elastix 4: `wget http://repo.dinomi.com/dinomi/dinomi-pbx-addons-4.repo`

Then execute:

```
yum clean all
```

Installation

To install DINOMI execute (in any version):

yum install dccmelx

After that you can enter the Elastix GUI and activate a DEMO or a license.

Note: the installation method for Elastix 2.5 is the same for Elastix 2.4.

Update

If you already had DINOMI installed in your Elastix and you need to update, begin the process and install DINOMI repositories, after that you just need to execute:

```
yum update dccmelx
```

Web GUI

As the DINOMI makes use of the Elastix framework, we will refer to the different areas of the interface with terms like menu, sub-menu, module, work area, as it is shown in the picture below:
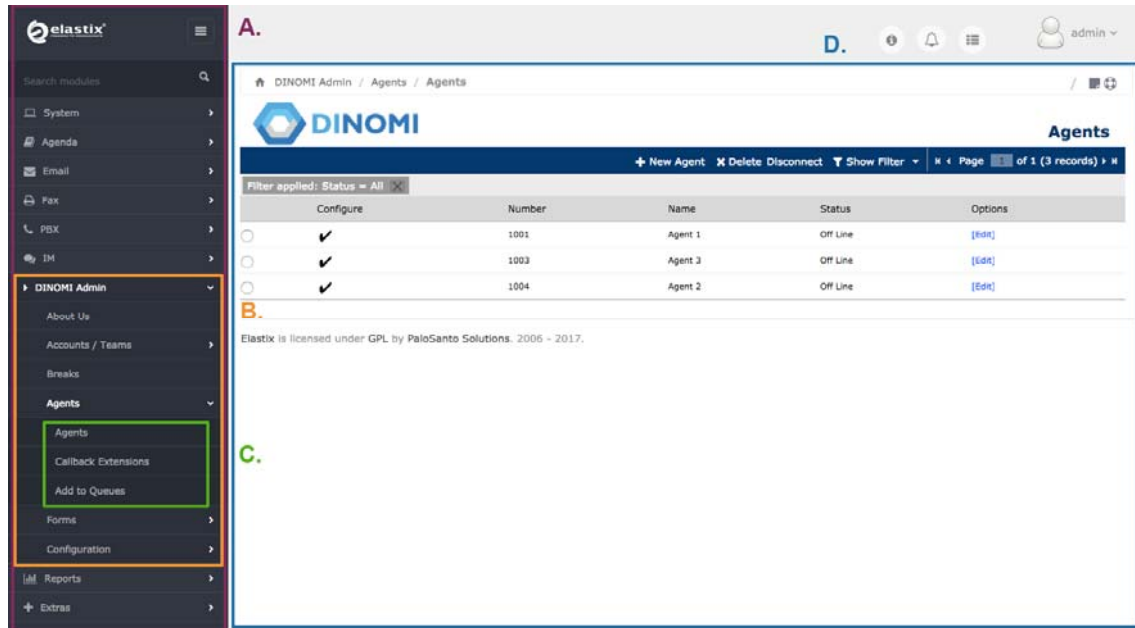
A. **General menu**.- It corresponds to the general sections or modules in Elastix that contains configurations or specific systems. The DINOMI has two menus: *DINOMI Admin* and *DINOMI Manage*.

B. **Sub-Menu**.- Available sections on every general menu.

C. **Modules** of each sub-menu.

D. **Workspace** and configurations.

Depending on the section or option you click in the Call Center, the workspace will show additional controls or items, we will name these controls like it can be seen in the picture below:
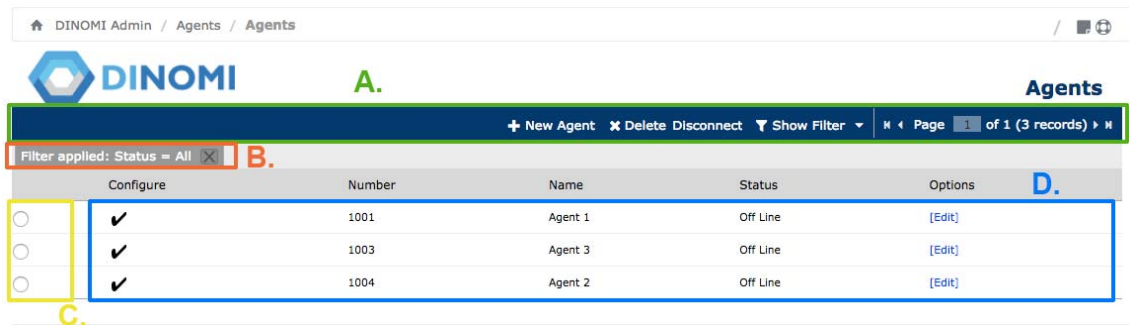
A. **Action Bar.-** Contains functions that execute actions in the module.

B. **Filter area.-** Shows the selected filters on dark gray.

C. **List heading.-** Show the heading of each column in the module information list.

D. **Information display area.-** lists parameters, configurations.

E. **Selection column.-** Allows to select listed items in the information list and perform an operation mentioned in the action bar.

Throughout existing configurations in the call center we will find additional configuration interfaces.
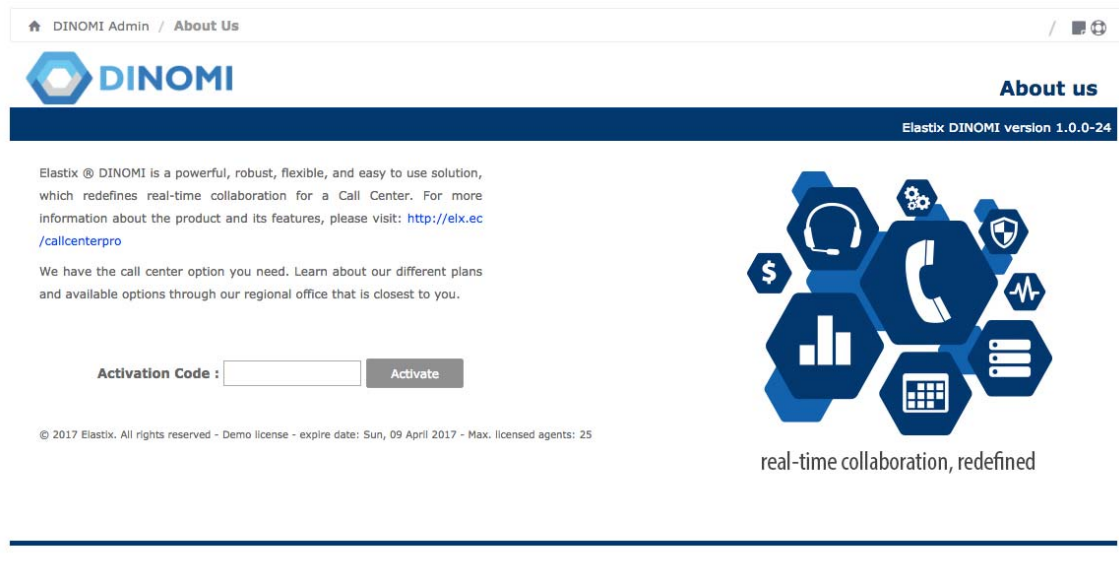
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DINOMI Admin

This section is for administration and general configuration of the DINOMI.

E.g.:
Supervisors Administration and Agents, data base configuration and AMD parameters.

The *DINOMI Admin* menu, has the following Sub-menus:

- About Us
- Accounts / Teams
- Breaks
- Agents
- Forms
- Configuration

About Us

This section allows to enter a license and activate the DINOMI. The licensing system allows customers to purchase any number of license required without restrictions or previous commercial contacts.

Customers who have purchased a license just need to enter the alphanumeric serial in the "*Activation Code*" field. DINOMI allows to stack licenses if it is needed t add more agents as the company grows.

Licenses are based on concurrent agents logged in. For example, you can have 100 agents in shifting turns but if only 50 of them are logged in the call center at the same time, you'll need only 50 licenses.

The license is valid for a year of unlimited upgrades, renewal is not mandatory. Supervisor roles does not consume licenses.

For more information about commercial terms and conditions, please go to:
http://dinomi.com/en/dinomi-for-elastix/

You can purchase a license immediately through our web store:
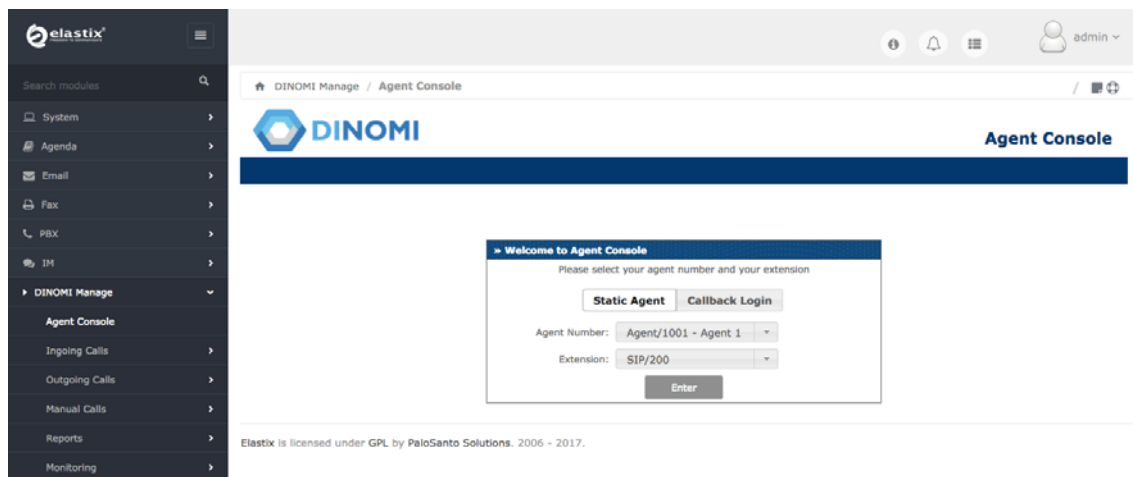http://store.palosanto.com/index.php/home-page/dinomi.html

DINOMI Manage menu

This menu is for management of the Call Center operations.

E.g. *campaign creation, monitoring and reports.*

The DINOMI Manage menu, has the following Sub-menus:

- Agent Console
- Ingoing Calls
- Outgoing Calls
- Reports
- Monitoring

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CHAPTER 1

Previous configurations in Elastix

It's necessary to perform some initial configurations in Elastix before beginning the setup and operation of the DINOMI. These configurations include creation of users, extensions, queues, trunks, inbound and outbound routes and other settings required for the telephony operation in Elastix.

Detailed information and "how to's" are beyond the scope of this manual, however the reader can obtain support with the following sources:

- **Book "Unified Communications with Elastix Volume 1"**, author: Edgar Landívar: http://www.elastixbook.com
- **Book: "Getting Started with Elastix: Beginners guide"**, author: David Duffett: http://www.p8tech.com/Book-Ebook-Getting-Started-With-Elastix-David-Duffett.html

Starting the Call Center operation

We suggest performing the following configurations in Elastix prior to start the Call Center, they will be detailed below:

1. Install the Call Center module
2. Create a group with permissions in Elastix for Call Center Agents
3. Create users for each Agent
4. Create extensions for each agent
5. Create agents in the Call Center module
6. Create queues required for the operation

Additional configuration
1. Create trunks
2. Create outgoing routes
3. Create incoming routes
4. Create one or more IVRs for incoming campaigns.

Create a group with permissions in Elastix for Call Center Agents

This is needed to limit the access to the system and allow the use of the Call Center's agent console.

The agent logs in via the Elastix Web Interface with an individual account. For security purposes, that agent needs to be assigned to a group with limited access to the Elastix functionality; so it does not have privileges to configure extensions, trunks of changing the system password.

We'll talk about the agent console in future chapters.

We will create a group named *Call Center* with access restriction to the agent.
Note: you can use any other name for the group: agents, operators, salesman, etc.

In the Elastix Web interface (GUI) proceed to:

System → Users → Group: Create New Group

Click on the *save* button to complete the process.

Once we've created the group we have to configure the permissions, go to:

System → Users → Group Permissions

Click on "*Show Filter*" to look for the created group. Write "*Agent Console*" in the field "*Resource*" then click on *Show*.

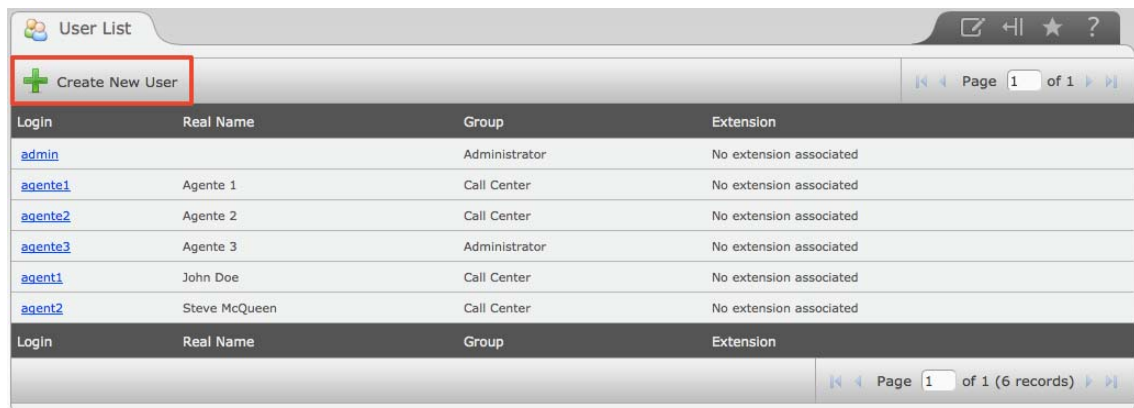We select the resource and the click on "**Save Selected as Accessible**".
From now on, any user created in that group will only have access to the agent console module.

User creation
All agents require a user to log in to Elastix.
To create new users go to:

System → Users → Create New User

The group by default when creating a user is "Administrator" so is important to select the group we created earlier.

The required information is:

- **Login:** The username for login
- **Name:** The complete name of the user. It can be a generic name such as: *Agent 001*
- **Password:** The access key to Elastix (Use a strong password if possible)
- **Group:** The group the new user will belong to
- **Extension:** Displays a list of created extensions. It is not a required field, and we recommend not assigning an extension to the Call Center agents

Click on save to complete the process.

Note: Webmail information requires mail configuration on the server. As Webmail configuration is not required for a Call Center Agent, this configuration won't be explained in this manual.

We must create as many users as the number of Call Center agents we have.

Is important to mention that the DINOMI allows creating supervisors, which are users with privileges to create campaigns among other permissions. These users are created in the *Accounts/Teams* module; Elastix will create the group and assign permissions automatically in the system. We will review this in **chapter 4**.

Agents and Extensions
Taken from "Implementing Call Center in Elastix"

In Asterisk there are two concepts that appear to be similar from a wrong perspective, Extension and Agents.

In the case of an extension, this is a series of commands on the dial plan that will allow us to establish communication between two channels. For this reason we usually associate the term extension to a phone number. (You can check this concept in more detail in the book *Unified Communications with Elastix, Vol. 1* or *Asterisk The Definitive Guide*)

The Agent concept, however, is associated with a person who can use different extensions.

To put it more simply we will use an example with a real case.

Suppose we have a call center with 50 workstations and each workstation has an extension on a range from 1001 to 1050. If we only have 50 operators we won't have any problem because we can identify them by their extension number.

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Now, if we have two shifts of 50 operators each, the organization, management and reporting for analysis is complicated, moreover if for some reason an operator has to occupy a different workstation and therefore a different extension.

To solve this problem Asterisk introduces the concept of agent. The agent can occupy different workstations/extensions and it has a number to be identified.

This allows the operator to sign in on the call center with an agent number using a random extension, i.e. the extension of the workstation currently assigned.

Thus, it is easy to conceive the organization of a call center with 2 shifts, 100 operators/agents and 50 seats, where two operators can use a fixed station in different shifts, or random stations according to how they are located by a supervisor. This is possible because all the information related to their performance during the call center operation is related to the agent number.

Queues created for the Call Center operation must be configured with **agent numbers instead of extensions**.

Extensions

In the previous section, we recommended that the users created for the agent operations do not have an assigned extension on the user creation. However for the call center operation, each agent must have an extension available to be able to receive calls and that is assigned to him at the moment he logs into the call center. Therefore, we must create as many extensions as concurrent agents that wil be operating on all the campaigns.

It is enough to create SIP extensions; there are several manufacturers and developers that create IP Phones and Softphones based on that protocol. We can use IAX2 extensions as well although the devices that support this type of extensions are limited.

Softphones are widely used to make the operation easy to deploy. Some of the most used solutions are:

Zoiper – www.zoiper.com - Supports SIP and IAX2
X-lite – http://www.counterpath.com/x-lite.html - Supports SIP

We won't review extensions creation or endpoint configuration in this manual. You may refer to additional Elastix documentation at http://blogs.elastix.org/en/documentation/

Agents

The creation of agents is different from the creation of users and must be created on the Call Center Module.
For example, an agent/operator requires a user to log in to the Elastix Web GUI, once logged in he/she requires an agent number to register in call center module.

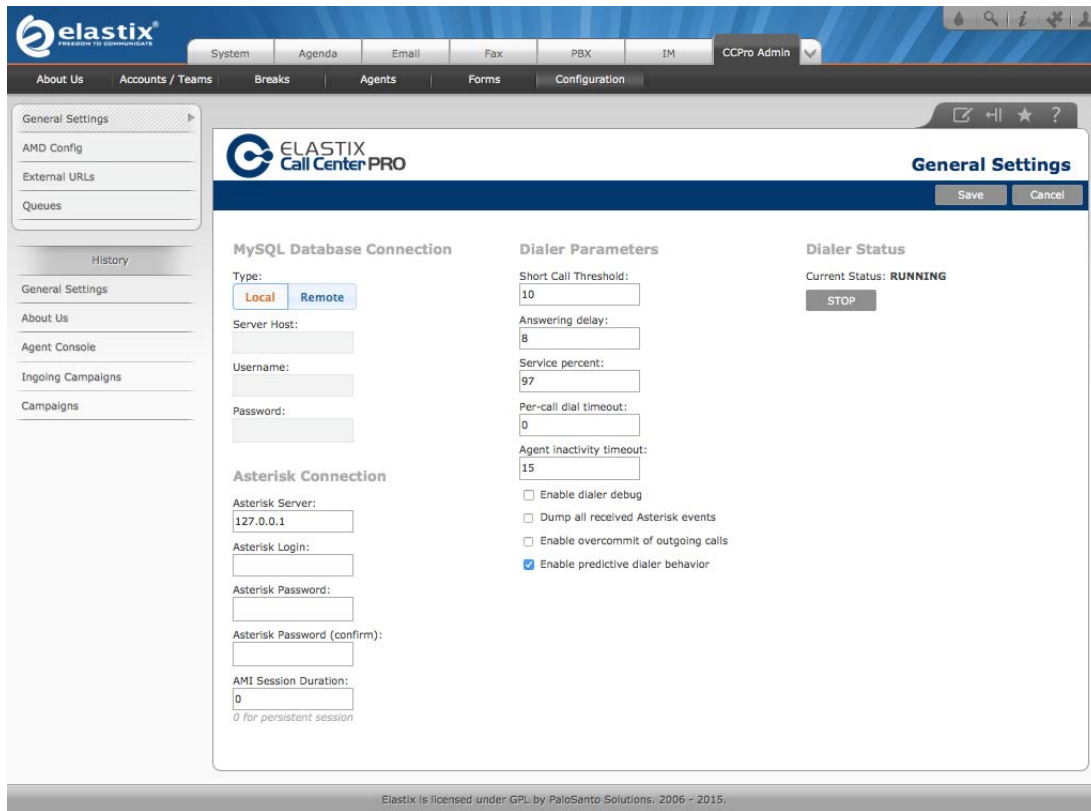We will review the agent creation on chapter 3.

CHAPTER 2

System configuration

Menu: DINOMI Admin
Sub-Menu: "Configuration"

Module: General Settings

This module is located at *DINOMI Admin → Configuration → General Settings*

MySQL Database Connection.

The system can operate in two modes, *Local connection* or *Remote connection*.

- **Local connection.-** The MySQL database server is located on the same server that Elastix.
- **Remote connection.-** The MySQL database server is located in an external server, different than our Elastix.

We must provide the following information for remote connections:

- **Server Host:** address of the remote server
- **Username:** user in MySQL with all the privileges over the call_center_pro database.
- **Password:** the key used for connection.

Asterisk Connection

Asterisk Server
This field configures the address where Asterisk resides, normally in the local host.

Asterisk Login
Allows us to indicate a specific login for the Asterisk AMI interface. If we don't edit this field, the call center uses the first login that is in /etc/asterisk/manager.conf; an application example for this is the use of a different login than 'admin', or if you configure Asterisk on a different machine from Elastix.

Asterisk Password
It is the password or password to login. If we don't edit this field, the Call Center will take data from the first login to be found at /etc/asterisk/manager.conf.

AMI Session Duration (0 for persistent)
This field requires that the dialer disconnects and reconnect to the AMI after the number of seconds indicated. It is a test tool and used for debugging. The default value is 0, so that the action does not run off.

Dialer Parameters

Short Call Threshold
It may happen that an outgoing call rings, then connects (the call recipient answers), and is passed to the agent, but it gets disconnected for some reason without any interaction of the agent (for example, the recipient hanged up). From the point of view of Asterisk the call was "successful" but it wasn't a valid for the campaign.

DINOMI uses the *Short Call Threshold* to prevent these calls to be marked as valid. This value specifies the minimum length of a call to be considered valid for the campaign. If the duration of the call is less than the indicated value, it is considered as failed. The default value is 10 and is measured in seconds.

Answering delay
It is the amount of time between assigning a call to the agent and determining its status (whether the call connected or failed). During an outbound campaign, this value is replaced in real-time with the actual statistic of the average time it takes for calls to be answered. This calculated value, is kept in memory and it's not written to the database.

Regarding this field, we'll do an extended explanation.
The DINOMI internal dialer service monitors how long an agent has been attending a call (busy agent), and estimates the probability of time ("*X*" seconds) in which the agent will end the call and become available.

If this probable time accuracy is greater than the *service percentage*, a new call is placed as if the agent is free. The time amount of "X" that is entered in the *answering delay* field, is used only as an initial estimation.

If the accuracy percentage is less than a certain number of calls, the value of this field is used, (Delay to answer) after a certain number of calls made, the calculated average answer time value is used.

Service percent (*Service percentage)*
When predicting the release of a busy agent, there is a risk that the prediction is incorrect. It may occur that a call is accidentally placed due to that prediction, and it has to wait in line after connecting until another agent is released.

To minimize this occurrence, DINOMI has a predictive algorithm that calculates the time in which an agent will be released and can take a new call. This value also returns an accuracy percentage.
This percentage indicates how certain the prediction will be from 1 to 100% and can be used to regulate the amount of calls will be done during an outbound campaign while the agents are busy.

Per-call dial timeout

It is a placement parameter. If the call is not answered beyond the time specified, it is closed and is marked as failed. This is an addition to the module in version 2.1.99-4; it doesn't affect any other parameter. The value of 0 is equivalent to a default value of Asterisk of 30 seconds. Retries are not affected by this parameter.

Agent inactivity timeout

Sometimes agents forget to logout after they finish their job at the call center, and remain as *active*. This causes problems in statistics and the dialer will continue to assign calls to that agent. This value is set in minutes and determines a maximum downtime period for an agent before the system closes the session for that agent automatically.

Enable dialer DEBUG

Allows enabling DEBUG and registration on the dialer log.
The default route of the dialer log is: */opt/elastix/dialer/dialerd.log*

Dump all received Asterisk events

It is a debugging tool. DINOMI dialer service works by listening and interpreting AMI events that Asterisk returns. Not every event returned by AMI is relevant for the DINOMI, however enabling this feature may be useful to detect a bug or to develop a new feature that requires information from an additional AMI event. This option may allow us to see if any AMI event returns the information required, although it is not taking action on it. Please note that *DEBUG* option must be activated firstin order for this option to work.

Enable overcommit of outgoing calls

DINOMI dialer service places a certain amount of calls based on the number of free agents and the estimated number of agents to be released soon. This is the default behavior.

Of all calls placed during an outgoing campaign, only a fraction is actually connected. This value is known as *Average Seizure Rate (ASR)*. If this option is enabled, the dialer service uses ASR statistics to calculate and place a larger number of outgoing calls so that it compensates the ASR and improves the time an agent stays busy.

For example, if 5 in 10 calls are connected on average, the ASR is 50%. With this option enabled the dialer will try to place twice the calls to compensate the amount of not connected calls.

Enable dialer behavior

If this option is disabled, DINOMI dialer algorithm stops making predictions and places calls progressively based on the number of free agents. In this case the value of the parameters: *Short call threshold*, *Answering delay,* and *Service percent* are not considered.

The predictive dialer has the following functions:

- Start calls using the Asterisk command *Originate*.
- Monitor calls that have been placed (by the dialer) and that have not received an *OriginateResponse* event.
- If the dialer receives an *OriginateResponse* answer (example: join or link) it writes information for that call in the database.
- Regularly query the status of the queue to determine how many agents are registered and free.
- Use the number of free agents to determine how many calls to initiate simultaneously.
- The dialer service monitors the average length of calls, to attempt to predict whether ongoing calls will end, and proactively placing a new call.

Dialer Status
Reports the status of the service and allows to start or stop the dialer.
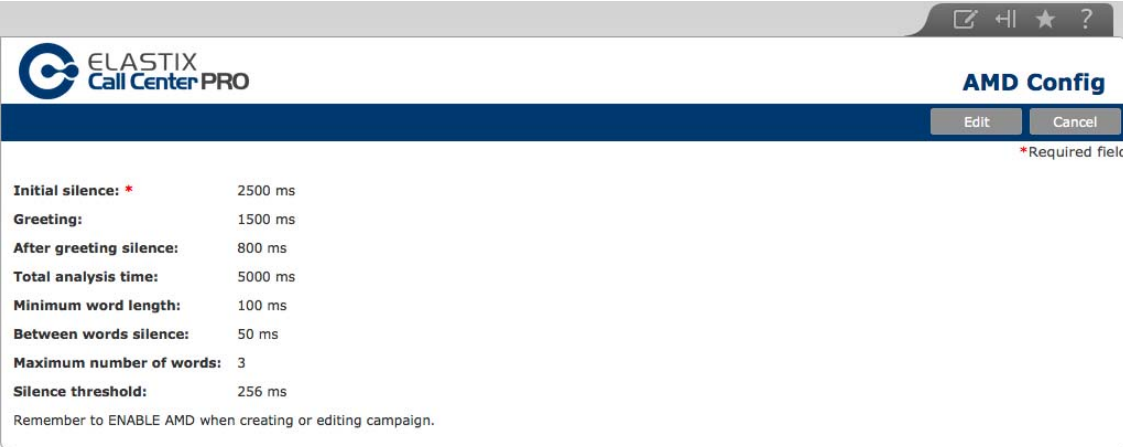
Module: AMD Config

This module is located at *DINOMI Admin → Configuration → AMD configuration*

The DINOMI system tries to detect answering machines during outgoing calls before passing them to an agent.

Activating the detection of answering machines is performed in the configuration of each outbound campaign.

The "*AMD Config*" module allows us to set the parameters of detection.

Initial Silence
It is the maximum duration of a silence before the greeting. If the time is exceeded then an answering machine is detected.

Greeting
It is the maximum length of a greeting. If the time is exceeded then an answering machine is detected.

After Greeting Silence
It is the silence after the detection of a greeting. If the time is exceeded then a human is detected.

Total Analysis Time
It is the maximum time allowed for the algorithm to decide on a human or answering machine.

Minimum Word Length
It is the minimum duration of the voice to be considered as one word.

Between Words Silence
It is the minimum duration of silence, after a word, to be taken to consider the following audio as a new word.

Maximum Number of Words
It is the maximum number of words in the greeting. If the time is exceeded then an answering machine is detected.

Silence Threshold
It is the silence threshold.

To modify any parameter we just need to click on "Edit"

Once we complete the information click on "Save".

Module: External URLs

This module is located at *DINOMI Admin → Configuration → External URLs*

<u>List of information</u>

This module allows creating and enabling all the external URLs that we want to use in a campaign.

- **Active:** Status of the external URL
    - Yes – The URL is active and can be selected y any campaign.
    - No – The URL is not active and won't be able to be selected.
- **Open in:** The place where the external URL will open
    - Embedded frame in the agent's console in Call Center web interface
    - New window in the agent's web browser
- **URL Template:** the link created to connect to an external application.
- **Description:** A short description used to identify the URL in other modules.
- **Options:** A link to enter the edition of the external URL.

<u>Action Bar</u>

- **New URL:** Registers a new external URL.
- **Page (Page control):** Allows changing pages in the list when there are too many elements. The system displays information on pages for easier viewing.

Registration of a new external URL

Click on "*New URL*", the following page will appear:

Fields description:

- **URL Template:** In this field we must place the URL that will connect to the external application. E.g.:

  http://internal.crm.org/integracion_call_center.php?agent={__AGENT_NUMBER__}&phone={__PHONE__}

  Fields between the **{__field__}** symbols will be explained later in the *Templates of an external URL* section.

- **URL Description:** Write a description of the URL. It is recommended to use a short sentence or key words, as this is the reference information shown in the "External URL" field when creating an outgoing or incoming campaign.

- **Open URL in:** Selects the location to open the invoqued URL: New windows, embedded frame and JSONP.
  - o The option *JSONP* allows to execute a JavaScript in the agent console. The URL then provides the URL of the JavaScript.

Fields with an asterisk (*) are required
Once we complete the information click on "*Save*".

Editing an external URL
Click on the *Edit link* next to the URL you wish to modify.

The following page will appear:

The system allows to modify all the information. The field "*Enable use of this template*" allows us to enable or disable the use of an external URL from any campaign.

Fields with an asterisk (*) are required
Once we complete the edition click on "Apply Changes".

Templates of an external URL

The URL template can contain identifiers with braces, e.g. {HomeAddress}, these identifiers will be replaced with real values for each connected call.

Available identifiers are the names of the attributes of the call (with capitalization distinction). There are also the following default attributes:

- {_AGENT_NUMBER_} Identifies the channel of the agent, e.g.: Agent/9000
- {_CALL_TYPE_} one of the following values: 'incoming', 'outgoing'
- {_CAMPAIGN_ID_} internal ID of the current campaign
- {_CALL_ID_} internal ID of the current campaign
- {_PHONE_} Dialed number or Caller-ID of the connected call
- {_REMOTE_CHANNEL_} Channel ID of the connected call

You can use this functionality, for example, to link DINOMI to a CRM by sending the phone number as a parameter and requesting the CRM to show the information of the related customer on the agent's screen.

Example URL to open an application:

https://IP_Address/index.php?id_client={id_client}&id_template={id_template}&id_calls={__CALL_ID__}&id_cam paign={__CAMPAIGN_ID__}

The first two parameters are columns of the CSV file used to populate an outgoing campaign and the other two are default attributes.

Module: Queues

This module is located at *DINOMI Admin → Configuration → Queues*

The DINOMI requires that all queues that will be used in outbound and inbound campaigns are registered in this module.

Note: Queues must be created previously in Elastix GUI → PBX → PBX Configuration → Queues.
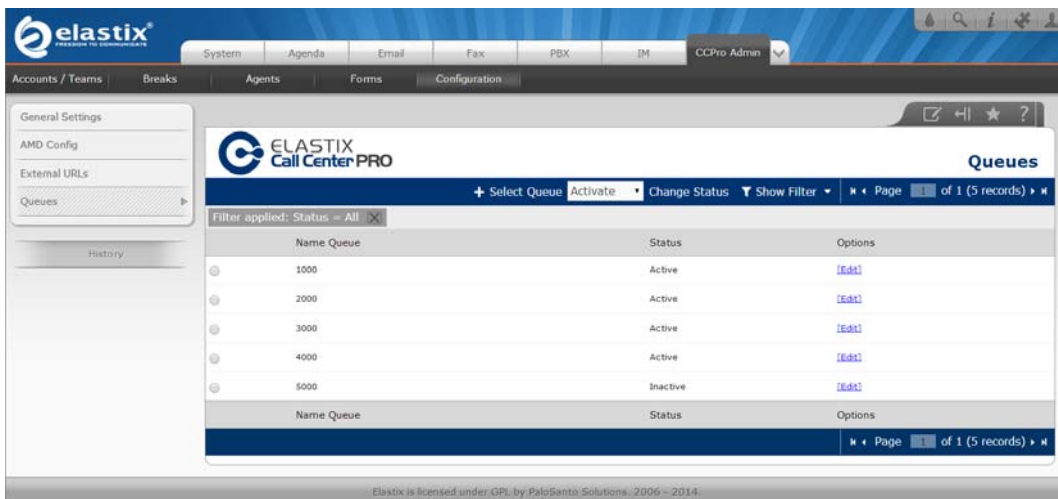
<u>List of information</u>

	Name Queue	Status	Options
○	1000	Active	[Edit]
○	2000	Active	[Edit]
○	3000	Active	[Edit]
○	4000	Active	[Edit]
○	5000	Inactive	[Edit]

This module displays the information of all the queues registered to be used in the DINOMI system.

- **Name Queue:** Number of the queue, it is related with the queue created in PBX Configuration
- **Status:** Status of the queue
  - ○ *Active* – The queue is available to be selected used in any campaign.
  - ○ *Inactive* – The queue won't be available for any campaign.
- **Options:** A link to enter the edition of the queue.

<u>Action Bar</u>
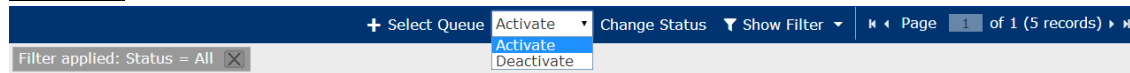
- **Select Queue:** Allows registering a queue in the DINOMI system.
- **Change Status:** Change the status of the queue: Activate – Deactivate.
- **Page (Page control):** Allows changing pages in the list when there are too many elements. The system displays information on pages for easier viewing.
- **Show Filter:** Allows filtering the information on the list based on: name of the queue and status. To perform a custom search we must complete the required information and click on "*Search*"
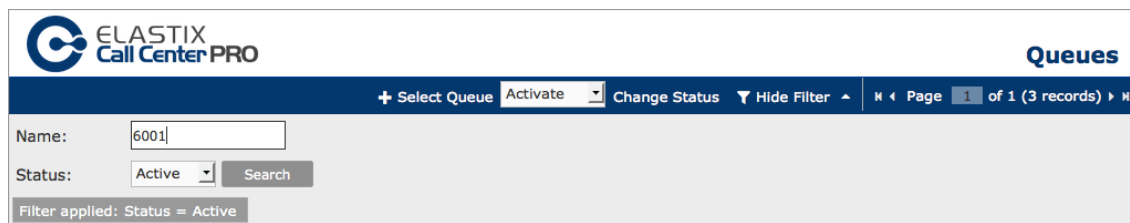
The filter selection is displayed in dark gray. Click on the X in a gray box to delete that filter criteria.
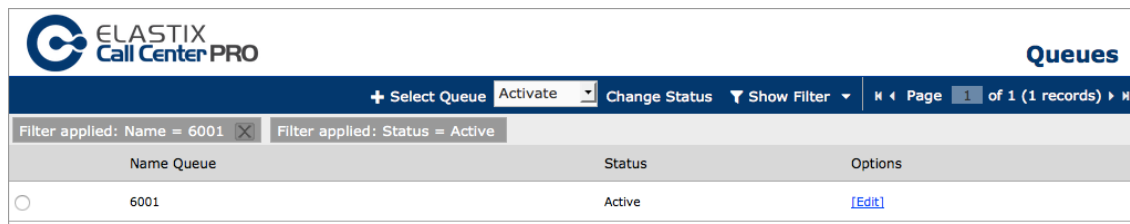
Registration of a new queue

To register a new queue, click on "*Select Queue*". The following page will appear:

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Fields description:

- **Queue:** List of available queues in Elastix, already registered queues won't be listed. Queues must be created earlier on the PBX Configuration module.
- **Script:** Default script that appears on the agent console if you have not set up a campaign. This script is over-written with the information generated for the campaign.

Fields with an asterisk (*) are required

Click on "*Save*" to complete this process.

Editing information on the queue

Click on *[Edit]*

We will enter the queue information page again:

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The system just allows modifying the script.

Click on "Save" to complete this process.

CHAPTER 3

Agents Administration

Menu: DINOMI Admin
Sub-Menu: "Agents"

We will call Agents to any person that works in the call center as an operator and receive calls.

Agents are available for "*Teams*" and "*Campaigns*". The grouping of agents in teams is defined by queues and campaigns; we will review this in later chapters.

Module: Agents

List of information

Fields description:
- **Configure:** Status of the creation of the agent.
  - ○ ✔ The configuration is synchronized with Asterisk.
  - ○ ⊗ By repair Agents created in the Community version of the call center will appear with this status in the DINOMI. If we click on repair, the module will delete the agent from the system and we will be able to create it again from this module.
- **Number:** Agent number
- **Name:** Agent name – It can be a common name.
- **Status:** Status of the agent in the system (On Line – Off Line)
  - ○ On Line: The agent is logged in.
  - ○ Off Line: The agent is not logged in.
- **Options:** A link to enter the edition of the Agent.

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Action Bar
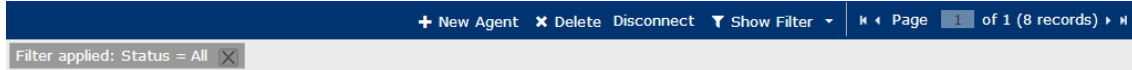
- **New Agent:** Creates a new agent.
- **Delete:** Deletes an agent – select the agent or agents prior to delete them.
- **Disconnect:** Disconnects an agent from the system.
- **Page control:** Allows changing pages in the list when there are too many elements. The system displays information on pages for easier viewing.
- **Show Filter:** Allows filtering the information on the list based on: Status of the agent. To perform a custom search we just need to select the status.

The filter selection is displayed in dark gray. Click on the X in a gray box to delete that filter criteria.
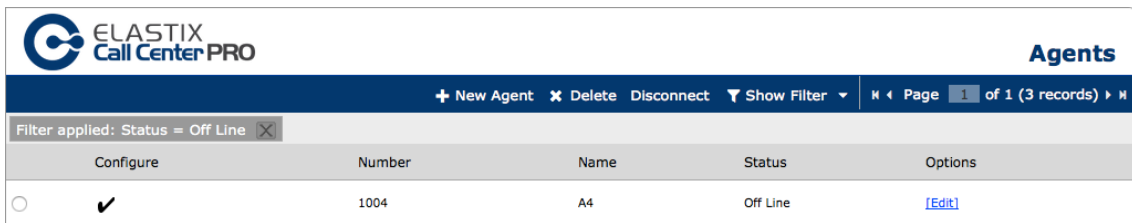
Creating an agent

To create and agent we must click on "*New Agent*".

Fields description:
- **Agent Number:** Identifier number of the agent
- **Name:** Complete Name of the agent or a reference name
- **Password**: The access key to the Call Center – It can be a 4 digit key.
- **ECCP Password:** If the agent has to connect directly using the ECCP protocol, this will be the key to sign in (e.g. external applications such as a third party agent console). This field is not marked as required; the system will assign a key automatically if the administrator doesn't include any information.

Note: ECCP stands for Elastix DINOMItocol.

Fields with an asterisk (*) are required
Click on "*Save*" to complete this process.

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Editing and Agent

To edit an existing agent information click on *[Edit]*.

	Configure	Number	Name	Status	Options
○	✔	1004	A4	Off Line	[Edit]
○	✔	1005	A5	Off Line	[Edit]
○	✔	1006	A6	Off Line	[Edit]

The following page will appear:

The system allows modifying: name, password and ECCP password.

Click on "Apply Changes" to complete this process.

Standard and Dynamic Configuration

On a normal configuration the agent enters Elastix and then logins into the Call Center. For this purpose the agent will require and extension registered on an endpoint (IP phone or softphone) and the password to any valid agent number. When trying to login to the Call Center the agent will receive a call to the extension he requested, then the agent must digit the password to complete the login successfully. After that process the agent will remain in "free" status until the dialer assigns a call.

During the call center operation the agent's extension will remain in "*call mode*" permanently until he logs out. Between calls the agent will hear "*Music on Hold*"; this method is established to differentiate the "*free*" status from the "*busy/on call*" status.

We'll refer to this configuration as **Standard**.

The introduction of "*Callback Login*", allows having a different configuration for the call center operation. With this functionality the agent doesn't have to be "*on call*" all the time, instead of that he will receive a call to the extension he used to log in (the phone or extension is hanged up, and it will ring) when the call center assigns a call to that agent.

In this configuration the agent enters Elastix and selects an available extension for "Callback Login", then he has to enter the password to login to the Call Center. In this process the extension doesn't receive a call to confirm the entry, instead of that Elastix will show the agent console interface, which remains on "*free*" status until a call is assigned.

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During the call center operation the extension remains hanged-up and will ring when the call center assigns a call. When the agent answers the call, his/her status will switch to "busy"; after hanging up the status will return to "free".

This process doesn't require an agent on the call permanently. We'll refer to this configuration as dynamic.

It is needed to register the extensions that will be available for dynamic configuration.

Returning to the **standard** configuration, this operation requires that the agent keeps its extension into a permanent call with the queue assigning the calls from incoming or outgoing campaigns. The agent will hear any of the music files that we have in the music-on-hold directory, if he is not assigned to any call. Under some scenarios, staying in a constant call listening to music-on-hold can be annoying.

In an outbound campaign the possibilities of being waiting for a call are reduced, because the campaign is controlled and the call center owner will expect to call as many numbers as possible during the working day.

Under this scenario the agent will be 95% of the time talking to customers.

The case is different in an incoming campaign where calls are the result of a commercial effort to capture spontaneous interest in the customer, or a support department that receives frequently calls at a moderate level.

If the waiting time in those cases is greater than 20 or 30 percent, we can be sure the agent will be affected by the constant sound of on-hold music.

Administration of CallBack Extensions

As we mentioned earlier, is necessary to register all the extensions that will be used in the dynamic configuration.

We won't manage extensions in this module; therefore we need to create extensions in the PBX configuration module prior working in this module.

Module: CallBack Extensions

List of information

Number	Name	Status	Options
206	Ext 6	Off Line	[Edit]

Fields description
- **Number**: Number of the registered extension
- **Name**: Name of the extension in the call center
- **Status**: Status of the extension
  - *On Line*: The extension is in use in the system.
  - *Off Line*: The extension is not in use in the system.
- **Options**: Link to enter the edition of the extension

Action Bar
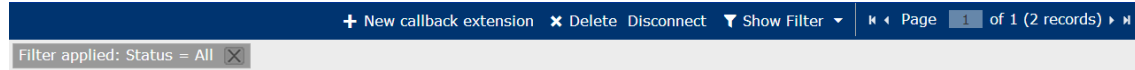
- **New callback extension**: Registers a extension for callback login
- **Delete**: Deletes the registration of an extension from the call center.
- **Disconnect**: Disconnects the session on that extension.
- **Page control**: Allows changing pages in the list when there are too many elements. The system displays information on pages for easier viewing.
- **Show Filter**: Allows filtering the information on the list based on: Status of the extension. To perform a custom search we just need to select the status.

The filter selection is displayed in dark gray
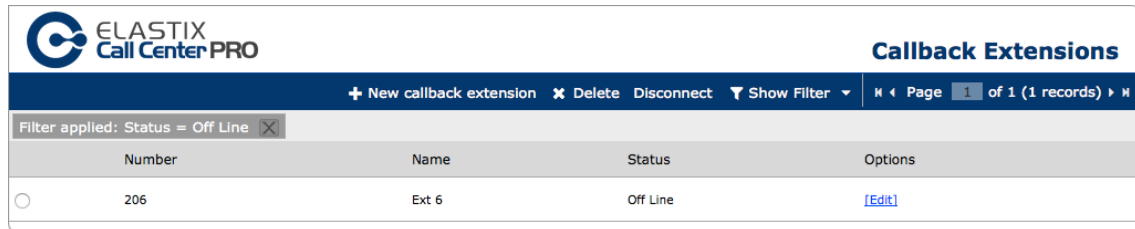
Registering an extension for callback login
Click on "**New callback extension**" The following page will appear:

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Fields description:

- **Callback extension**: displays a list of available extensions in the PBX module.
- **Name**: name of the extension on the call center module.
- **Password**: the access key to the Call Center – It can be a 4 digit key.
- **ECCP Password**: If the agent has to connect directly using the ECCP protocol, this will be the key to sign in (e.g. external applications such as a third party agent console). This field is not marked as required; the system will assign a key automatically if the administrator doesn't include any information.

Fields with an asterisk (*) are required
Click on "Save" to complete this process.

Editing the information of a registered extension

To edit the agent information click on *[Edit]*.

Number	Name	Status	Options
206	Ext 6	Off Line	[Edit]

Edit Callback Exntension Ext 6

Apply changes | Cancel

*Required field

Callback extension: *	SIP/206
Name: *	Test Extension
Password: *	••••
Retype password: *	••••
ECCP Password:	••••••••••••••••••••
Retype ECCP password:	••••••••••••••••••••

The system allows modifying the name, the password and the ECCP password.

Click on "*Apply Changes*" to complete this process.

We will review the module "*Add to Queues*", once we've created supervisors and teams.

CHAPTER 4

Managing Accounts

Menu: DINOMI Admin
Sub-Menu: "Accounts / Teams"

About supervisors

Supervisors are users with extended permissions to manage and operate the call center. There are two types of supervisors:

- **General Supervisors.-** In charge of managing the call center
- **Team Supervisors.-** Related with the operation/production of the call center

The following list includes the access and permissions of each type:

Task	General Supervisor	Team Supervisor
Add Agents to Queues	Yes	Yes
Create static forms	Yes	Yes
Create dynamic forms	Yes	Yes
Ingoing Campaigns	Yes	Yes
Outgoing Campaigns	Yes	Yes
Do not Call list	Yes	Yes
Reports	Yes	Yes
Monitoring	Yes	Yes
Configuration parameters	Yes	No
AMD parameters	Yes	No
external URL parameters	Yes	No
Queues definition	Yes	No
Managing supervisors	Yes	No
Managing teams	Yes	No
Assigning teams/supervisors	Yes	No
Create agents	Yes	No
Create ECCP Users	Yes	No
Managing CallBack Extensions	Yes	No
Managing Breaks	Yes	No

Module: Supervisor Accounts

This module is located at *DINOMI Admin → Accounts / Teams → Supervisor Accounts*

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List of
information

		Username	Name	Type	Status
☐		athomas	Alex Thomas	Call Center Pro General Supervisor	
☐	Assign Teams	jlizzardi	Jhon Lizzardi	Call Center Pro Team Supervisor	

Fields description:
- **Username**: Username to login in Elastix.
- **Name**: Complete name of the supervisor
- **Type**: Type of supervisor
  - DINOMI General Supervisor – General supervisor
  - DINOMI Team Supervisor – Team supervisor
- **Status**: Shows notifications about the user status of the supervisor, if the value shows "*Repair*" then the user is not being synchronized with the users system. To solve this you just need to click on Repair.
- **Assign Teams**: A link to access the team assignment. It is just available for Team Supervisors.

Action
Bar

✚ New Supervisor ✖ Delete Supervisor ▼ Show Filter ▾	◄ ◄ Page 1 of 1 (2 records) ► ►
Filter applied: Type = All Filter applied: Status = All	

- **New Supervisor**: Creates a supervisor.
- **Delete Supervisor**: Deletes the selected supervisor(s)
- **Page (Page control)**: Allows to change pages in the list when there are too many elements. The system displays information on pages for easier viewing.
- **Show Filter**: Allows to filter the information on the list based on: Name, Type, Status and Teams. To perform a custom search we just need to enter a match criterion.

✚ New Supervisor ✖ Delete Supervisor ▼ Hide Filter ▴	◄ ◄ Page 1 of 1 (2 records) ► ►
Name: [ ]	
Type: [All ▾]	
Status: [All ▾]	
Teams: [▾] [Search]	
Filter applied: Type = All Filter applied: Status = All	

The filter selection is displayed in dark gray. Click on the X in a gray box to delete that filter criteria.

✚ New Supervisor ✖ Delete Supervisor ▼ Show Filter ▾	◄ ◄ Page 1 of 1 (1 records) ► ►
Filter applied: Name = Alex ✖ Filter applied: Type = Call Center Pro General Supervisor ✖ Filter applied: Status = All	

	Username	Name	Type	Status
☐	athomas	Alex Thomas	Call Center Pro General Supervisor	

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Create a supervisor

Click on "*New Supervisor*" The following page will appear:

Fields description:

- **Username**: User name to login in Elastix.
- **Name**: Complete name of the supervisor
- **Password**: Key to access Elastix. This password should be as strong as possible.
- **Supervisor Type**: Type of supervisor
  - o DINOMI General Supervisor – General supervisor
  - o DINOMI Team Supervisor – Team supervisor

Fields with an asterisk (*) are required
Click on "Save" to complete this process.

Editing a supervisor

Editing is different in this module, if we need to change any information of the supervisor, we need to click on the link embedded in the *username* column.

The following page will appear

We can change the name, the password and the supervisor type. Click on "*Apply Changes*" to complete the edition.

Team administration

Teams are entities that group configuration and management in the DINOMI. Each team can contain campaigns, forms and other information. They are managed by "*Team Supervisors*". A supervisor can be in charge of several teams, and more than one supervisor can manage a team simultaneously.

Thus several supervisors can monitor a team activity.

Module: Teams

This module is located at *DINOMI Admin → Accounts / Teams → Teams*

List of information

Fields description:

- **Names**: Reference name of the team.
- **Description**: A short description of the team.
- **Status**: Status of the team in the system:
  - *Active*: the team is active and it can be used in the call center.
  - *Inactive*: the team remains in the call center but won't be available in other modules.
- **Campaigns**: Shows the number of campaigns the team has assigned.

Action bar
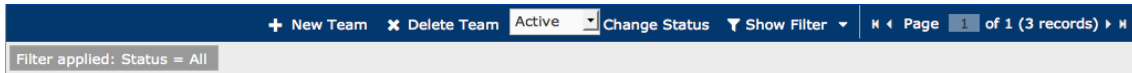
- **New Team**: Creates a new team
- **Delete Team**: Deletes the selected team.
- **Change Status**: Changes the status of the team.
- **Page (Page control)**: Allows changing pages in the list when there are too many elements. The system displays information on pages for easier viewing.
- **Show filter**: Allows to filter the information on the list based on: Name and Status of the teams. To perform a custom search we just need to enter a match criteria.
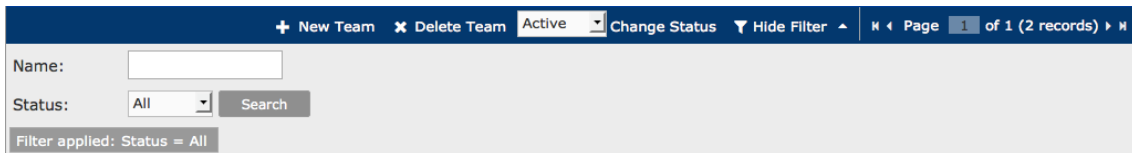
The filter selection is displayed in dark gray. Click on the X in a gray box to delete that filter criteria.
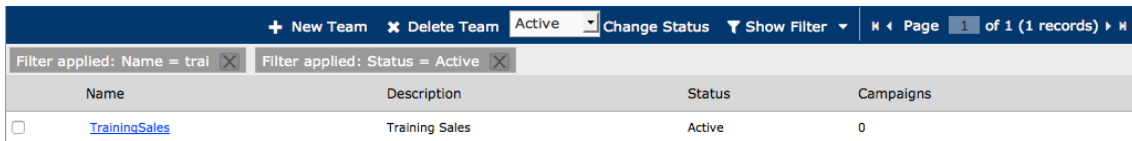
Creating a Team

Click on "New Team". The following page will appear:

Fields description:
- **Name**: Name of the team. The field doesn't allow spaces but you can use the following characters **-, _.**
- **Description**: short description of the team.

Fields with an asterisk (*) are required

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Click on "*Save*" to complete this process.

Editing a team

To modify a team, click on the team name embedded link.

The following page will appear:

The system allows modifying the status and description of the team.
Click on "*Apply Changes*" to complete the edition.

Assigning teams to a supervisor

We go back to the "*Supervisor Accounts*", verify the list and click on the option "*Assign Team*" of the required supervisor.

The following page will appear:

The edition window will present two selection groups:
- *Available Teams*: displays a list of available teams on the system.
- *Assigned Teams*: displays a list of teams assigned to the supervisor.

To assign a team we just need to click on the team's name and Drag and Drop it from "*Available Teams*" to "*Assigned Teams*".

To unassign the team we must do the opposite, Drag and Drop the team from "*Assigned Teams*" to "*Available Teams*".

Click on "Apply Changes" to complete this process.

Managing ECCP users

In this module we will manage the user and applications that will connect to the DINOMI through the ECCP – Elastix DINOMItocol.

Module: ECCP Users

This module is located at *DINOMI Admin → Accounts / Teams → ECCP Users*

List of information

Fields description:
- **Name**: Username – reference that will be used to connect through the ECCP
- **Options**: Link to enter the user edition.

Action bar

- **New ECCP User**: creates an ECCP user.
- **Delete**: delete a selected user.
- **Page (Page control)**: Allows changing pages in the list when there are too many elements. The system displays information on pages for easier viewing.

Creating an ECCP user

Click on "New ECCP User" . The following page will appear:

Fields description:
- **User name**: Username of the ECCP user.
- **Password**: key to login to the system through the ECCP

Fields with an asterisk (*) are required

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Click on "Save" to complete this process.

Editing an ECCP user

Click on "*[Edit]*". The following page will appear:

Name	Options
agentconsole	[Edit]
extremeVox	[Edit]

Edit ECCP User: extremeVox

Apply changes   Cancel

*Required field

User name: *	extremeVox
Password: *	
Retype password: *	

The system allows changing the username and password.
Click on "*Apply Changes*" to complete the edition.
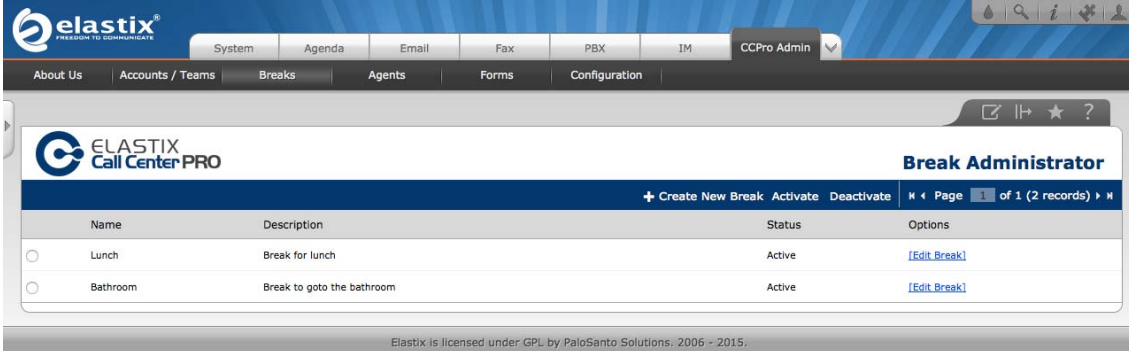
Break management

It is important to define breaks appropriately, because this value is available for all the agents in the system.

Breaks are available in the call center and do not depend on teams, campaign or supervisors.

Module: Breaks

This module is located at *DINOMI Admin → Breaks*

Break Administrator

+ Create New Break   Activate   Deactivate   ⊩◄ Page 1 of 1 (2 records) ►⊩

Name	Description	Status	Options
Lunch	Break for lunch	Active	[Edit Break]
Bathroom	Break to goto the bathroom	Active	[Edit Break]

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List of information

Name	Description	Status	Options
Lunch	Break for lunch	Active	[Edit Break]
Bathroom	Break to goto the bathroom	Active	[Edit Break]

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Fields description:

- **Names**: A reference name that will be used by the agent from the "agent console".
- **Description**: A short description of the break.
- **Status**: Status of the break in the system
    - *Active*: the break is active and available on the "agent console".
    - *Inactive*: the break is not active and won't be available on the "agent console"
- **Options**: Link to enter the "break" edition.

Action bar

- **Create New Break**: Creates a break.
- **Activate**: Changes the break status to active.
- **Deactivate**: Changes the break status to deactivate.
- **Page (Page control)**: Allows to change pages in the list when there are too many elements. The system displays information on pages for easier viewing.

Creating a break

Click on "*Create New Break*". The following page will appear:

Fields description:

- **Names**: Name of the break.
- **Description**: A short description of the break.

Fields with an asterisk (*) are required
Click on "Save" to complete this process.

Editing a break

We must click on "*[Edit Break]*".

	Name	Description	Status	Options
○	Lunch	Break for lunch	Active	[Edit Break]
○	Bathroom	Break to goto the bathroom	Active	[Edit Break]
○	Brief1	Break for brief	Active	[Edit Break]

The following page will appear:

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The system allows to modify the name and description of the break.
Click on "*Apply Changes*" to complete the edition.

Assigning agents to queues

The development of the call center is based over the queue support of Asterisk. Each campaign uses just one queue and an agent can be included in several queues.

Taking this into consideration, the agent assignment on a campaign begins with the assignment of the agent to a queue. We must plan a campaign knowing which queue we are going to use.

Supervisors assign or unassign agents on queues.

Module: Add to Queues

This module is located at *DINOMI Admin → Agents*
In this module we will assign agents to the queues available in the PBX.

List of information

Field description:
- **Queue**: number of the queue.
- **Static Agents**: amount of static agents assigned to the queue
- **Dynamic Agents**: amount of dynamic agents assigned to the queue

Action bar

- **Page (Page control)**: Allows changing pages in the list when there are too many elements. The system displays information on pages for easier viewing.

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- **Show filter**: Allows filtering the information on the list based on the number of the queue. To perform a custom search we just need to enter the queue name and click on "search".

The filter selection is displayed in dark gray. Click on the X in a gray box to delete that filter criteria.

Assigning agents to queues

We can assign static and/or dynamic agents to the queue, we just need to click on the available links under the "Static Agents" or "Dynamic Agents" columns on the correspondent queue.

Queue	Static Agents	Dynamic Agents
6001	1 static agent/s	1 dynamic agent/s
6002	0 static agent/s	0 dynamic agent/s
6003	0 static agent/s	0 dynamic agent/s

[Continues in next page]

Static agents

On this case we will click on the link "0 static agent/s". The following page will appear:

There are two selection groups
- **Available Agents**: Displays the available agents in the system.
- **Assigned Agents**: Displays the agents assigned to the queue.

To assign an agent we just need to Drag and Drop the agent from "*Available Agents*" to "*Assigned Agents*".

To unassign an agent we must do the opposite, Drag and Drop the agent from "*Assigned Agents*" to "*Available Agents*".

Click on "*Apply Changes*" to complete this process.

Dynamic Agents

On this example we will click on the link "0 dynamic agent/s" of the queue 6002.

The process is similar to the previous assignment; we will only show the configuration screens.

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Click on "*Apply Changes*" to complete this process.

Message			Dismiss
The agents were successfully assigned to the queue			

ELASTIX Call Center PRO

Assign Agents

▼ Show Filter ▾ ⋈ ◂ Page [1] of 1 (3 records) ▸ ⋈

Queue	Static Agents	Dynamic Agents
6001	1 static agent/s	1 dynamic agent/s
6002	1 static agent/s	1 dynamic agent/s
6003	0 static agent/s	0 dynamic agent/s

CHAPTER 5

Form Management

Menu: DINOMI Admin
Sub-Menu: "Forms"

Forms are an important tool in the call center operation, since agents can recompile information of the client related to a campaign.

Note: it is recommended to design each form with enough anticipation.

Module: Static Forms
This module is located at *DINOMI Admin → Forms → Static Forms*
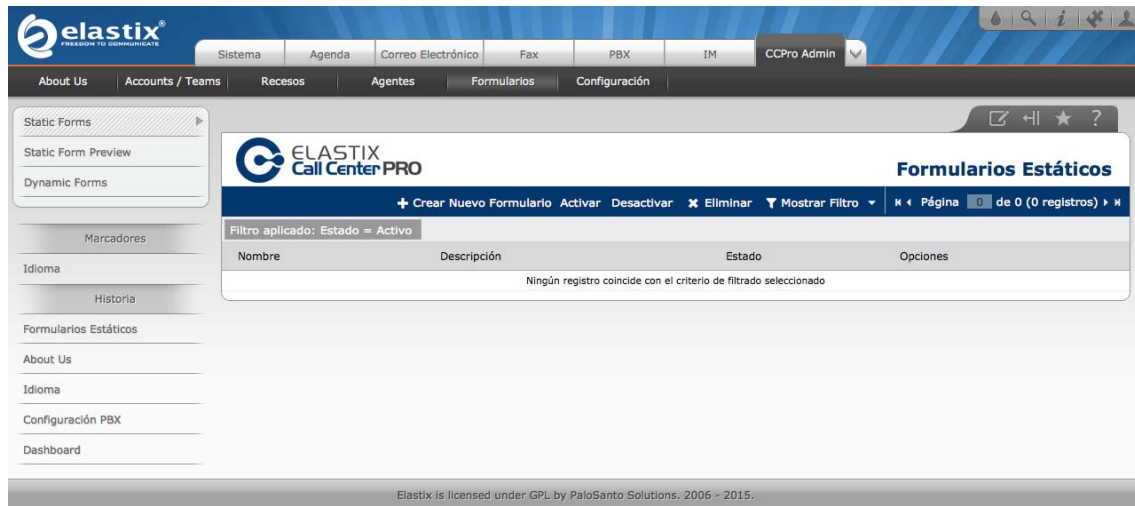
List of Information

Fields description:
- **Name**: name of the form.
- **Description**: short description of the form.
- **Status**: status of the form.
    - *Active*: The form can be added to a campaign.
    - *Inactive*: The form won't be able to any campaign..
- **Options**: link to enter the edition of the form.

Action Bar

- **Create New Form**: creates a new static form.
- **Activate**: activates a selected static form.
- **Deactivate**: deactivates a selected static form.
- **Delete**: deletes a selected static form.
- **Page control**: Allows changing pages in the list when there are too many elements. The system displays information on pages for easier viewing.
- **Show Filter**: Allows filtering the information on the list based on: Status. To perform a custom search we just need to select the status.

The filter selection is displayed in dark gray. Click on the X in a gray box to delete that filter criteria.

Creating a static form

Click on "*Create New Form*". The following page will appear:

Information to complete:
- **Name**: name of the form.
- **Description**: a short description of the form.

Generation of fields for the form
- **Order**: Order of the field in the form
- **Field name**: Name of the field; is the information that the agent will see, we must be as specific as possible.
- **Type**: Field type
  - *Text*: Creates a text box for entering values.
  - *List*: Creates a list with pre-determined values.
  - *Date*: Creates a calendar control to select a date.
  - *Text Area*: Creates a multi-line text box, allowing more text than the text box.
  - *Label*: Allows to write a label for instructions.
- **Values**: Values included on the "list" field.
- **Action button** [**+**]: Adds fields to the form.

We can add as many fields as we require. Fields with an asterisk (*) are required

Click on "*Save*" to complete this process.

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Editing a static form

Click on "*Edit*".

Name	Description	Status	Options
○ ECTE Update	Information update	Active	Edit
○ Client Update	Update of clients information	Active	Edit

The following page will appear:

We will see the fields of the form, if we want to change the order, we just need to click on the form and drag it down or up with the mouse.

Click on "*Save*" to complete this process.

Module: Static Form Preview

List of information

Displays information of all the forms created in the DINOMI. To see a preview of the form, click on "*Preview*".

Module: Dynamic Forms

This module is located at *DINOMI Admin → Forms → Dynamic Forms*

Dynamic forms allow the recompilation of information like static forms, but it allows to present different fields/questions according to the answers of the client.

This kind of form is composed with nodes; each node has several fields where we create the type of information we require. A specific type of fields called route links nodes.

We will review an example of the creation of a dynamic form.
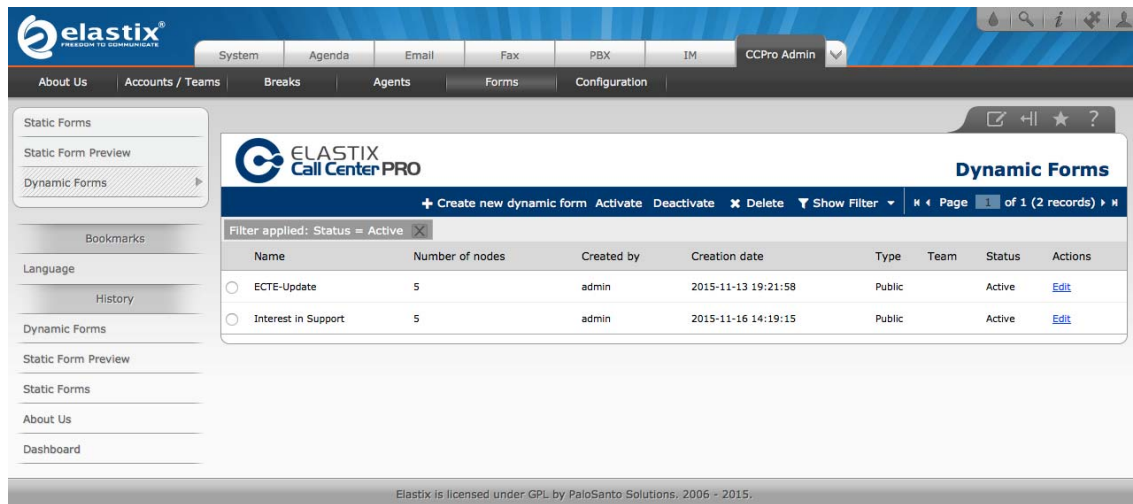
List of information

	Name	Number of nodes	Created by	Creation date	Type	Team	Status	Actions
○	ECTE-Update	5	admin	2015-11-13 19:21:58	Public		Active	Edit
○	Interest in Support	5	admin	2015-11-16 14:19:15	Public		Active	Edit

Fields description:
- **Name**: Name of the form.
- **Number of nodes**: Quantity of nodes in the form.
- **Created by**: User that created the form.
- **Date of creation**: Date of creation of the form.
- **Type**: Defines the access to the form, can take two values:
  - *Public* – All supervisors can access the form.
  - *Private* – Only the supervisors of the selected team can access the form.
- **Team** – Selected team for this form.
- **Status**: Status of the form
  - *Activate*: Activates a selected dynamic form.
  - *Deactivate*: Deactivates a selected dynamic form.
- **Actions**: Link to enter the edition of the form.

Action Bar

- **Create a new dynamic form**: Creates a new dynamic form.
- **Activate**: Activates a selected dynamic form.
- **Deactivate**: Deactivates a selected dynamic form.
- **Page control**: Allows changing pages in the list when there are too many elements. The system displays information on pages for easier viewing.
- **Show Filter**: Allows filtering the information on the list based on: Status and Name of the form. To perform a custom search we just need to enter the match criterion.

The filter selection is displayed in dark gray. Click on the X in a gray box to delete that filter criteria.

Creating a dynamic form

Before going into the form creation, we will see an example of the flow of survey with conditional answers, this is what dynamic forms are good for. In the image below, the diamond represents a conditional question, and the rectangle represents a non conditional question.

The first question is at the upper left, and it can take a route depending on the answers received:


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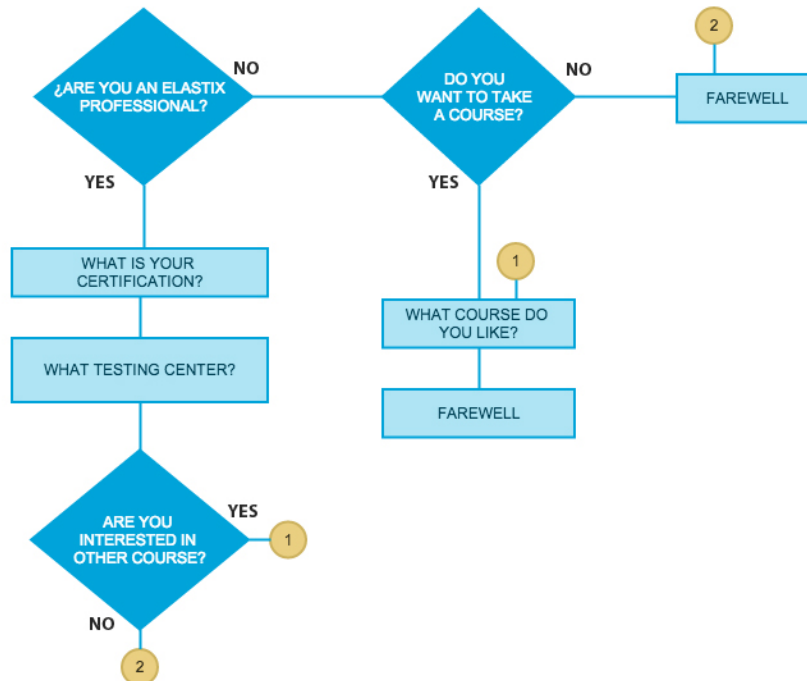
As a first step we will identify "nodes" and "routes" on the diagram, like shown in the next image:
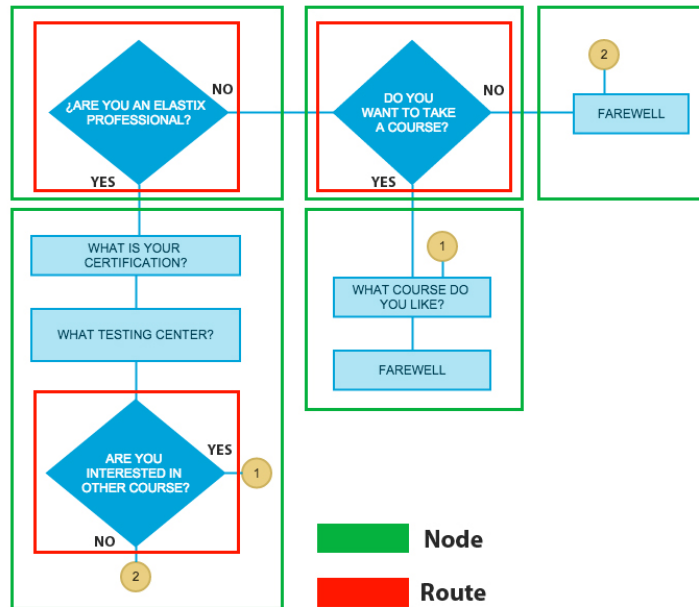
This diagram has 5 nodes and 3 routes. A route is a conditional question that defines the next node depending on an answer. Route questions can be at the beginning or at the end of a node, if a route is at the beginning, then it is the only question in that node.

In this diagram, numbers inside the circle represent the next node the survey has to continue from.

Now, we will identify each node with a name and establish the order and hierarchy of them:
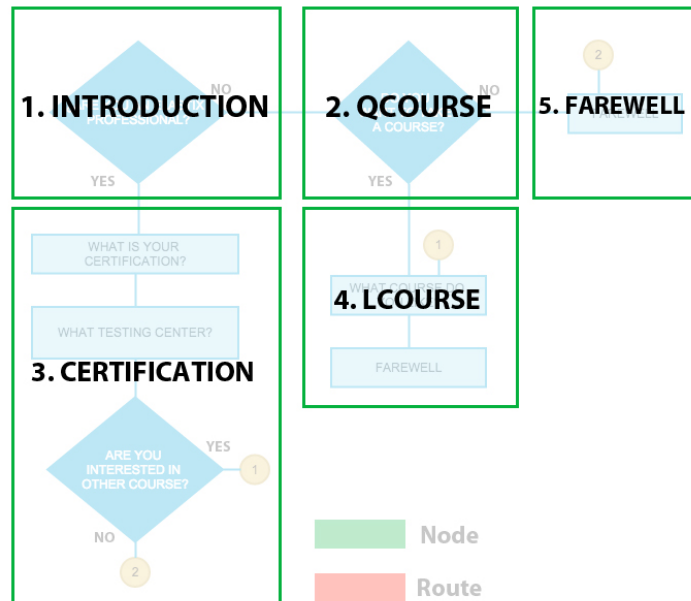
These names can be changed depending on the criteria of the person who desings the form:
1. Introduction
2. Qcourse
3. Certification
4. Lcourse
5. Farewell

A lower number indicates a higher hierarchy. In this example, the node "*INTRODUCTION*" has the higher hierarchy, and the node "FAREWELL" the lowest hierarchy.

Important note: It is highly recommended that all questions have been previously determined, so the nodes, routes, and hierarchy can be identified before proceeding to the Dynamic form designer. Once we have done this, we can click in "Create a new dynamic form":

The first step is to create all the nodes, it is recommended to do it in the same hierarchy order you defined before. Mark the beginning node by clicking the circle in the "initial" column.

In the section "*Dynamic form properties*" at the left, we have the following fields:
- **Name**: form name.
- **Form Description**: a brief description of the form.
- **Team**: we can establish here if we want to enable the form as "public" or to designate a team.
- **Current Initial node**: shows the name of the initial node.

In the *nodes* area (right) we have the following fields:
- **Initial**: allows selecting the initial node.
- **Refcount**: indicates the amount of nodes that reference this node. We will see this later in more detail.
- **Name**: name of the node.

Creating information in each node

It is recommended to begin to create questions from from the last node, in this example we start from the node "FAREWELL".

Variables:

- **Order**: Order of the field in the node.
- **Field name**: Name of the field; is the information that the agent will see, we must be as specific as possible.
- **Type**: Field type
  - *Text*: Creates a text box for entering values.
  - *List*: Creates a list with pre-determined values.
  - *Date*: Creates a calendar control to select a date.
  - *Text Area*: Creates a multi-line text box, allowing more text than the text box.
  - *Label*: Allows to write a label for instructions.
  - *Route*: allows adding a route.
- **Values Field**: Allows to establish the conditions for the route or to add data to a "list" field.
- **Action button** [**+]**: Adds fields to the form.

Creation of the fields in the nodes

Like mentioned, we start from the lowest hierarchy node.

FAREWELL

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LCOURSE

CERTIFICATION

The **field #3** is a **route**, according to the previous planning. After selecting this type we will get a list of available nodes, in the diagram we show the "*Lcourse*" node if the answer of the surveyed is **yes**. If the answer is **no**, we will go to the "*Farewell*" node.

This is one of the reasons why we should start the process from the node with the lowest hierarchy value.

QCOURSE

In this node, the question "want to take a course" is a route field that goes to the "*LCourse*" node if answered yes, and the "Farewell" node if the answer is no.

INTRODUCTION

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Once we completed the creation of the fields in the form we click on "*Save*".

Editing a dynamic form

Click on "Edit"

The following page will appear:

We can edit the name of the form, the description and the team. **We don't recommend to change the initial node, this will alter the order of our form.**

Regarding "*Refcount*" field, we can see that nodes "Lcourse" and "Farewell" have a reference of 2. According to our diagram two nodes make a reference to each of them. On the field area of each node we can add more fields, always leaving the route field at the end. We can also change the order of fields and modify the "field name".

Once we complete the edition click on "Save changes".

CHAPTER 6

Campaigns

Menu: DINOMI Manage

Sub-menu: Ingoing Calls

This sub-menu is located at *DINOMI Manage → Ingoing Calls*

During incoming campaigns, agents receive calls from customers or subscribers spontaneously. You don't need a list of numbers of customer and the prediction doesn't work in this mode.

The preliminary configurations for setting an incoming campaign involve defining a queue, with at least one agent. Also, it is recommended to route incoming calls to the queue through an IVR, and avoid doing a direct connection to the trunk. This configurations are done in the Elastix PBX interface, and are beyond the scope of this manual.

Regarding incoming campaigns again, DINOMI logs the information of which agent receives each call in a database; this information is stored for reporting purposes.

Also, contrary to outgoing campaigns, there is no need to generate a calling list file for incoming campaigns, we can feed the DINOMI with information about regular customers, which will be displayed in the agent console at the moment that customer calls.

Module: Ingoing Campaign

This module is located at *DINOMI Manage → Ingoing Calls → Ingoing Campaigns*
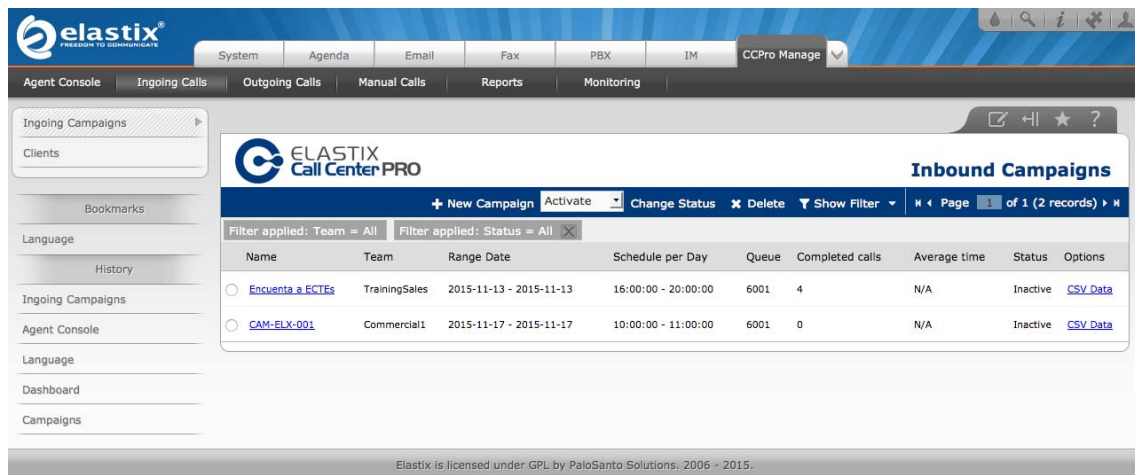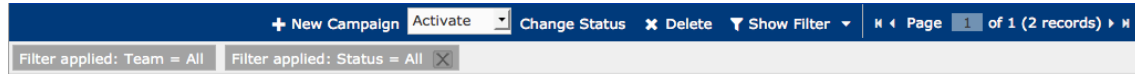

List of Information

Name	Team	Range Date	Schedule per Day	Queue	Completed calls	Average time	Status	Options
ECTE Survey	TrainingSales	2015-11-13 - 2015-11-13	16:00:00 - 20:00:00	6001	4	N/A	Inactive	CSV Data
CAM-ELX-001	Commercial1	2015-11-17 - 2015-11-17	10:00:00 - 11:00:00	6001	0	N/A	Inactive	CSV Data

Fields description:

- **Name**: Name of the campaign
- **Team**: Team assigned to the campaign
- **Range Date**: Lapse of time during the campaign will be active
- **Schedule per Day**: Day scheduled time for the campaign
- **Queue**: Queue that will be used to receive calls for this campaign
- **Completed calls**: number of completed calls

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- **Average time**: average time of completed calls
- **Status**: status of the campaign
  - *Active*: the campaign is active and the queue will assign calls to agents
  - *Inactive*: The campaign is not active
- **Options**: allows to download a file with information associated to the campaign

Action Bar

- **New Campaign**: Create a campaign
- **Change Status**: Change the status of the selected campaign
  - *Activate*: Activate selected campaigns after clicking "Change Status"
  - *Deactivate*: Deactivates selected campaigns after clicking "Change Status"
- **Delete**: Deletes the selected campaigns
- **Page control**: Allows to change pages in the list when there are too many elements. The system displays information on pages for easier viewing
- **Show Filter**: Allows to filter the information on the list based on: Name, Team and Status of the campaign. To perform a custom search we just need to enter the new criteria
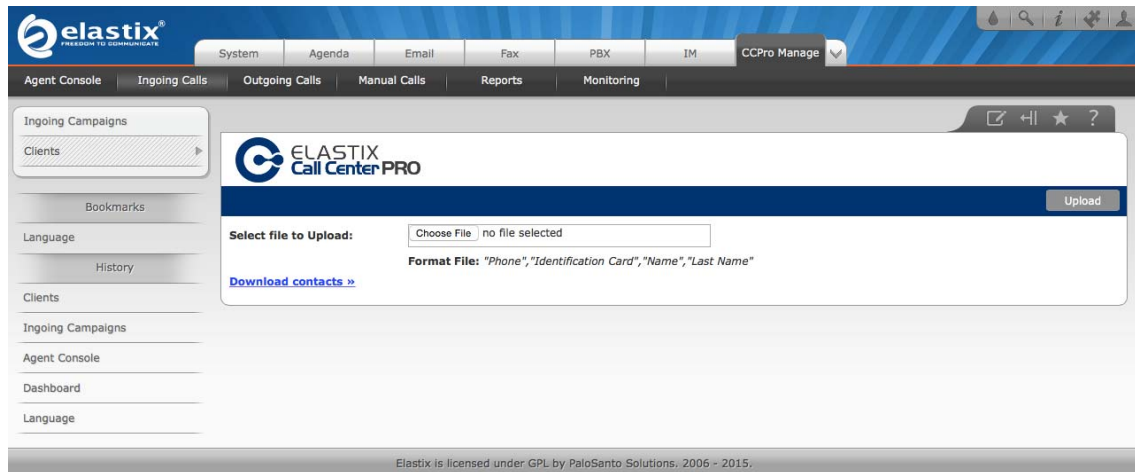
The filter selection is displayed in dark gray. Click on the X in a gray box to delete that filter criteria.

Module: Clients
This module is located at *DINOMI Manage → Ingoing Calls → Clients*

The *clients* module allows to upload a file with contact information of potential or regular customers. During incoming campaings, DINOMI verifies the number of the incoming call with the data inside the

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uploaded file and shows the customer information on the agent console, if the number matches a register on the file.

This module accepts *Comma Separated Value* (CSV) file types, with information in the following format: "Phone","Identification Card","Name","Last Name"

You can create these files using a spreadsheet software like *Excel* or *OpenOffice*; let's see an example:

The first column contains the customer's phone number, the second column contains an id to identify him, the third column contains the first name, and the fourth column contains the last name. The module registers the information in that order.

The field "*Identification Card*", belongs to an ID field to identify a customer. This is a required field, if the customers do not possess a relevant and unique identification field, we can use an ordinal number as a reference, like in the example above.

Once we have formatted the information appropriately, we must save the file as CSV, in Excel or OpenOffice, in the following way:

OpenOffice (or Libre Office)
The file should be saved as "Text CSV (.CSV)". The field delimiter must be (,) and the text delimiter ("). The encoding of the file must be "*UTF-8*".

This procedure is valid on windows and mac.

Excel

In windows versions we must save the file as "CSV (MS-DOS) (.CSV)". The regional configuration must be in English, this will save the file with (,) as field delimiter. In mac versions we must save the file as "Windows Comma Separated (.CSV)".

Once we have created the CSV file, we can upload it on the module clicking on "Choose File".

It is not necessary to upload the file to create an ingoing campaign, but it gives us the possibility to show important information to the agent about the person that is calling. We can download the file, as well, to verify the complete list of contacts we have in the module. This is important because each time we upload information, the module will replace all the contacts that have the same "Identification Card".

Creating a campaign

Go back to "*DINOMI Manage → Ingoing Calls → Ingoing Campaign*" module and click on "*New Campaign*".

The following page will appear:

Fields description:
- **Name**: Name of the campaign
- **Team**: Team assigned to the campaign
- **Range Date**: Lapse of time during the campaign will be active
- **Schedule per Day**: Day scheduled time for the campaign
- **Form**: Static form that will be used in this campaign
- **Dynamic Form**: Dynamic form that will be used in the campaign
- **External URLs**: External URL that will be executed every time a call is assigned to the agent
- **Queue**: Queue that will be used to receive calls for this campaign
- **Script**: Script that will be presented to the agent (overwrites the default script of the queue)

The following links will take us to a different page setup section:
- Manage Forms
- Manage dynamic forms
- Manage External URLs
- Manage Queue

Fields with a * are required.
Click on "*Save*" to complete this process.

Editing an incoming campaign

To enter the edition mode click on the name of the campaign.

Name	Team	Range Date	Schedule per Day	Queue	Completed calls	Average time	Status	Options
ECTE Survey	TrainingSales	2015-11-13 - 2015-11-13	16:00:00 - 20:00:00	6001	4	N/A	Inactive	CSV Data
CAM-ELX-001	Commercial1	2015-11-17 - 2015-11-17	10:00:00 - 11:00:00	6001	0	N/A	Inactive	CSV Data

The system allows to modify all the fields on the campaign. The edition is useful when we need to extend the range of dates of a campaign or change the schedule, which is important because a campaign is automatically deactivated once it reached the end date of the duration.

We can also change the forms that we will use, however, we should take into account that the CSV file of the campaign will include all the information generated previously, including all the forms that generated information.

Click on "*Apply changes*" to complete this process.

Sub-menu: Outgoing Calls

This sub-menu is located at *DINOMI Manage → Outgoing Calls*

During outgoing campaigns, DINOMI requires a list of the telephone numbers to be dialed. The call center dialer generates calls based on that information, and connects them to the agents residing in the queue assisgned to that campaign. Calls will be placed based on the "ring strategy" configured at the queue.

Once the campaign is active, the system will dial the telephone numbers on the list, verifying the number of free agents available on the queue. The basic configuration performs "as many concurrent calls as free agents".

As we mentioned earlier, the call center assigns a call to a queue, not to a specific agent; if a call is successful, the queue will assign the call to a free agent. It is recommended to set the ring strategy of the queue to "*rrmemory*" or "*rrordered*".

The field "*Skip Busy Agents*", on the queue, must have the following option selected:

DINOMI registers the information of the agent assigned to a call in a database. This information will be used by various processes inside the system.

Once the call concludes, the agent status will change from *busy* to *idle/standby*, and he will be available to receive another call.

This process repeats until the system completes calls to all the numbers on the list.

Module: Campaigns

This module is located at *DINOMI Manage* → *Outgoing Calls* → *Campaings*
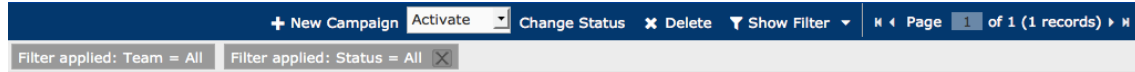

List of Information

Fields description:

- **Name**: Name of the campaign
- **Team**: Team assigned to the campaign
- **Range Date**: Lapse of time during the campaign will be active
- **Schedule per Day**: Day scheduled time for the campaign
- **Retries**: Amount of attempts DINOMI will dial a number that didn't completed a successful call for this campaign
- **Trunk**: The telephony channel that will be used to perform outgoing calls
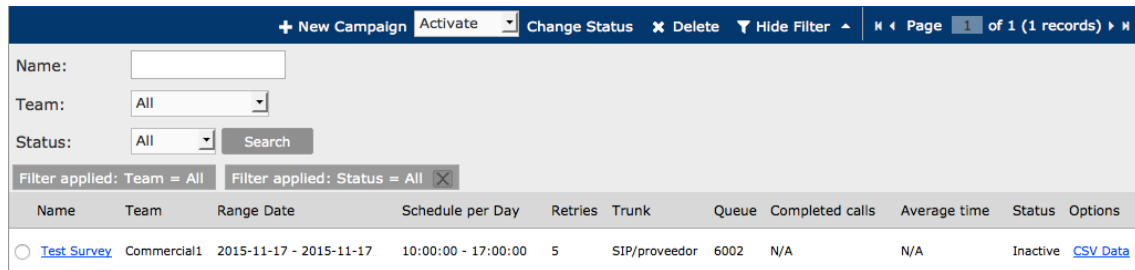- **Queue**: Queue that will be used for this campaign

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- **Completed calls**: Number of completed calls
- **Average time**: Average time of completed calls
- **Status**: Status of the campaign
  - o *Active*: The campaign is active and the queue will assign calls to agents
  - o *Inactive*: The campaign is not active
- **Options**: Allows to download a file with information associated to the campaign

Action Bar

- **New Campaign**: Create a campaign
- **Change Status**: Change the status of the selected campaign
  - o *Activate*: Activate selected campaigns after clicking "Change Status"
  - o *Deactivate*: Deactivates selected campaigns after clicking "Change Status"
- **Delete**: Deletes the selected campaigns
- **Page control**: Allows changing pages in the list when there are too many elements. The system displays information on pages for easier viewing
- **Show Filter**: Allows to filter the information on the list based on: Name, Team and Status of the campaign. To perform a custom search we just need to enter the new criteria

The filter selection is displayed in dark gray. Click on the X in a gray box to delete that filter criteria.

Creating a campaign

Click on "*New Campaign*" The following page will appear:

- **Name**: Name of the campaign
- **Team**: Team assigned to the campaign
- **Range Date**: Lapse of time during the campaign will be active
- **Schedule per Day**: Day scheduled time for the campaign
- **Form**: Static form that will be used in this campaign
- **Dynamic Form**: Dynamic form that will be used in the campaign
- **External URLs**: External URL that will be executed every time a call is assigned to the agent
- **Trunk**: The telephony channel that will be used to perform outgoing calls. The default channel is "By Dial plan"
- **Max used channels**: The amount of channels that will be used on the campaign, it is the limit of concurrent calls for this campaign. Enter a value of 0 to remove any limit to the channel

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- **Enable AMD**: Enables answering machine detection algorithm on the campaign
- **Context**: Is the context that will be used for the campaign. The default context is "*from-internal*"
- **Queue**: Queue that will be used for this campaign
- **Retries**: Amount of attempts DINOMI will dial a number that didn't completed a successful call for this campaign
- **Call File**: A CSV call file with the information of telephone numbers that will be dialed for this campaign
- **Call File Encoding**: Type of encoding used for the creation of the CSV file
- **Script**: Script that will be presented during each call in the agent's console (overwrites the default script of the queue)

The following links will take us to a different page setup section:
- Manage Forms
- Manage dynamic forms
- Manage External URLs
- Manage Trunks
- Manage Queue

Fields with a * are required.
Click on "*Save*" to complete this process.

CSV call file

The *Comma Separated Value* (CSV) file required for the list of telephone numbers must have the following format:

"Text CSV (.CSV)". The field delimiter must be (,) and the text delimiter ("). The recommended encoding is "UTF-8".

The file must include at least one column:
> "phone"
> 099123456
> 098123456
> 097123456

We can add additional fields for information using the following format:
> "phone","new_field1"," new_field2",…" new_fieldX"

E.g. (first column is the header for this file)
> "phone","name","LastName","ID_Number"
> 099123456,"Eduardo","Clerk","11111111"
> 098123456,"Pedro","Strahm","22222222"
> 097123456,"Juan","Trippe","33333333"

Tip: If we use "libre office", we must save as "Text CSV (.CSV)" and select the option "Edit Filter Settings"; after that select - Character Set: Unicode (UTF-8) -, - Field delimiter: , -, - Text Delimiter: " -, Mark the field "Save cell content as shown" and the field "Quote all text cells"; see the following image:
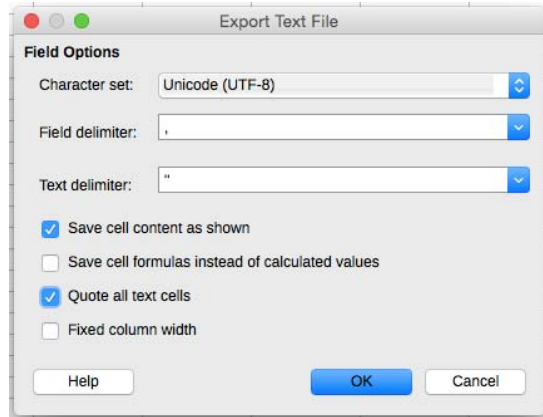
Working with several numbers per client

The CSV file is the same as with a single number; we only need to modify the phone field for a customer with various numbers. That column will include all the numbers of the client separated with a hyphen "**-**":

> phone1-phone2-…phoneX

E.g.

> "phone"
> 099123456-099123123-099321321
> 098111111-098444444
> 097222222

If the client has just one phone we don't need to add the hyphen. Let's see an example with more fields:

> "phone","name","last name","ID Number"
> 099123456-099123123-099321321,"Eduardo","Clerk","11111111"
> 098111111-098444444,"Pedro","Strahm","22222222"
> 097222222,"Juan","Trippe","33333333"

Module: Do not Call List

This module is located at *DINOMI Manage → Outgoing Calls → Do not Call List*. It will allow us to include phone numbers that won't be dialed by any campaign.
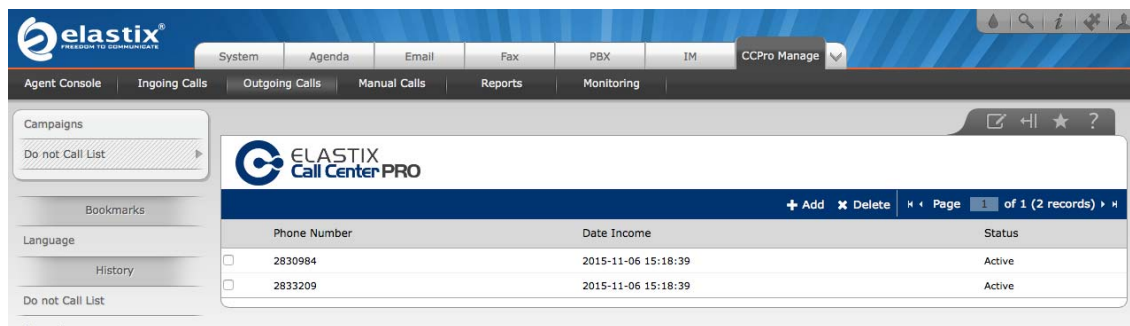
<u>Action Bar</u>

- **Add**: Enters the adding section. From there we can upload a CSV file or register a number one by one.
- **Delete**: Deletes selected number from this list.
- **Page control**: Allows to change pages in the list when there are too many elements. The system displays information on pages for easier viewing.

Adding a Do-not-call number
Click on "Add" to add numbers. The following page will appear:
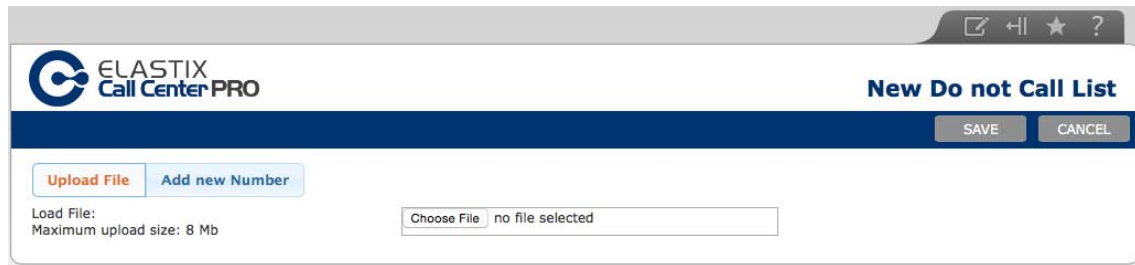
There we can add individual numbers by clicking "*Add New Number*", or upload a CSV file with several numbers, by clicking "Choose File".
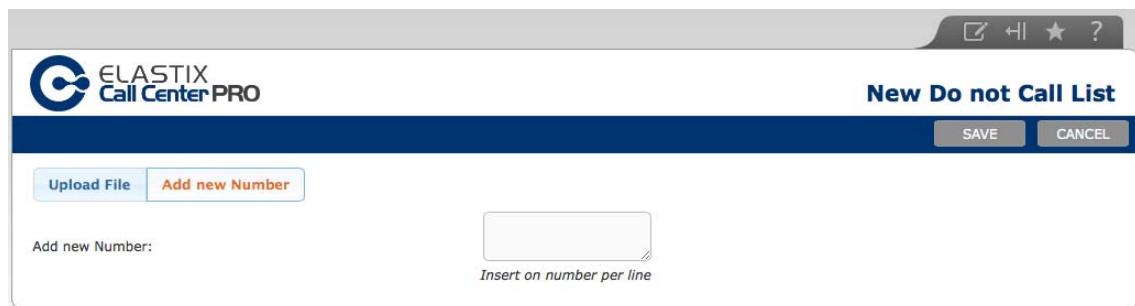
Click "*Cancel*" to return to the previous page.

Sub-menu: Manual Calls

This sub-menu is located at *DINOMI Manage → Manual Calls*

DINOMI includes a mode called "*Preview*", which allows setting up a regular campaign to one or more agents, and includes a call file with listed numbers. The difference between an outgoing campaign and a manual campaign is that in an outgoing campaign, the dialer starts calls automatically and assigns them to a queue; while in the manual campaigns the list of available phone numbers are presented at the agent console so the agent start the call (manually).

Another difference is that, depending on the configuration; the agent can skip a number.

Module: Manual Campaigns

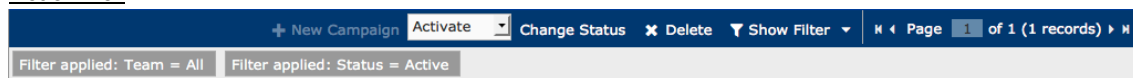This module is located at *DINOMI Manage → Manual Calls → Manual Campaigns*

List of Information

Fields description:

- **Name**: Name of the campaign
- **Team**: Team assigned to the campaign
- **Range Date**: Lapse of time during the campaign will be active
- **Schedule per Day**: Day scheduled time for the campaign
- **Trunk**: The telephony channel that will be used to perform outgoing calls
- **Status**: Status of the campaign
    - ○ *Active*: The campaign is active and the queue will assign calls to agents
    - ○ *Inactive*: The campaign is not active
- **Options**: Allows to download a file with information associated to the campaign

Action Bar

- **New Campaign**: Create a campaign
- **Change Status**: Change the status of the selected campaign
    - ○ *Activate*: Activate selected campaigns after clicking "Change Status"
    - ○ *Deactivate*: Deactivates selected campaigns after clicking "Change Status"
- **Delete**: Deletes the selected campaigns
- **Page control**: Allows changing pages in the list when there are too many elements. The system displays information on pages for easier viewing
- **Show Filter**: Allows to filter the information on the list based on: Name, Team and Status of the campaign. To perform a custom search we just need to enter the new criteria

The filter selection is displayed in dark gray. Click on the X in a gray box to delete that filter criteria.

Creating a campaign

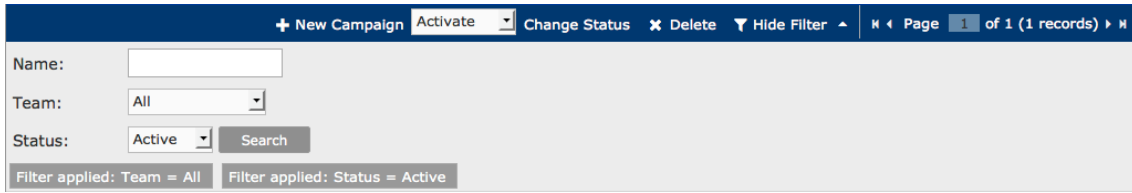Click on "*New Campaign*". The following page will appear:

- **Name**: Name of the campaign
- **Team**: Team assigned to the campaign
- **Range Date**: Lapse of time during the campaign will be active
- **Schedule per Day**: Day scheduled time for the campaign
- **Agents**: Agents that will be assigned the campaign
- **Form**: Static form that will be used in this campaign
- **Dynamic Form**: Dynamic form that will be used in the campaign
- **External URLs**: External URL that will be executed every time a call is assigned to the agent
- **Context**: Is the context that will be used for the campaign. The default context is "*from-internal*"
- **Call File**: A CSV call file with the information of telephone numbers that will be dialed for this campaign
- **Call File Encoding**: Type of encoding used for the creation of the CSV file

- *Tipo de campaña* **(Type of campaign)**: Allows to choose the way the numbers will be presented to the agent.
    o **Aleatorio (Random)**: Contacts are presented randomly in a short list, the agent can select any of the contacts to start the call.
    o **Secuencial (Sequential)**: Contacts are presented in order, one at a time. The agent can review the information of the contact and dial or skip it.
    o **Secuencial Restrictivo (Sequential Mandatory)**: Contacts are presented in order, one at a time. The agent cannot skip any contact, but he can dial when he is ready.
- **Script**: Script that will be presented during each call in the agent's console (overwrites the default script of the queue)

The following links will take us to a different page setup section:
- Manage Forms
- Manage dynamic forms
- Manage External URLs

Fields with a * are required.
Click on "*Save*" to complete this process.

Editing a manual campaign
We can edit all the fields of a manual campaign, however changes made are not updated automatically in the campaign. In certain cases, agents should make logout and login again to see some of the changes, especially regarding changes in the "type of campaign" or the "Call file".

More detailed information of manual campaigns will be seen in chapter 8.

CHAPTER 7

Recordings

Elastix allows call recording at 3 levels: queue, trunk (through outbound routes), and extensions. The most effective alternative for Call Center is to configure recording on the queue for incoming and outbound campaigns.

Recording on demand, at the agent level, is not available, with the exception of the extensions that are used on the dynamic mode.

With this on mind, we should configure recordings for manual campaigns in the outbound route.

Activating call recording

To activate recordings on the queue go to *PBX -> PBX Configuration-> Queues*. Enter the queue you want to enable recording and go to "*General Queue Options*".

The parameter "*Call Recording*" has the following options:

- **wav**.- enables the call recording in the queue in wav format
- **wav49**.- enables the call recording in the queue with a compressed version of wav
- **gsm**.- enables the call recording in the queue encoded with gsm
- **no**.- is the option by default and disables the call recording in the queue

Once we select the file format of the recording, go to the bottom of the page and click on "*Submit Changes*" and then click on "*Apply Changes*".

The queue will record all the calls in the assigned campaign.

Reviewing Recordings

To search for call recordings we go to *DINOMI Manage* → *Reports* → *Call Details*.

We will see the list of calls performed from the Call Center campaigns. As we enabled call recording in queue 6001, we can see 4 available records in the "*Recording*" column that can be downloaded by clickin each item on the list.

Further information about call recordings will be covered in chapter 9.

By default, the report doesn't have any filter activated, however we can filter results based on: *Range of date, Type of campaign, Phone number, Team, No Agent and Queue*. With these options we can easily search for a specific call.

In the following example, we will track phone number *6008010*, on an incoming call, placed at queue 6001 and connected to agent A4

No. Agent	Agent	Start Time	End Time	Duration	Duration Wait	Queue	Type	Phone	Transfer	Status	Recording
1004	A4	2015-11-19 18:00:20	2015-11-19 18:01:25	00:01:05	00:00:00	6001	Incoming	6008010		Success	Download
1004	A4	2015-11-19 11:26:47	2015-11-19 11:29:38	00:02:51	00:00:00	6001	Incoming	6008010		Success	

The image show two calls, one of the calls was performed after we enabled the call recording on the queue.

To listen the recording we click on the "*Download*" link. The file will be downloaded to the computer and we can open it on any media player.

The downloaded file name is: *q-6001-6008010-20151119-180020-1447974020.8.wav*

The naming follows this format:

q-[*queue number*]-[*phone number*]-[*Call Date*]-[*Call Hour*]-1447974020.8.wav

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CHAPTER 8

Agent Console

The agent console athe interaction between the agent and the DINOMI. This is a web-based tool and works with the ECCP (Elastix DINOMItocol). The agent console receives call events through the ECCP, including all the corresponding information of the call.

Log into the console

As we described in chapter 1, each agent will require a user to log in Elastix prior to access the Agent console, and an agent number to receive calls.
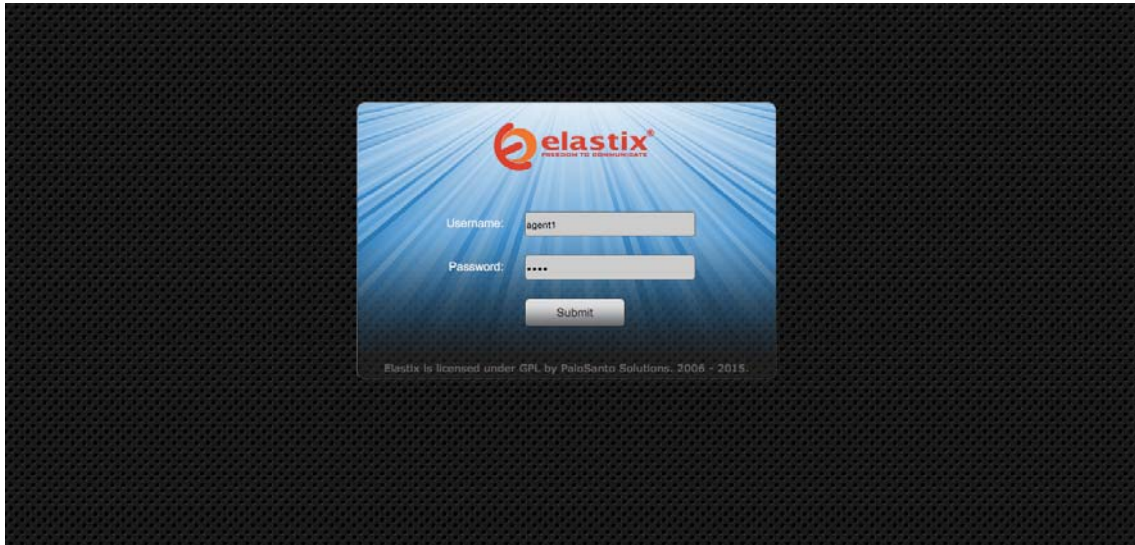
We previously established permissions for the corresponding group, so the agents will only get access to the console:
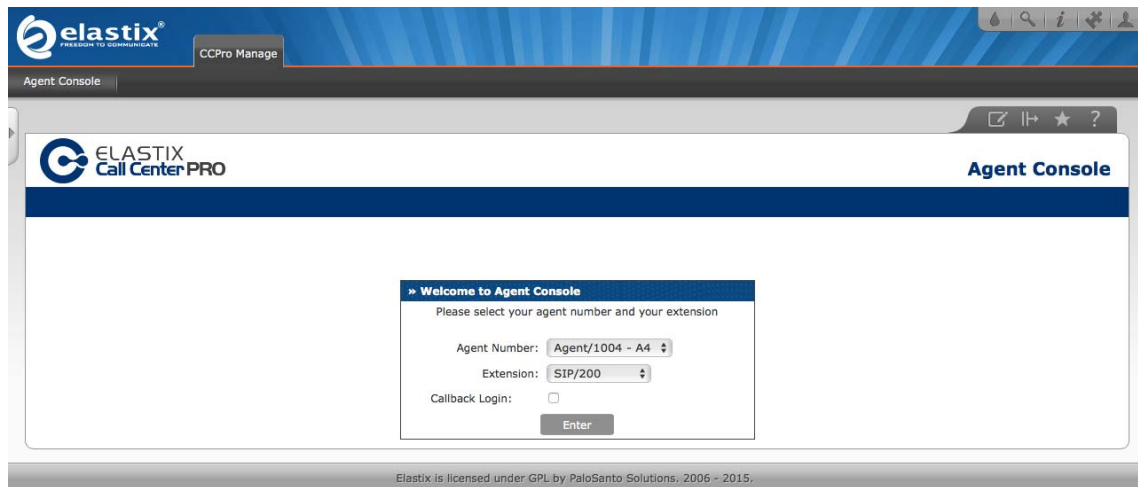
At this moment the agent is logged in the system but he is not registered actively in the call center yet.

To enter the call center, the agent must select an agent number and an extension, then click on "*Enter*".

Note: We are assuming that an extension has been assigned to the agent previously.

Right after that, the agent will receive a call, there he must enter the password related with the agent number and press the pound key in the phone (#) to submit the password.
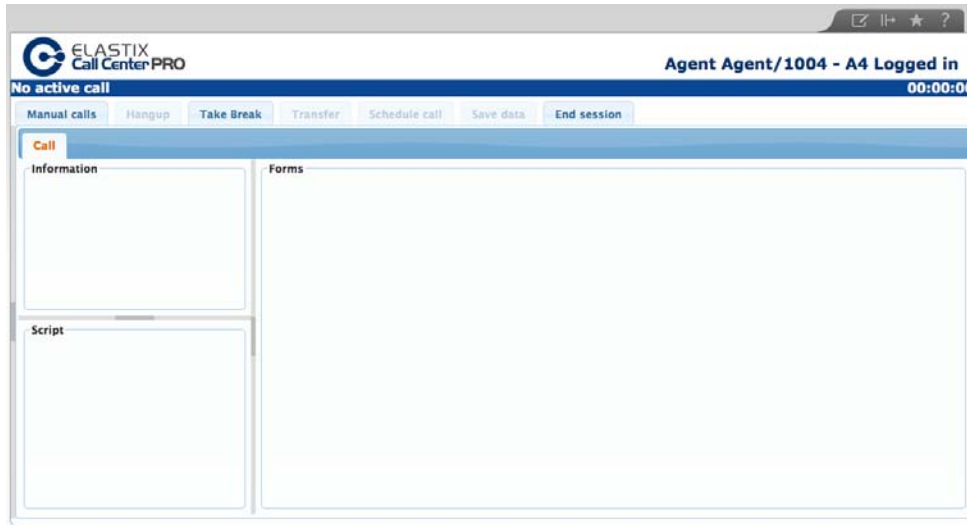
If the password is valid, the agent logs in, and he will be "*free*" to receive calls from campaigns.

To login with a callback extension, the agent must activate the option "Callback Login", and select the extension. Then the agent must write the password of the extension and click on "*Enter*".
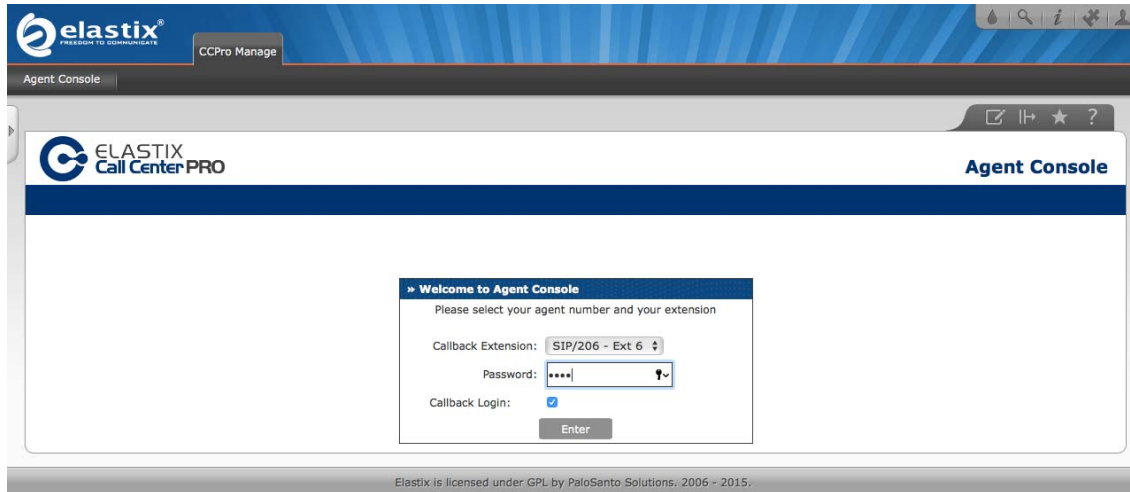
After that, the agent will log into the DINOMI, and he will be ready to receive calls.
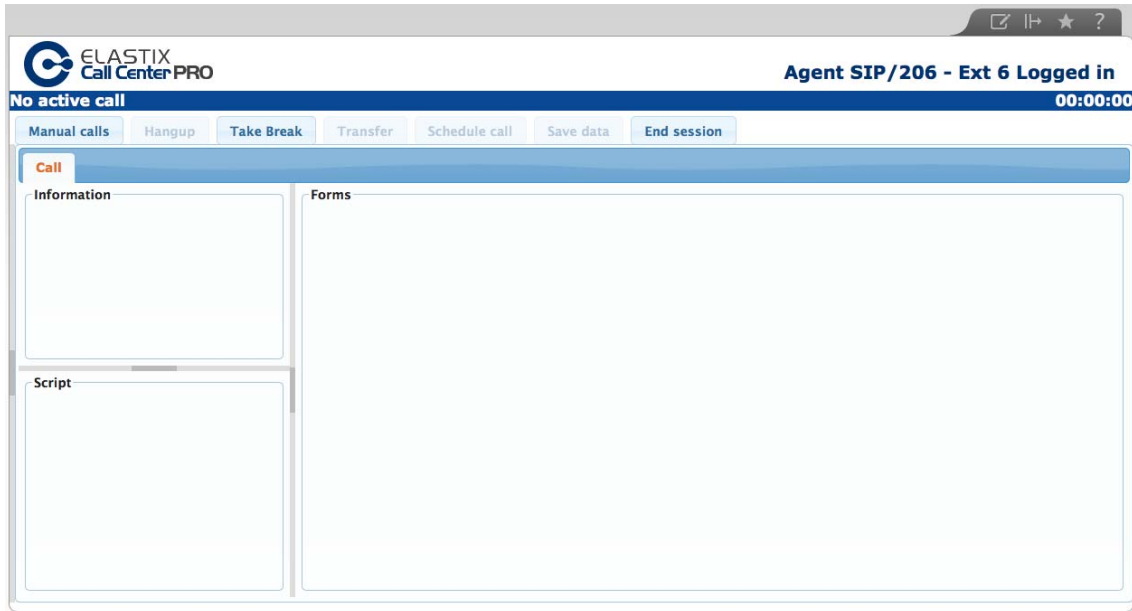
Sections of the agent console
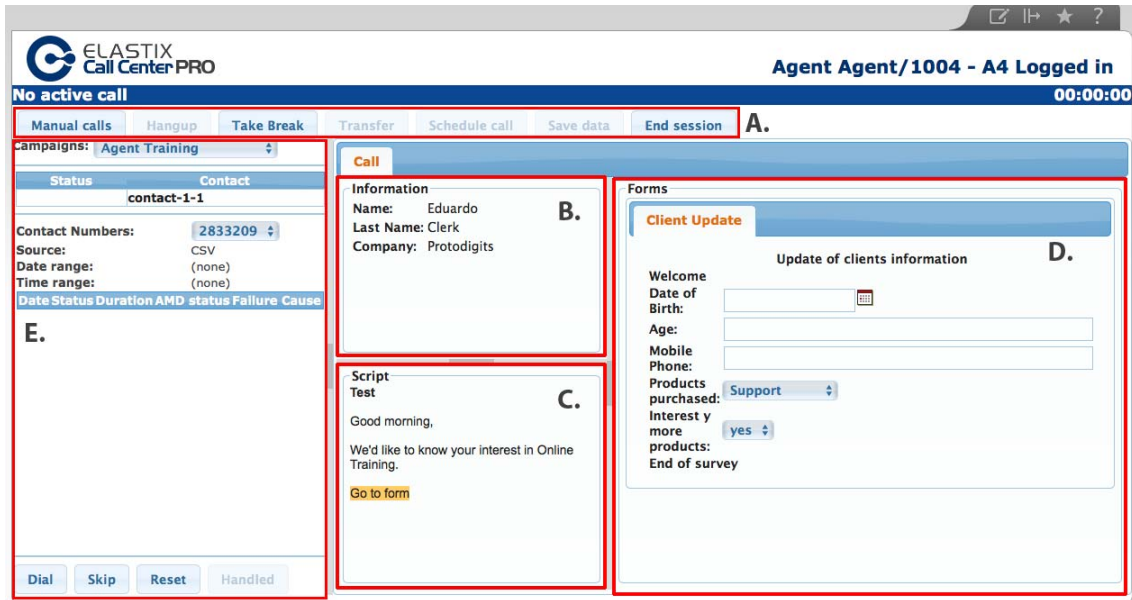
A. **Actions**.- These buttons allow to perform actions prior, during or after the call.

    a. *Manual calls*. - Activates the manual call section.

    b. *Hangup*. – Ends the current call, sets agent status to *Free*.

    c. *Take Break*. - Allows the agent to take a break *(IE: Lunch, bathroom, etc)*.

    d. *Transfer*. - Allows the agent to transfer a call to an existing Elastix extension.

    e. *Schedule Call*. - Allows scheduling a call to be performed again in the future.

f. *Save Data*. - Saves the data inputed in the form. The agent must click this button every time he fills the form during a call.

g. *End Session*. - Allows the agent to logout the of DINOMI agent console.

B. **Call information area**. - Displays information of the current call: *contact, phone number, name, last name,* and additional information configured on the call file. This area can be hidden.

C. **Script Area**. – Displays the script configured for the current campaign. This area can be hidden.

D. **Campaign Tools**. – Displays forms and embedded applications from external URLs.

E. **Manual Calls Area**. – Displays the information of manual calls and its controls (*Dial, Skip, Reset, Handled*). This area can be hidden.

Screenshots of the operation

Incoming Campaign

During incoming campaigns, the Call Information Area shows the information of an existing contact. In this example, the data contains the phone number (42293050), the contact ID (1), and the contact name and last name (Frank Peres).

The agent console shows a label in green with the legend "Connected to call".
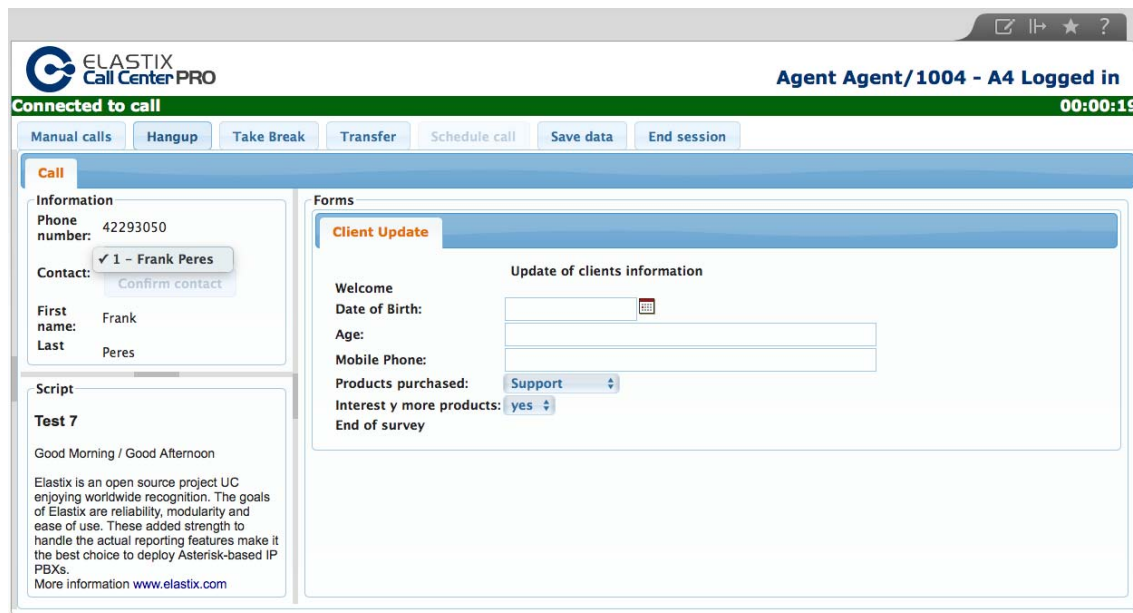
Outgoing Campaign

The following image shows an agent on an outbound campaign call. The Call Information Area shows custom information found on the call file for this campaign: *Name, Last Name, Company, Gender, Age, City, and Country*.
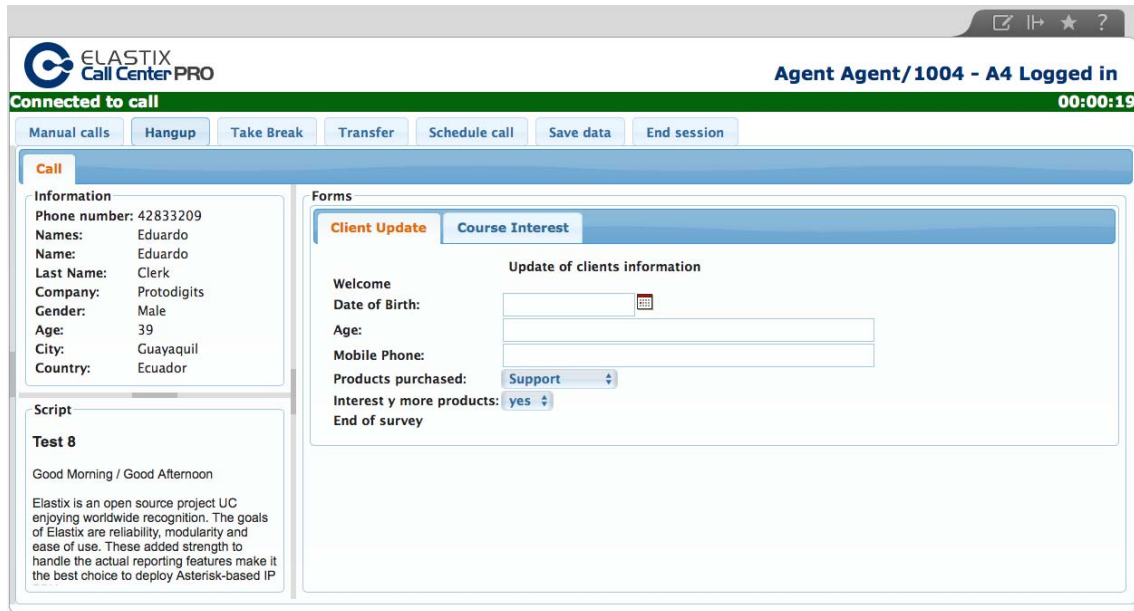
The agent console interface allows to hide sections B, C and E.
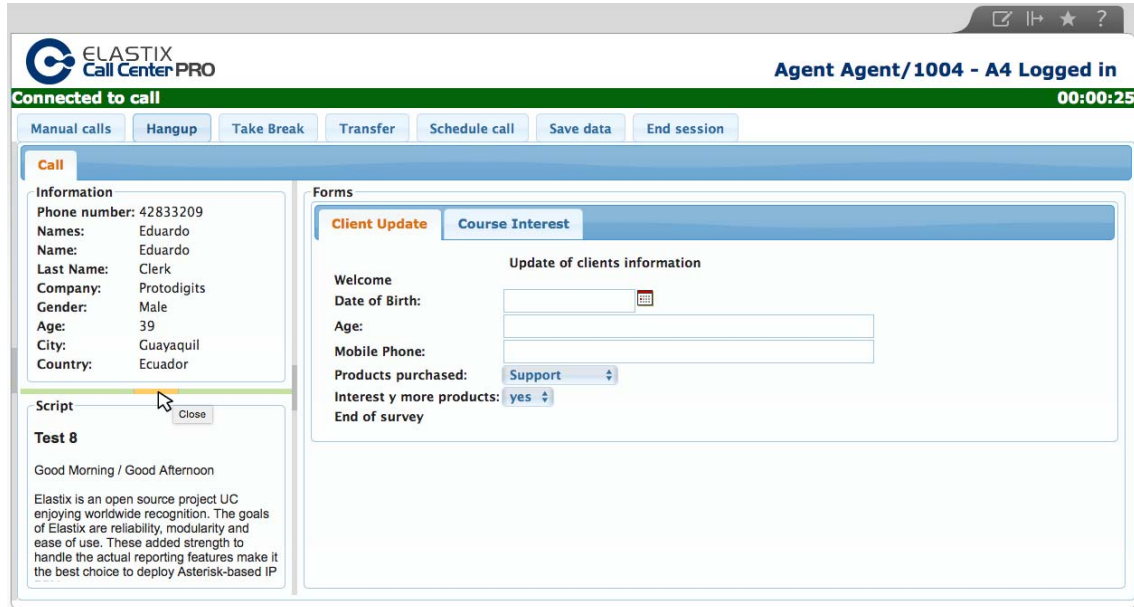
The following image shows the console with the C-section hidden.
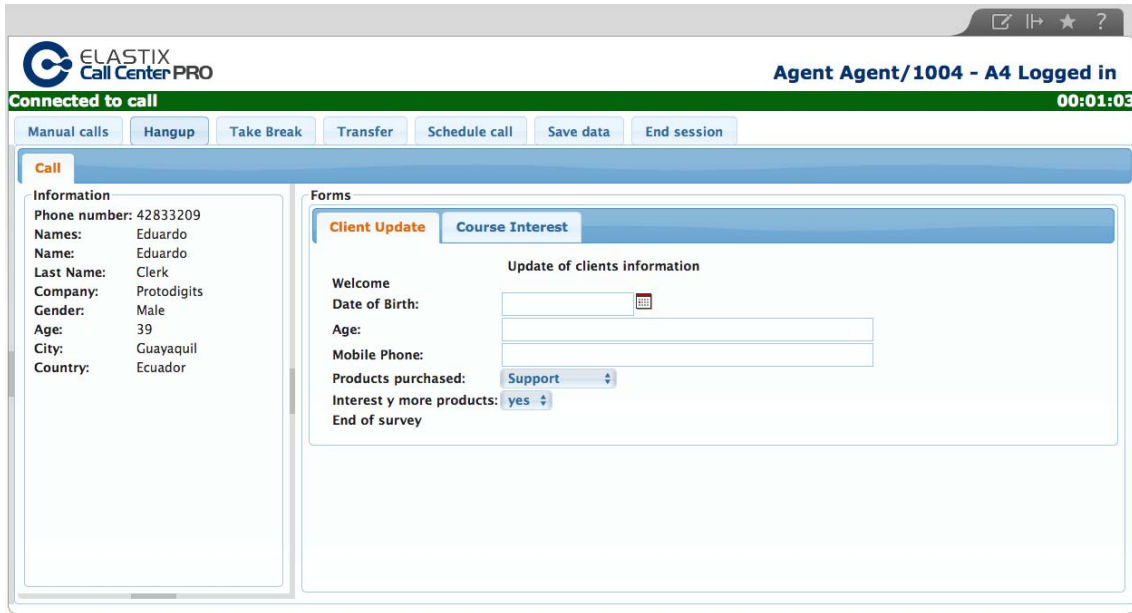
Campaigns can be configured to include 2 or more forms. In cases were an external URL embeds an application, it will be displayed in section D.
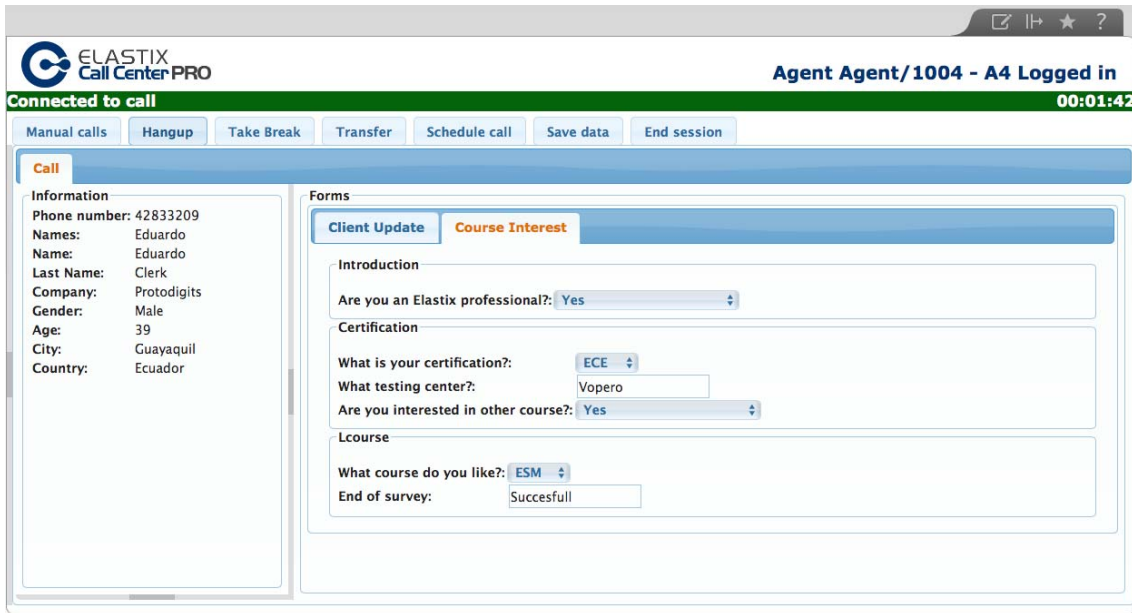
Saving Data

To store the information gathered on the form into the database, it is necessary to click on "*Save Data*" button, otherwise the information will be lost.
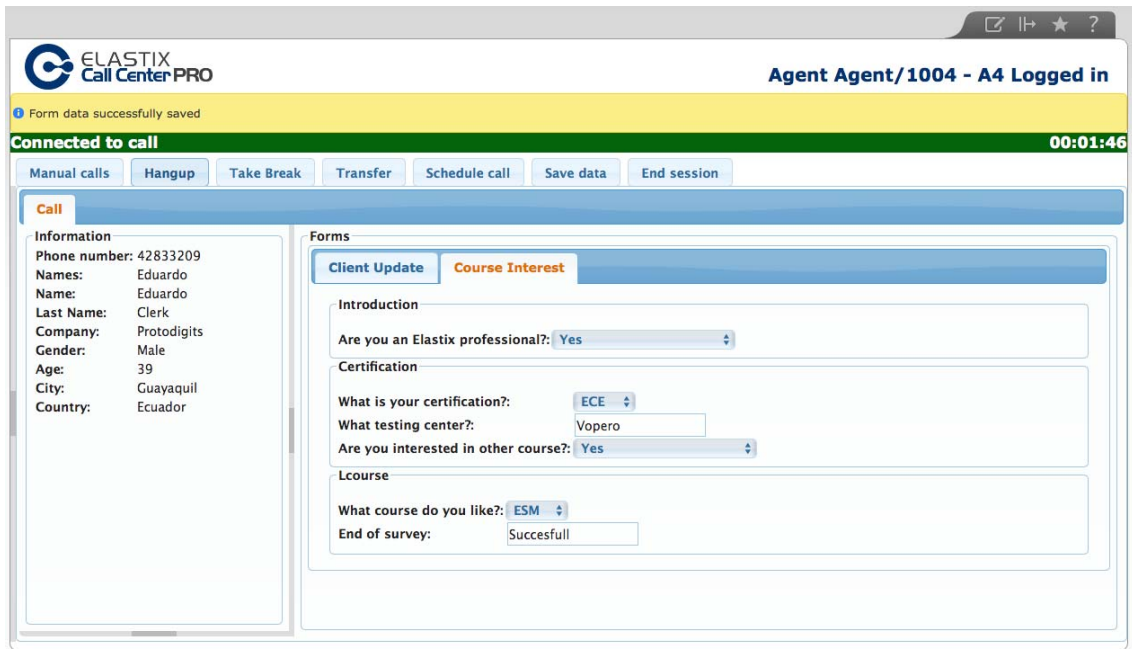
Schedule Call

The agent can schedule a call, if requested by the client. The time of the next call must be inside the range of the current campaign duration.
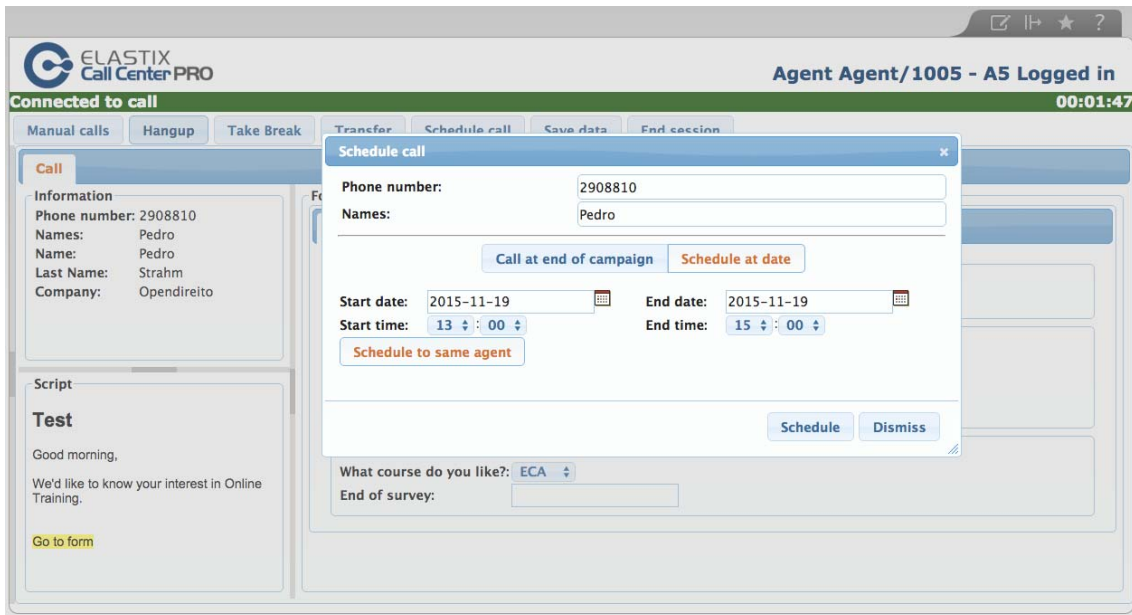
If the call scheduling is correct, the agent will receive a successful message.
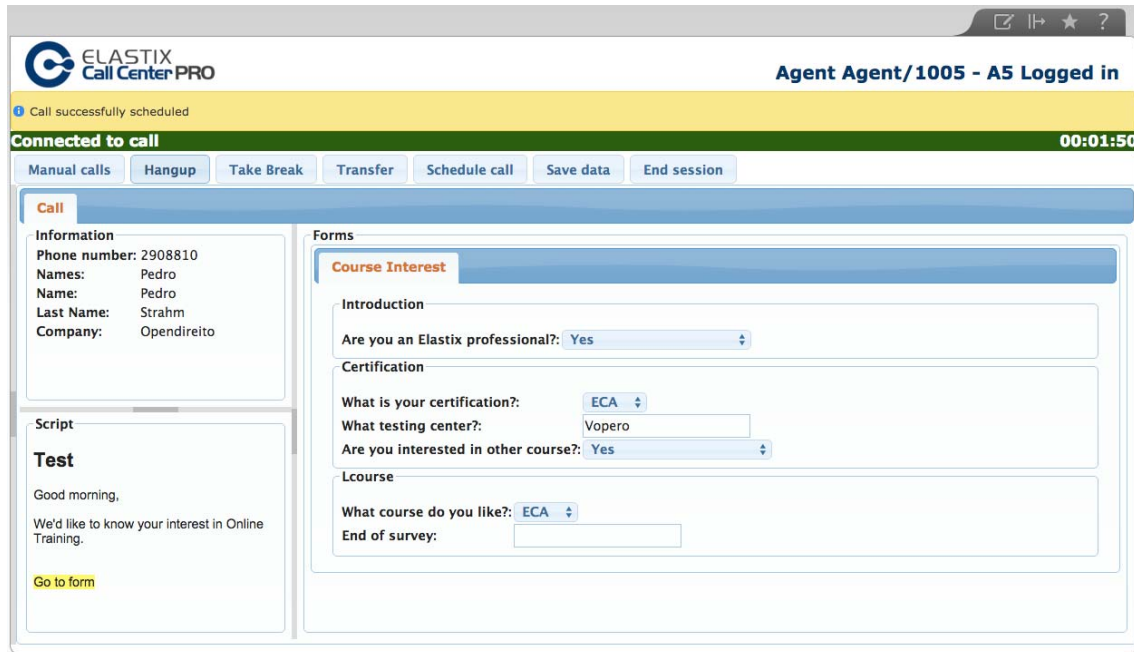
Call Transfer

The agent can perform a *blind transfer* or an *attended transfer*, to an extension on the system. On the attended transfer, the client will be put on hold, until the agent hangs-up and completes the transfer. If the agent wants to return to the call, prior transfering, the person on the other extension should hang-up.
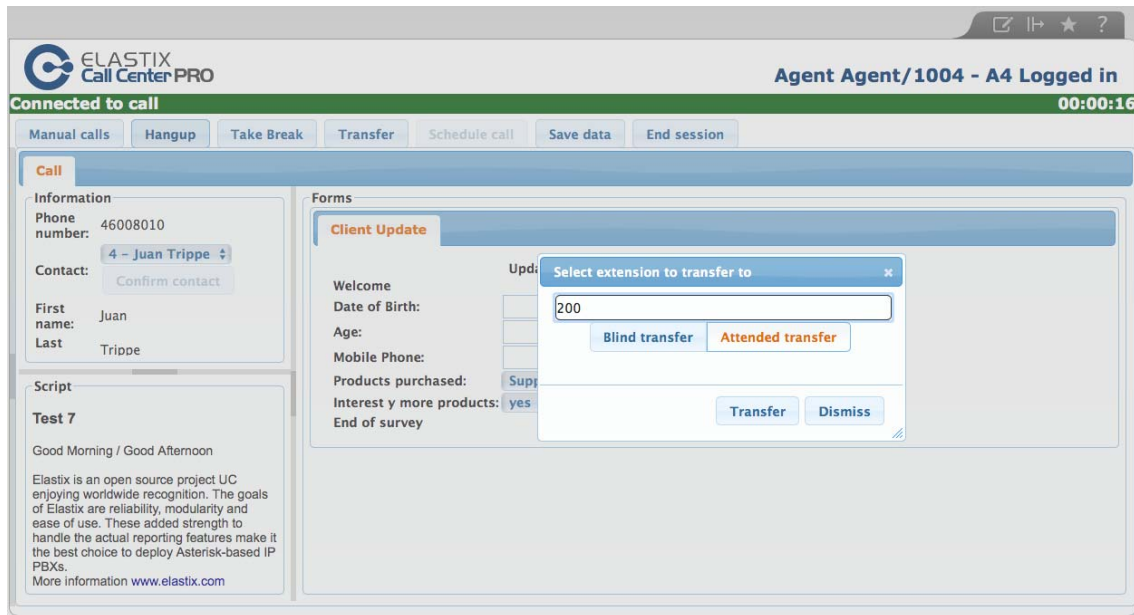
Break

When the agent click the "*Take Break*" button at the top of Agent console, a small window will pop up with the list of available breaks.
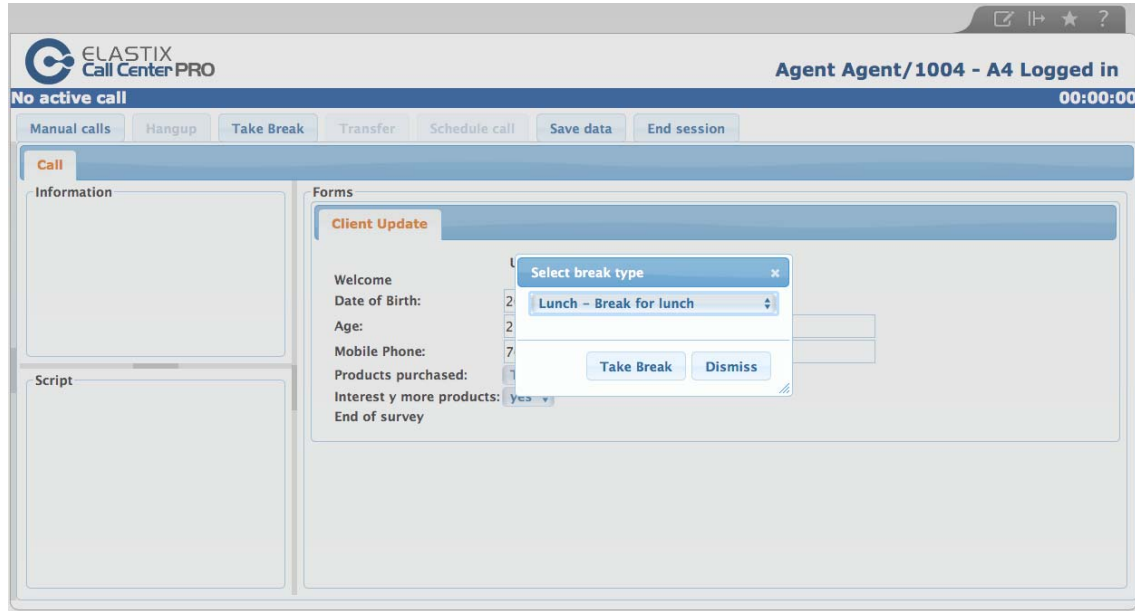
Once the agent chooses one of the available breaks, the system will put the agent as not available. A red label will display with the legend: On break: Type_of_break. To get back to available status, the agent must click on "*End Break*".
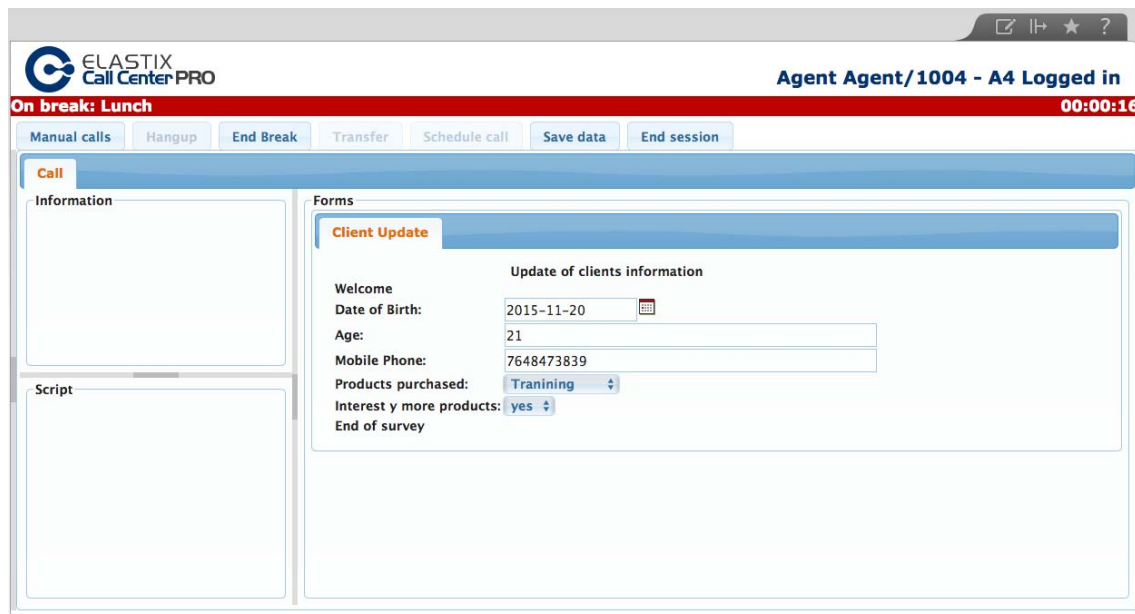
Manual Call Campaigns

This feature is located at *DINOMI Manage → Manual Calls* sub-menu.

These types of campaigns require the selection of one or more agents, instead of a queue. Once the campaign is created and scheduled, an agent should log into the call center and click on "*Manual calls*". The agent will see a field called "*Campaigns*" with a list of the available campaigns for him. According to the type of campaign, the agent will see a list of contacts and will be able to "dial" or "skip" if the campaign type was set to *sequential*.
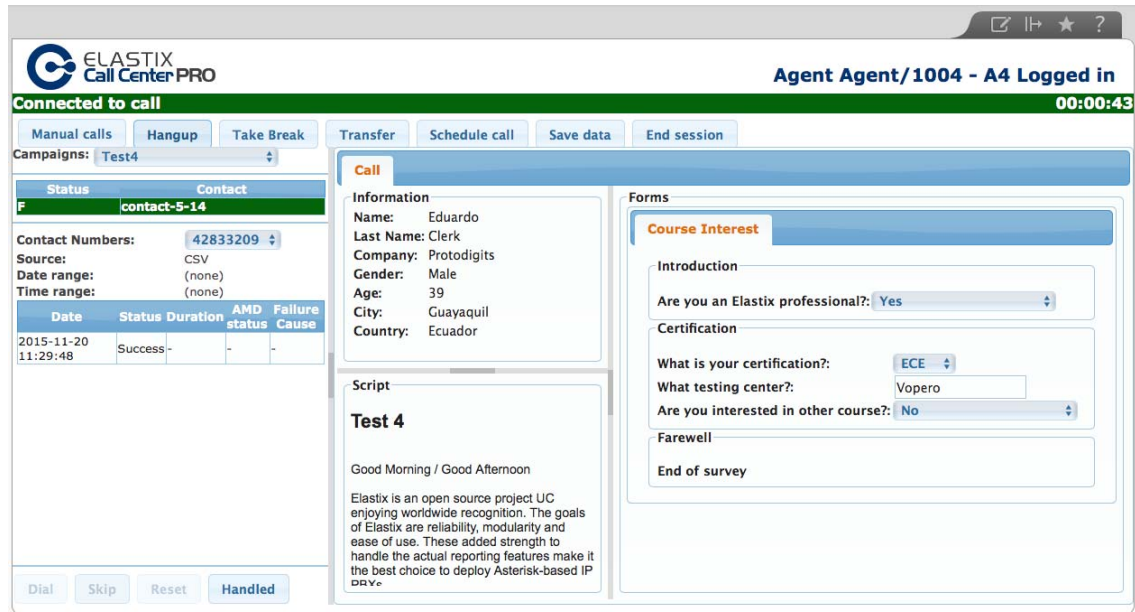
After clicking on dial, the console will display a purple label with the legend "Waiting for call". When the call connects, it will show the green label with the legend "Connected to call".
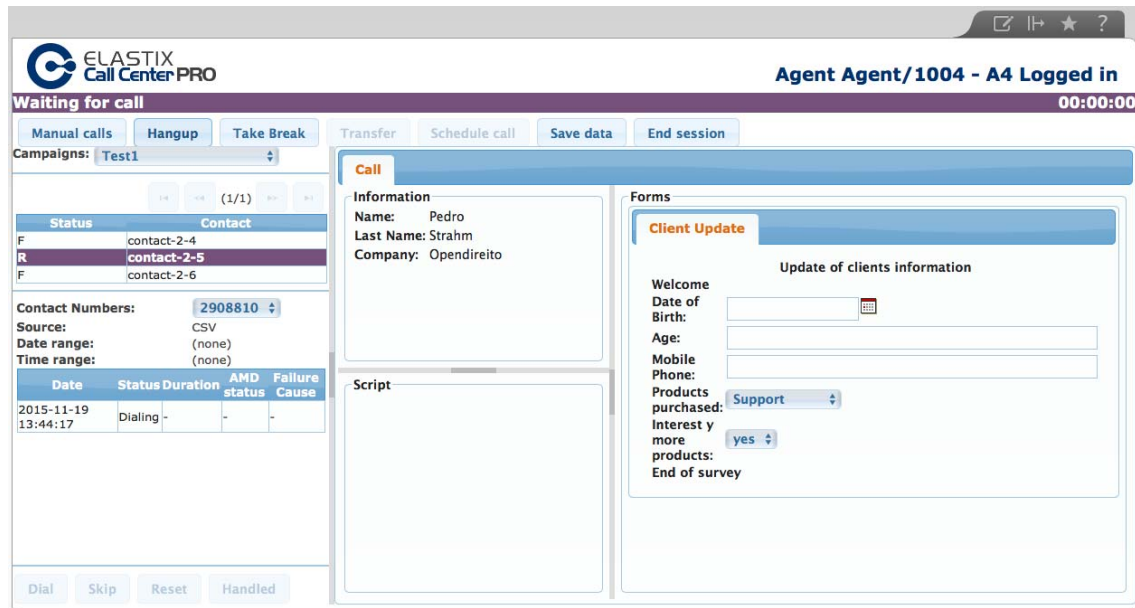
On a manual campaign set as *random*, the agent will see a list of available contacts. The agent then can click on each contact to review the information and click on *dial* to call.

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During the call (or after), the agent can click on "Handled" to register the attention. The system will mark the contact with the letter "F", and the contact won't be available for another call.

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CHAPTER 9

Reports

Menu: DINOMI Manage
Sub-Menu: "Reports"

Reports embedded in the Call Center module were designed exclusively for this type of operation, and are separated from Elastix CDR Reports. This module is located at *DINOMI Manage → Reports*

DINOMI has 10 statistical reports:

- Reports Break
- Calls Detail
- Calls per hour
- Calls per Agent
- Hold Time
- Login Logout
- Ingoing Calls Success
- Graphic Calls per hour
- Agent Information
- Trunks used per hour

Each report is available in the left column of the Sub-menu "Reports", so instead of referring to modules we will refer to the name of the report.

Reports Break

It is the first report available and contains columns with all the available breaks.

The filter of this report includes a range of dates.

The report includes the number and name of the agent and the sum of time he took during each break. A total time is available per agent and per break.

This report can be downloaded as a CSV file, spreadsheet or PDF. If you download the report as a spreadsheet, you'll get additional information: The average of each type of break.

Calls Detail

This report displays a list of all the calls based on: range date, phone, type of campaign, team, agent number, and queue. The default filter includes all the information of the current date.

The report also includes:

- **Duration**: Duration of the call
- **Duration wait**: Amount of time the client waited on hold for an agent.
- **Transfer**: Shows the number of the extension if the call was transferred.
- **Status**: Shows the status of the called: activa (active), success, abandoned (by the client).
- **Recording**: Shows a link of the recording (if available file exists).

This report can be downloaded as a CSV file, spreadsheet or PDF.

Calls per hour

This report analyzes how many calls were made or received per hour, per queue.

Hour	6001	6002	All
00:00	0	0	0
01:00	0	0	0
02:00	0	0	0
03:00	0	0	0
04:00	0	0	0
05:00	0	0	0
06:00	0	0	0
07:00	0	0	0
08:00	0	0	0
09:00	0	0	0
10:00	0	0	0
11:00	8	5	13
12:00	4	1	5
13:00	0	0	0
14:00	0	0	0
15:00	0	0	0
16:00	0	0	0
17:00	0	0	0
18:00	0	0	0
19:00	0	0	0
20:00	0	0	0
21:00	0	0	0
22:00	0	0	0
23:00	0	0	0
Total Calls	12	6	18
Hour	6001	6002	All

This report allows establishing a search criteria based on the following variables:

- **Start Date**: Starting date of the range you want to filter.
- **End Date**: Ending date of the range you want to filter.
- **Type**: Type of campaign
  - *Incoming*: Filters calls done in incoming campaigns.
  - *Outgoing*: Filters calls done in outgoing campaigns.
- **Status**: Calls completed or abandoned.
- **Queue**: Allows filtering the result by queue.

By default, the report shows the number of calls made in a range of 24 hours, displaying results for each queue.

The number of calls per hour is the sum of calls according to date range selected, i.e. if we set a range of 3 days, the number of calls per hour will be the sum of calls in each day. The overall result may not be effective for statistical analysis in a short-range configuration.

This report can be downloaded as a CSV file, spreadsheet or PDF.

Calls per Agent

This report allows viewing calls attended by an individual agent.

No. Agent	Agent	Type	Queue	Calls answered	Duration	Average	Longest Call
1004	A4	Inbound	6001	6	00:19:05	00:03:10	00:07:31
1004	A4	Inbound	6002	1	00:08:06	00:08:06	00:08:06
1005	A5	Inbound	6001	6	00:09:09	00:01:31	00:04:54
1005	A5	Inbound	6002	5	00:09:19	00:01:51	00:04:37
1005	A5	Outbound	6003	8	00:10:49	00:01:21	00:04:25
Total				**26**	**00:56:28**	**00:02:10**	**00:08:06**

The search criteria of this report is based on the following variables:
- **Start Date**: Starting date of the range you want to filter.
- **End Date**: Ending date of the range you want to filter.
- **No. Agent**: allows selecting the agent.
- **Type**: Type of campaign
    - *Incoming*: Filters calls done in incoming campaigns.
    - *Outgoing*: Filters calls done in outgoing campaigns.
- **Team**: Allows filtering by team assigned to the queue/campaign.
- **Queue**: Allows filtering the result by queue.

List of information:
- **No. Agent**: Number of agent in the Call Center
- **Agent**: Name of the agent.
- **Type**: Type of campaign
- **Queue**: Queue
- **Answered calls**: Answered call
- **Duration**: Total duration of calls for that queue and campaign.
- **Average**: Average time based on duration and answered calls.
- **Longest call**: The call with the longest duration.

These results allow us to analyze two key factors:
- Breaks abuse
- Efficiency of ring strategy

The *average* value is useful to determine if the agent has performance problems during a campaign. In some cases, especially if we use the predictive dialing function, the calls entering the queue may experience a timeout prior to be connected with an agent. It is important to review these results in conjunction with the *Hold Time* report.
This report can be downloaded as a CSV file, spreadsheet or PDF.

Hold Time Report

This report allows us to identify the time that a person who called during inbound campaigns had to wait until an agent answers the call. The analysis and display of results are based on queues.

The search criteria of this report is based on the following variables:

- **Date Init**: Starting date of the range you want to filter.
- **Date End**: Ending date of the range that you want to filter.
- **Type**: Type of campaign
    - *Incoming*: Filters calls in incoming campaigns.
    - *Outgoing*: Filters calls in outgoing campaigns.
- **Status**: Show successful or abandoned calls.

This report can be downloaded as a CSV file, spreadsheet or PDF.

Login Logout Report

This report allows to check the dates and times in which agents entered and left the agent console.

Login-Logout report also allows us to obtain the total connection time of an agent, the time spent on calls and the percentage of service, *i.e. the time an agent spent on calls vs. the time that was available on the agent console*.

The search criteria of this report is based on the following variables:

- **Date Init**: Starting date of the range you want to select.
- **Date End**: Ending date of the range that you want to select.
- **Queue**: allows selecting the result by queue.
- **Type**:
    - *Detailed*: shows complete information of all the login and logout of all agents and related results.
    - *General*: shows the first login and last logout of an agent with average values of incoming call, outgoing calls and time of calls.

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List of information:
- **Agent**: Agent number
- **Name**: Name of the agent
- **Date init**: Starting date
- **Date end**: Ending date
- **Total Login**: Total time the agent was logged in the DINOMI
- **Incoming calls**: Total time of agent on incoming calls
- **Outgoing calls**: Total time of agent on outgoing calls
- **Time of calls**: Total time on calls
- **Service (%)**: Percentage of service – "Time of Calls" vs. "Total Login".
- **Status**: Agent status in the Call Center right now.

This report can be downloaded as a CSV file, spreadsheet or PDF.

Ingoing Calls Success

This report shows the result of incoming campaigns by queue.

Queue	Successful	Abandoned	Hold Time	Total Calls
6001	8	0	00:03:53	8
6002	5	0	00:00:34	5
Total	**13**	**0**	**00:04:27**	**13**

The search criteria of this report is based on the following variables:
- **Date Init**: Starting date of the range you want to select.
- **Date End**: Ending date of the range that you want to select.

List of information:
- **Queue**: Queue assigned used for DINOMI
- **Successful**: Successful calls
- **Abandoned**: Abandoned calls (inbound campaigns)
- **Hold Time**: Time that a person who calls have to wait until an agent answers the call
- **Total Calls**: total calls

Each queue shows the total number of calls including successful and abandoned calls. It is recommended to analyze this report with a daily range, or using the range of the campaign's duration.

Although it is not a real-time report, the information is updated as calls are completed in the system; allowing us to compare successful and abandoned calls during the campaign.

This report can be downloaded as a CSV file, spreadsheet or PDF.

Graphic Calls per hour

This report shows a graph of calls during a given period of time, on a range of 24 hours. It is particularly useful for incoming campaigns, as it shows the number of calls abandoned in a visual representation.

In the case of outbound calls, it shows the number of completed calls compared to dialed calls, which allows us to make adjustments to optimize the dialer performance during the campaing.
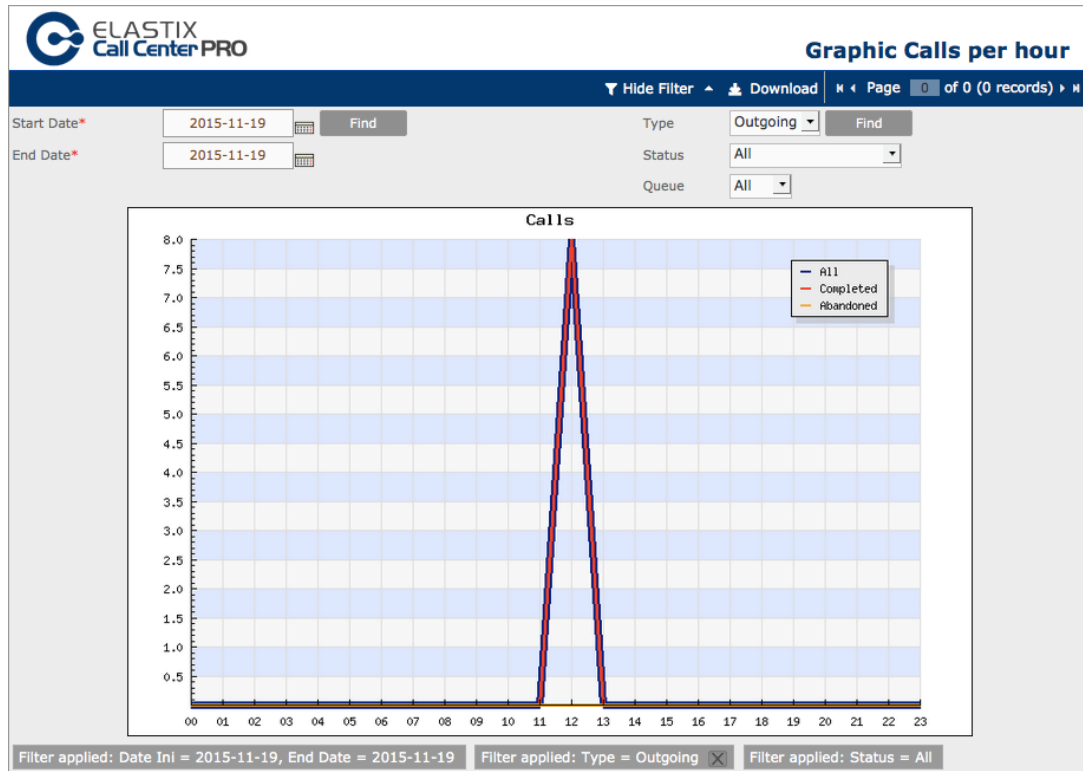
Hour	6003	All
00:00	0	0
01:00	0	0
02:00	0	0
03:00	0	0
04:00	0	0
05:00	0	0
06:00	0	0
07:00	0	0
08:00	0	0
09:00	0	0
10:00	0	0
11:00	0	0
12:00	8	8
13:00	0	0
14:00	0	0
15:00	0	0
16:00	0	0
17:00	0	0
18:00	0	0
19:00	0	0
20:00	0	0
21:00	0	0
22:00	0	0
23:00	0	0
Total Calls	8	8
Hour	6003	All

Page 0 of 0 (0 records)

The search criteria of this report is based on the following variables:
- **Start Date**: Starting date of the range you want to select.
- **End Date**: Ending date of the range that you want to select.
- **Type**: Type of campaign
    - *Incoming*: Filters calls done in incoming campaigns.
    - *Outgoing*: Filters calls done in outgoing campaigns.
- **Status**: Show successful or abandoned calls.
- **Queue**: Allows filtering the result by queue.

It is recommended to analyze this report by a daily range, or by the complete range of the campaign.

This can be a useful report to have a visual representation of peak hours during an incoming campaign.

This report can be downloaded as a CSV file, spreadsheet or PDF.

Agent Information Report

This report shows detailed information about each agent, such as first and last connection, the total connection time and other data.

The information in this report is useful to see the effectiveness of the agent, especially when their work is based on results.

The search criteria of this report is based on the following variables:
- **Start Date**: Starting date of the range you want to filter.
- **End Date**: Ending date of the range that you want to filter.
- **Queue**: It allows selecting the result by queues.
  No. Agent: This is a required value; otherwise an error message is displayed.

This report does not show results of campaigns, so you must select a queue you want to review.

List of information:
- **AGENT NAME**
- **CONNECTION DATA**
  - First Connection date
  - Last Disconnection date
  - Connection Time: Total of time connected
  - Connection Count: Total of agent connections during the range selected
- **INCOMING CALLS**
  - *Incoming Calls Count*: Total incoming calls during the range selected
  - *Calls/H*: An estimated value of calls per hour
  - *Incoming Calls Time*: Total time of incoming calls
  - *Incoming Calls Average*: Average time per call

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- **NOT-AVAILABLE REASON**
  - *Break*: List of available breaks
  - *Count*: Count per breaks available
  - *Hour*: Total amount of time per break
  - *Percentage of not-available time*: It is statistical information based on the time of breaks vs. the Incoming Calls Time.

This report can be downloaded as a CSV file, spreadsheet or PDF.

Trunks used per hour Report

This report allows reviewing the use of each trunk per hour. We can check real-time data such as calls in the queue, answered calls and abandoned calls.

The search criteria of this report is based on the following variables:
- **Start Date**: Starting date of the range you want to select.
- **End Date**: Ending date of the range that you want to select.
- **Trunk**: Allows to filter by trunk; the default value is "All".

List of information:
- **Time Period**: Records listed in an hourly interval, with activity during a 24-hour range.
- **Entered**: Number of calls that entered
- **Answered**: Answered calls
- **Abandoned**: Abandoned calls
- **In queue**: Calls in queue
- **Without monitoring**: Calls that were not monitored.

This report can be downloaded as a CSV file, spreadsheet or PDF.

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Monitoring

This sub-menu is located at *DINOMI Manage* → *Monitoring*, it includes 3 reports:
- Incoming calls monitoring
- Campaign monitoring
- Agents Monitoring

These reports collect data from active campaigns and display real-time information.

Incoming calls monitoring

This report is a real-time monitoring of incoming calls. It allows us to see the call status per queue with a summary of answered, abandoned, waiting and total calls.

Queue	Waiting calls	Abandoned	Answered	Finished	Without monitoring	Entered
6001	0	0	1	6	0	7
6002	0	0	1	0	0	1
TOTAL	**0**	**0**	**2**	**6**	**0**	**8**

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List of information:
- **Queue**
- **Entered**: Total number of calls per queue
- **Answered**: Calls answered in the queue
- **Abandoned**: Calls abandoned in the queue
- **Waiting Calls**: Calls on the queue waiting for an agent
- **Without Monitoring**: Calls not being monitored

Campaign Monitoring

It is a real-time report to monitor the call center operation activity. This module allows to select any active campaign, inbound or outbound, and review the following information in real-time:
- **Start date**: Starting date of the campaign
- **End date**: Ending date of the campaign
- **Schedule**: Daily active time of the campaign
- **Queue**: Queue assigned to the campaign
- **Retries**: Retries of the campaign (for outbound campaigns)
- **Total calls**: Actual total calls
- **Queued calls**: Actual queued calls
- **Connected calls**: Actual connected calls
- **Lost track**: Allows to review incoming calls that are still active after the dialer operation
- **Abandoned calls**: Actual abandoned calls
- **Finished calls**: Actual finished calls
- **Average call duration**: Actual average of calls
- **Maximum Call Duration**: Actual longest call

The following image shows the monitoring of an incoming campaign. The general information of the campaign is displayed on the top of the report.

Below the general information area, we have the following monitoring panels:

- **Placing Calls**: (Left panel) If monitoring an outbound campaign, it shows all calls processed by the dialer that are awaiting to be assigned to an agent. In the case of incoming campaigns, it will display the calls that are in queue, waiting to be served by an agent.
- **Agents**: (Right panel) displays the static or dynamic agents assigned to the queue and their status.
- **Campaign log**: (Lower panel) displays a record of the actions being taken by the dialer when it places or attends campaign calls.

The following image shows the monitoring of an outbound campaign.

Agents Monitoring

This is a real-time report that displays the status of each agent. It shows all the available queues, including all the agents assigned to each queue. The agent will appear as active in all queues, however just the queue that has assigned him a current call will show the elapsed time (current status column).

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ANNEX A

Installing Elastix
Creating a virtual machine

Description: In this lab we will use VirtualBox to create a virtual machine to install Elastix.
Goal: Creation of a virtual machine
Maximum time: 18 minutes.

Instructions:
Note: This lab must be performed in your computer and it is necessary to download Virtualbox
▪ Run VirtualBox, then we click on "New" to create a virtual machine to install Elastix.
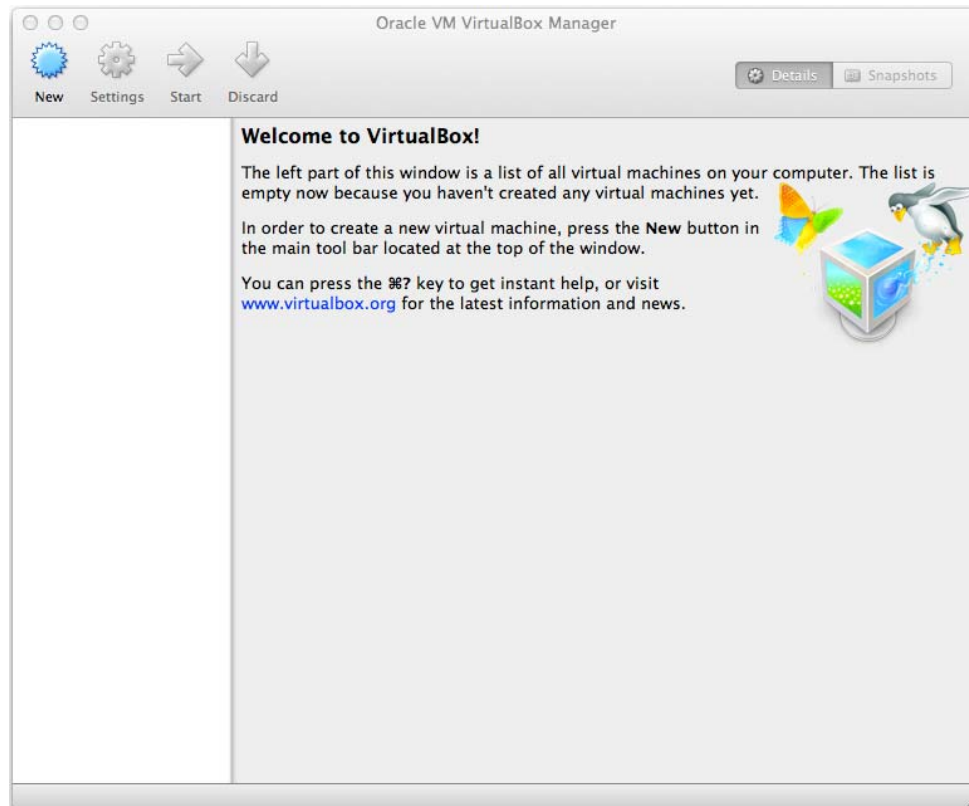
▪ **Name and OS**: We will set *ELASTIX-ECTE* as name for this virtual machine, and select *Linux* as "Type", and *Red Hat* as "Version". After that, click on "Continue".

[Continues in next page]

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▪ **Memory size**: Select the RAM memory value, for this test machine we will set the RAM at 512MB. Then we click on "Continue".
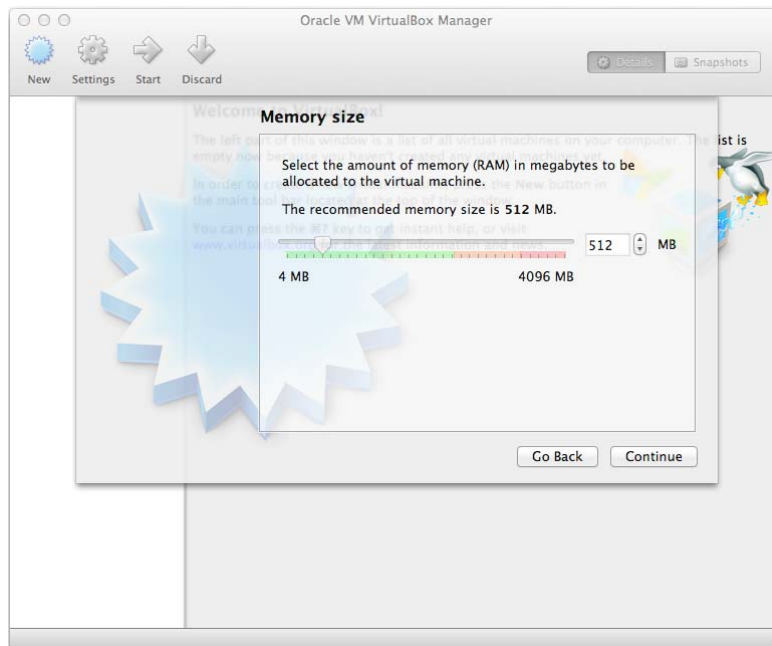
Note: Please consider the amount of RAM available in your host computer. When the virtual machine is on and operating, it will reserve as many MB of RAM as we have assigned it in this section, which may cause a high consumption of resources in your host machine.

▪ **Hard drive unit**: we select the option "Create a virtual hard drive now", and then we click on "Continue".

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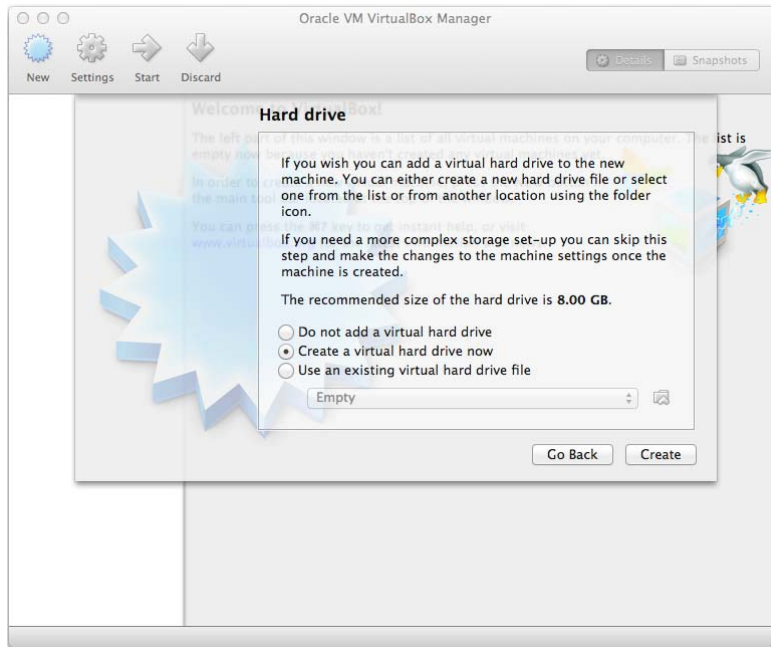
- **Hard disk drive file type**: We select the option VDI (VirtualBox Disk Image), and then we click on "Continue".

- **Storage in physical hard drive unit**: We select the option "Fixed size", and then we click on "Continue".

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▪ **Location and size of the file**: For this lab, will leave the location by default and we will configure the maximum size of the disk to 8 GB. We make a click on "Create".
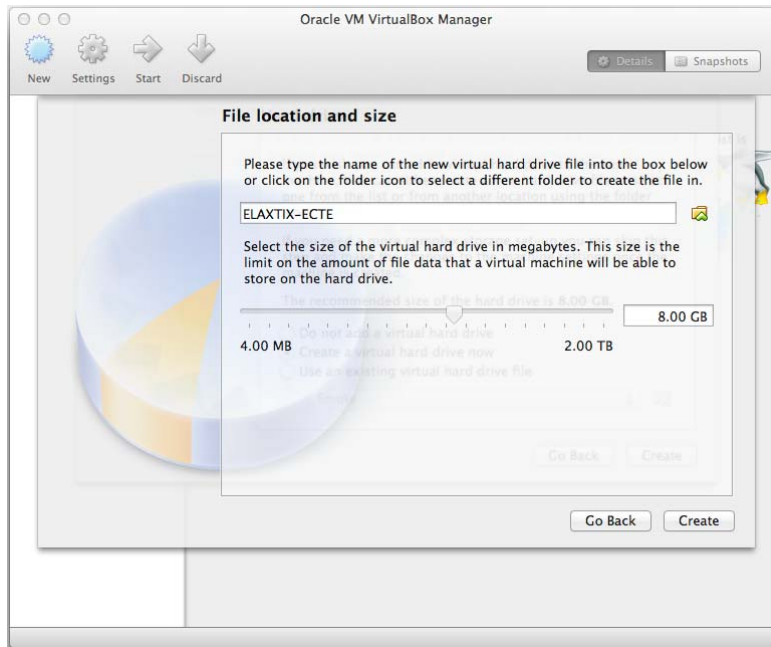
▪ After clicking, it immediately begins the creation of our virtual machine. This process may take some minutes, depending on the capacity of our computer.

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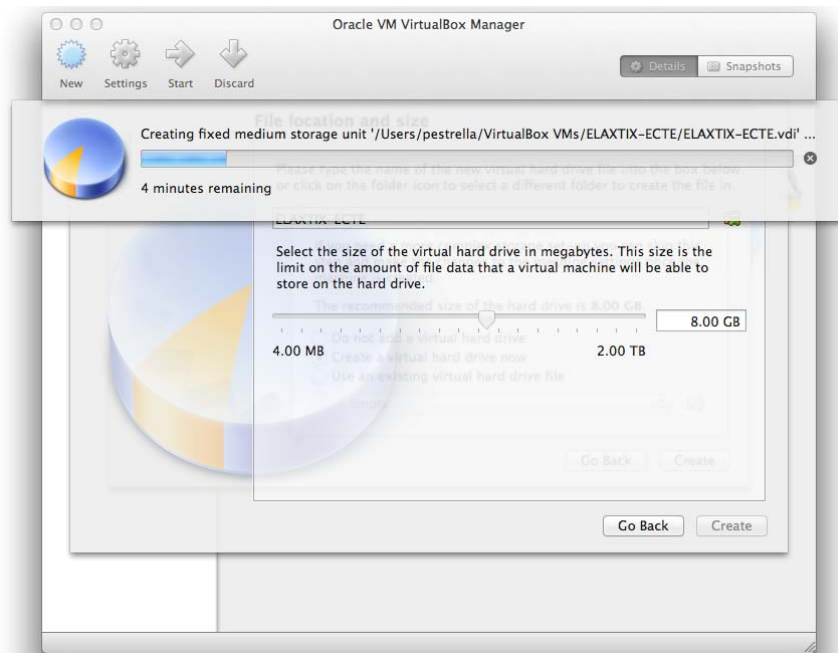
- Once we have created the virtual machine, we can install any software distribution on it with support for Red Hat or CentOS
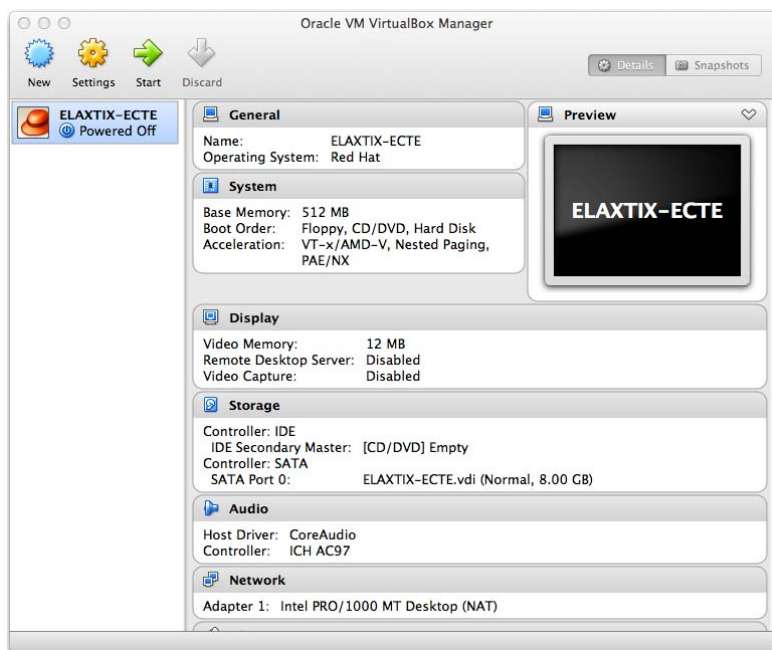
- Before starting the Elastix installation process, it is important to setup the network configuration. For this purpose we must go to: *Settings → Network*
- Once there we select "*Bridged Adapter*", and in the field "*Name*" the interface of our equipment having access to the LAN network
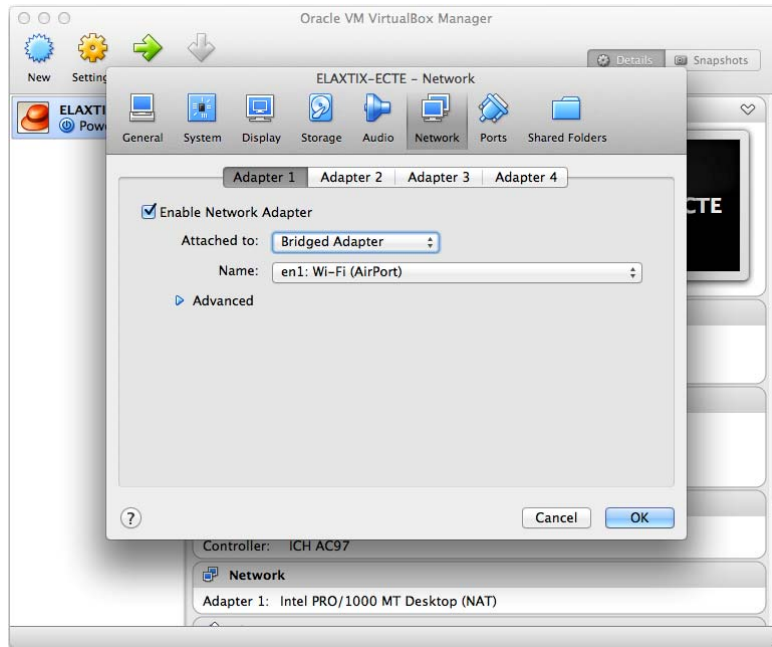
Note: For this example the active device is en1: Wi-Fi - It may refer other device in your hardware setup.

- Now we are ready to begin with the Elastix installation process.

  Note: Before beginning it is important to remember that Elastix's more stable ISO must be downloaded. The 32-bit version is enough for this lab, however if more than 4GB will be assigned, consider the 64-bit version. Besides, it is necessary to place the ISO in a folder that is easy to locate, in such a way that we can select it during Elastix's installation.

- Click on "start" for powering on the new virtual machine.
- A window will open immediately, from which we will select the ISO, which will be loaded in a virtual disk drive and serve as boot and installation media for the virtual machine.
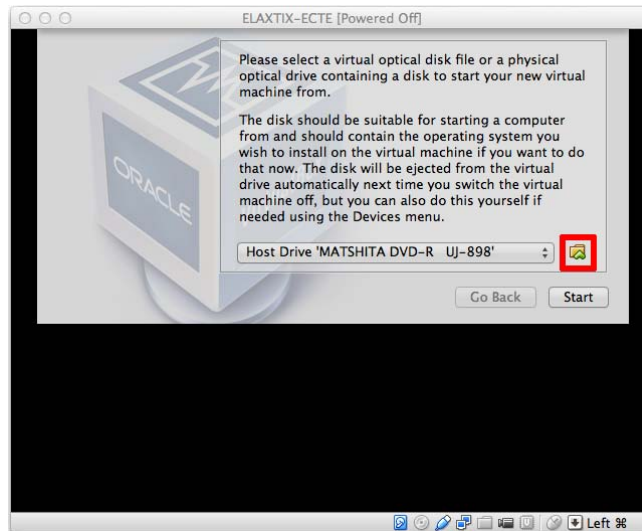
- Click on the folder icon located next to the disk selection box (inside the red box).

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▪ Navigate through our computer until we locate Elastix's ISO (file .iso), and we select it.
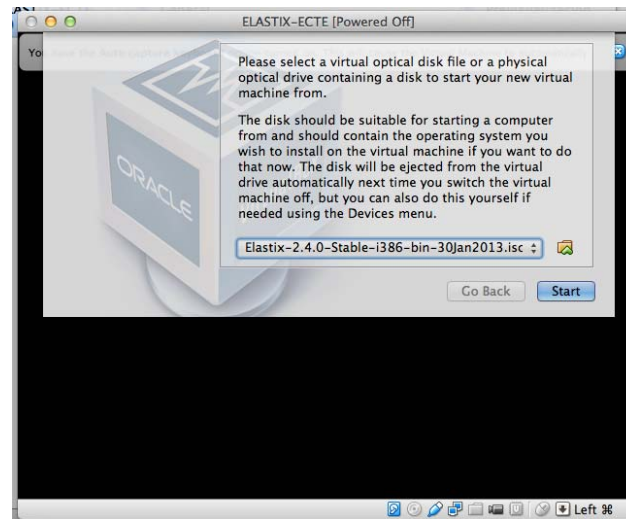
▪ When selecting the ISO we may observe that the file .iso is visible in the disk's selection box, for this lab, the ISO image is: Elastix-2.4.0-Stable-i386-bin-30jan2013.iso.
▪ Click on "Start" to start Elastix's installation process.
▪ We continue with lab 1.2

Note: This process for creating the virtual machine is useful for many software solutions existing in the market. For the case of Elastix, you may try versions 1.X, 2.X and later versions by using a virtual machine.

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ANNEX B

Elastix Installation

Description: In this lab we will install Elastix in a virtual machine.
Goal: To know Elastix's installation process
Maximum time: 30-40 minutes.

Instructions:
Note: *In a production environment installation, the process will format the whole disk. It is necessary to download Elastix from:* *http://www.elastix.com/en/downloads/*

In the previous lab we created the virtual machine where Elastix will be installed, and "inserted" a stable ISO image as a virtual disk for booting and starting the installation.

▪ Once we click on "Start" in virtualbox dialog box, machine will boot and the folowing window will appear.

▪ Press *ENTER* key to begin with the process.

Note: *During this process you will not be able to use the mouse, use the Tab keys (or tabulation, usually represented by →|), Spacebar and directional keys (↑↓→←). When we make reference to Enter or Tab, we will refer to the keys located in the physical keyboard of our computer. When we make reference to navigate we must use the Tab or arrow keys to select the appropriate option.*

▪ Starting the installation process, the first step is to select the installation language. We chose "*English*", then we press "Tab" (changing the focus off the language selection and placing it on "OK" button) then we press Enter.

- Then we choose the keyboard format and press Enter in "OK".

Note: when an English keyboard is required to be used with Spanish characters as well, it is useful to select the option "us-accents".

- Once we have selected the language and the keyboard type, Elastix will show a warning which will create new partitions in the virtual machine's hard disk, and that this process will erase all the data in this disk (in this case, the virtual machine's virtual disk file). This will not affect the host (physical) computer at all. Press Enter on "Yes" to continue.

- Now select the option "*Remove all partitions on selected drives and create default layout*" (The first option). Then navigate to the disk unit, in this lab, **sda 8189 MB (ATA VBOX HARDDISK)**. Then navigate to "OK" and press Enter.

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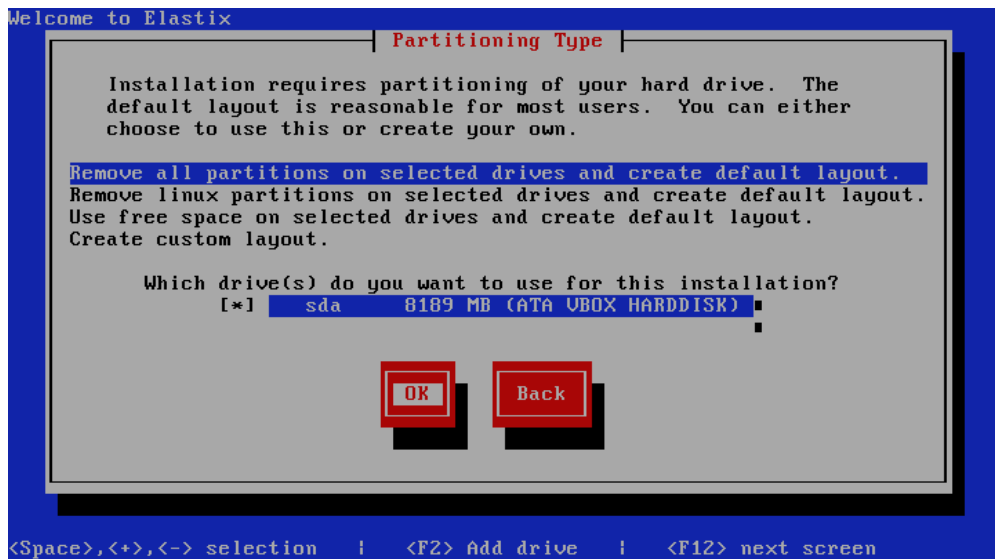
▪ You will receive again a warning that Elastix will erase the partitions. Confirm the deletion of the partition by pressing Enter on "Yes".

```
Welcome to Elastix




                      ┤ Warning ├

          You have chosen to remove all partitions
          (ALL DATA) on the following drives:

          sda (ATA VBOX HARDDISK 8189 MB)

          Are you sure you want to do this?


              ┌──────┐          ┌──────┐
              │  No  │          │ Yes  │
              └──────┘          └──────┘




 <Tab>/<Alt-Tab> between elements  ¦  <Space> selects  ¦  <F12> next screen
```
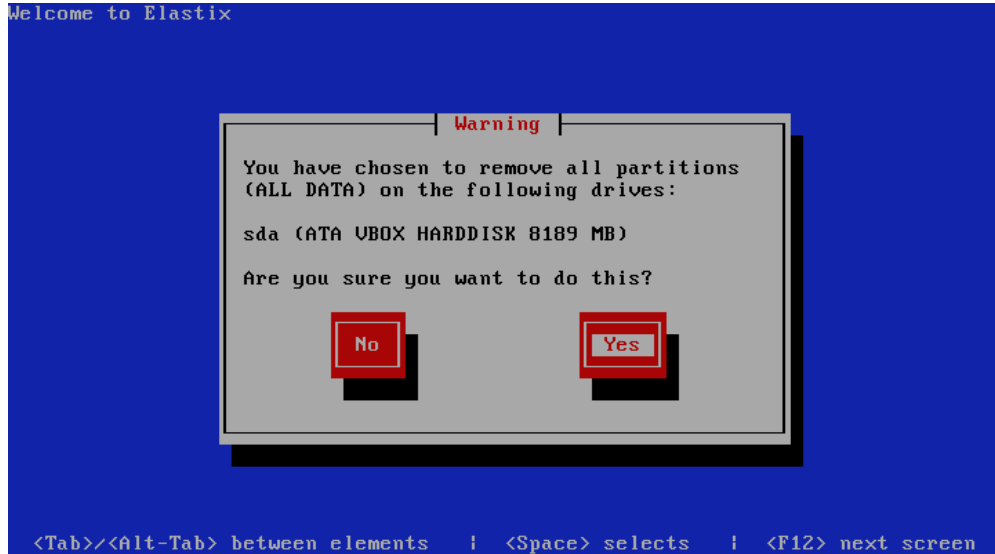
▪ You will get another advice consulting us on the partition checking. Select "No" and press Enter.

Note: In advanced Elastix installations this function is important for checking the partitions and make the required configurations.

```
Welcome to Elastix




                 ┤ Review Partition Layout ├
          Review and modify partitioning layout?

              ┌──────┐          ┌──────┐
              │ Yes  │          │  No  │
              └──────┘          └──────┘




 <Tab>/<Alt-Tab> between elements  ¦  <Space> selects  ¦  <F12> next screen
```

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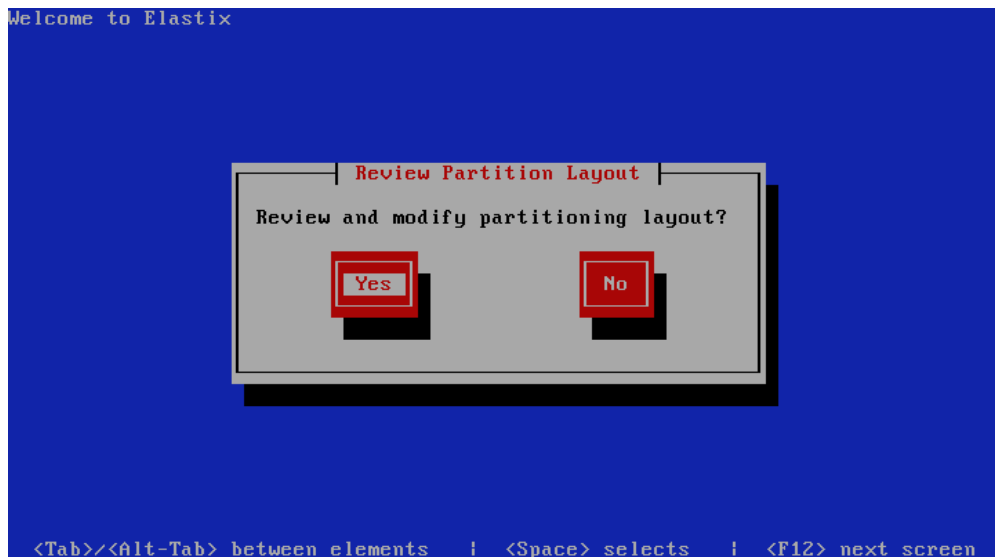
- Now you will be asked to configure the network interface, select "Yes" and press Enter.

```
Welcome to Elastix




                ┌──────┤ Configure Network Interface ├──────┐
                │                                            │
                │  Would you like to configure the eth0      │
                │  network interface in your system?         │
                │                                            │
                │      ┌─────┐              ┌─────┐           │
                │      │ Yes │              │ No  │           │
                │      └─────┘              └─────┘           │
                │                                            │
                └────────────────────────────────────────────┘




   <Tab>/<Alt-Tab> between elements  │  <Space> selects  │  <F12> next screen
```
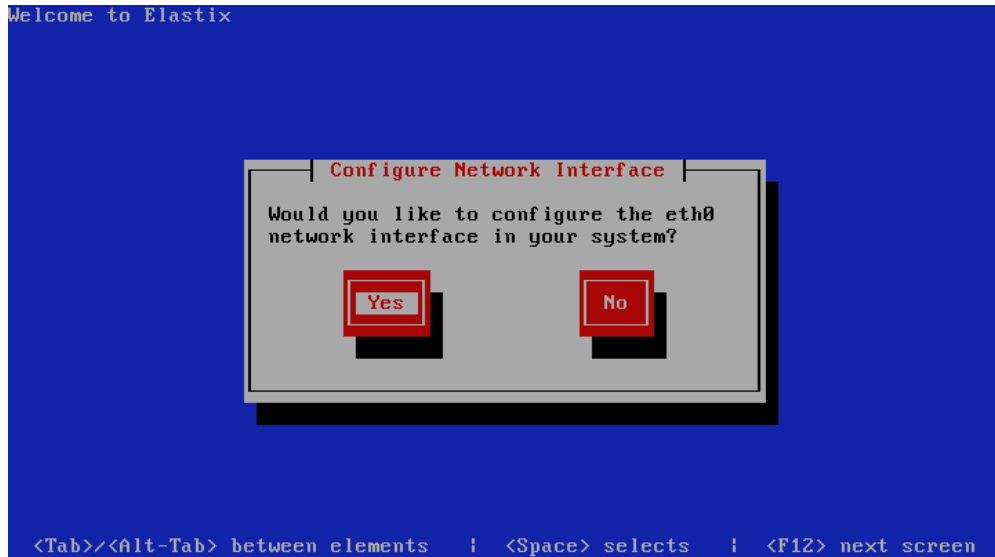
- Navigate to "*Activate IPv4 support*" and press *spacebar*. An asterisk shall be placed immediately on that option. Then navigate to "OK" and press Enter.

    Note: Elastix supports IPv6, however for this lab this option will not be used.

```
Welcome to Elastix




          ┌────────────┤ Network Configuration for eth0 ├──────────┐
          │                                                        │
          │  Intel Corporation 82540EM Gigabit Ethernet Controller │
          │  08:00:27:B7:B3:4F                                     │
          │                                                        │
          │  [*] Activate on boot                                  │
          │  [*] Enable IPv4 support                               │
          │  [ ] Enable IPv6 support                               │
          │                                                        │
          │      ┌─────┐                     ┌──────┐              │
          │      │ OK  │                     │ Back │              │
          │      └─────┘                     └──────┘              │
          │                                                        │
          └────────────────────────────────────────────────────────┘




   <Tab>/<Alt-Tab> between elements  │  <Space> selects  │  <F12> next screen
```
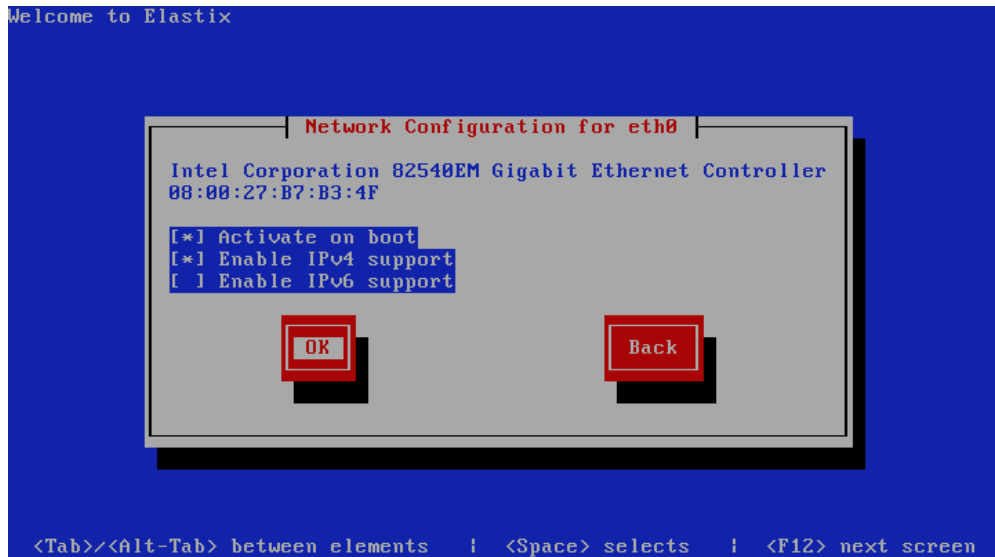
- In this screen leave the option "*Dynamic IP Configuration (DHCP)*" as a default option. Navigate to "OK" and press Enter.
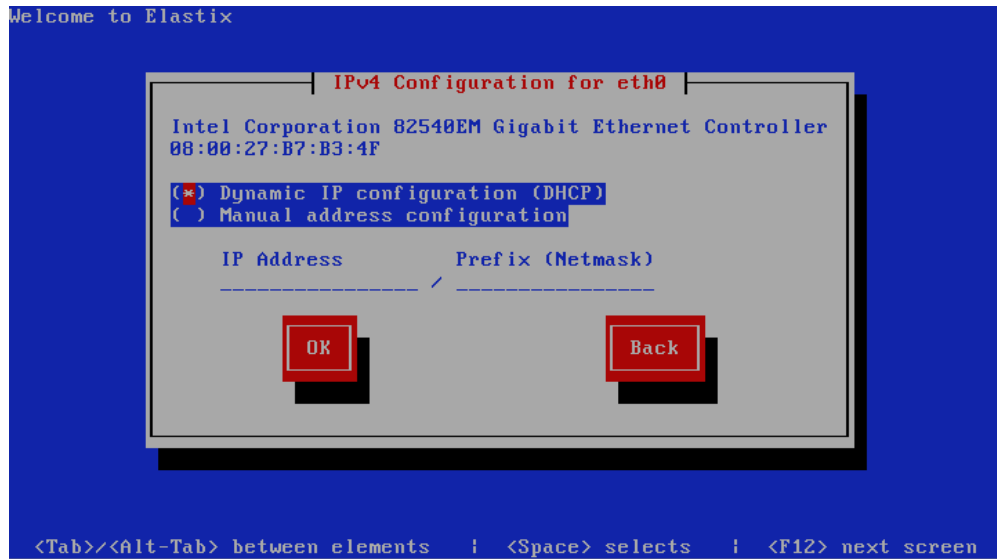
Note: Advanced users may configure a static IP address.

- Navigate to the option "*manually*", then to the right box and enter a valid host name (For example lastname.com or name.com: smith.com, paul. com). Then we navigate to "OK" and press Enter.

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▪ Now select the time zone for your system. For this lab, press *spacebar* in the option "*The system's clock uses UTC*", then navigate to the time zone of your location, select it, navigate to "OK", and press Enter.

```
Welcome to Elastix

                    ┤ Time Zone Selection ├

         What time zone are you located in?

         [*] System clock uses UTC

          America/Guadeloupe          ▮
          America/Guatemala           ▮
          America/Guayaquil           ▮
          America/Guyana              ▮
          America/Halifax             ▮


                OK              Back



 <Tab>/<Alt-Tab> between elements  ┊  <Space> selects  ┊  <F12> next screen
```

▪ Now enter a password for the root user, which will be used when the system is installed. Once is set, navigate to "OK" and press Enter.

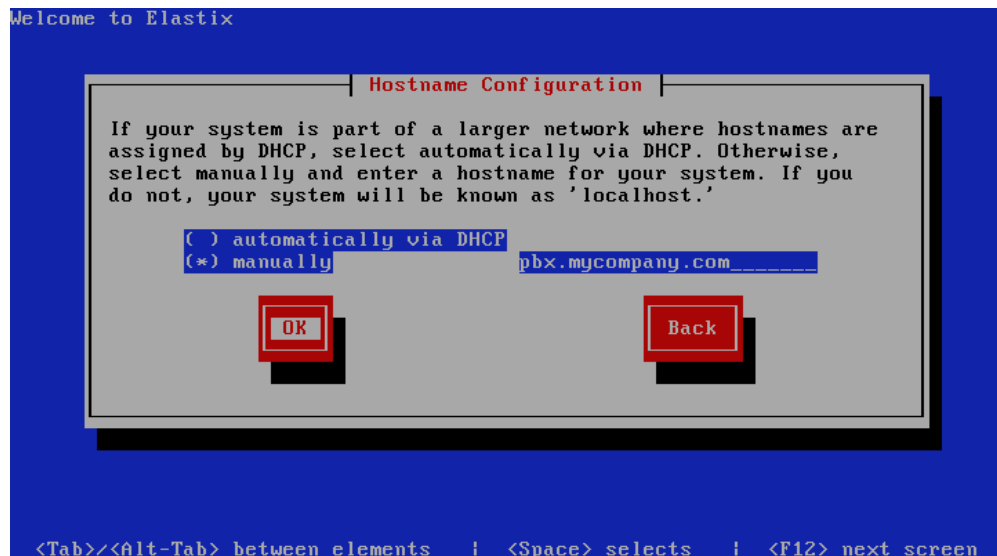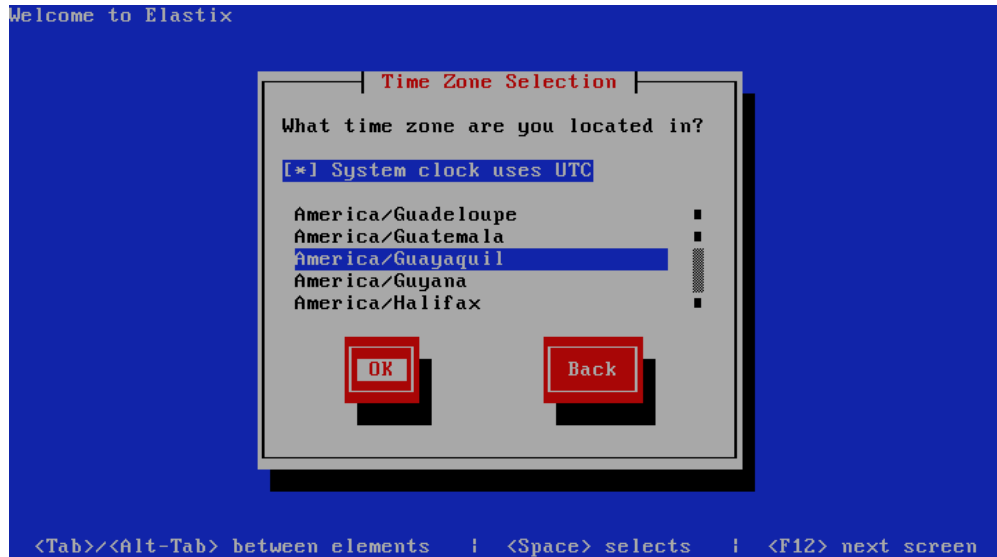*Note: It is very important that you never forget this password, so write it down safely or memorize it.*

```
Welcome to Elastix

                    ┤ Root Password ├

         Pick a root password. You must type it
         twice to ensure you know what it is and
         didn't make a mistake in typing. Remember
         that the root password is a critical part
         of system security!

         Password:          *********_____
         Password (confirm): *********_____

                OK              Back



 <Tab>/<Alt-Tab> between elements  ┊  <Space> selects  ┊  <F12> next screen
```
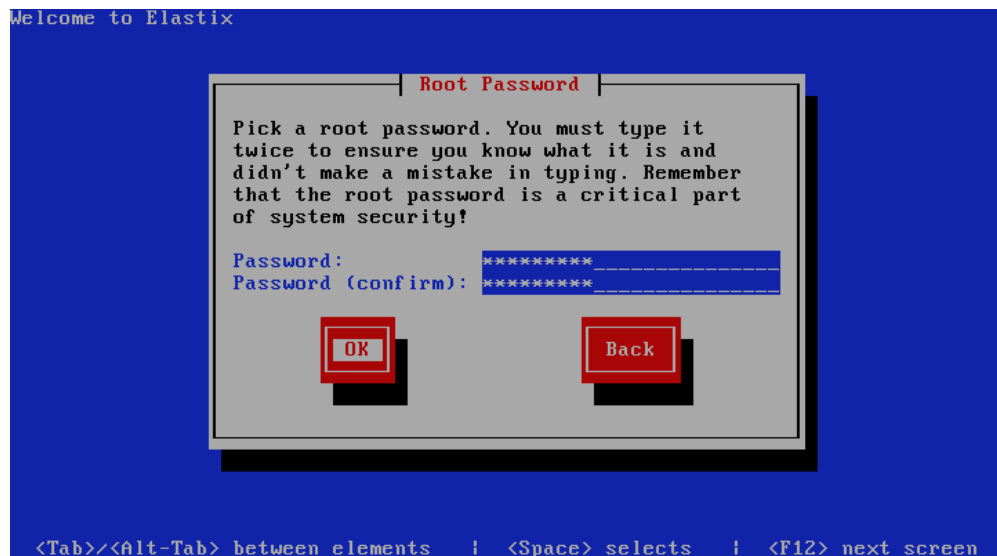
▪ Ready! You have entered all necessary information for now, Elastix will begin the installation in the virtual machine. This process may take some minutes, make yourself comfortable and wait.
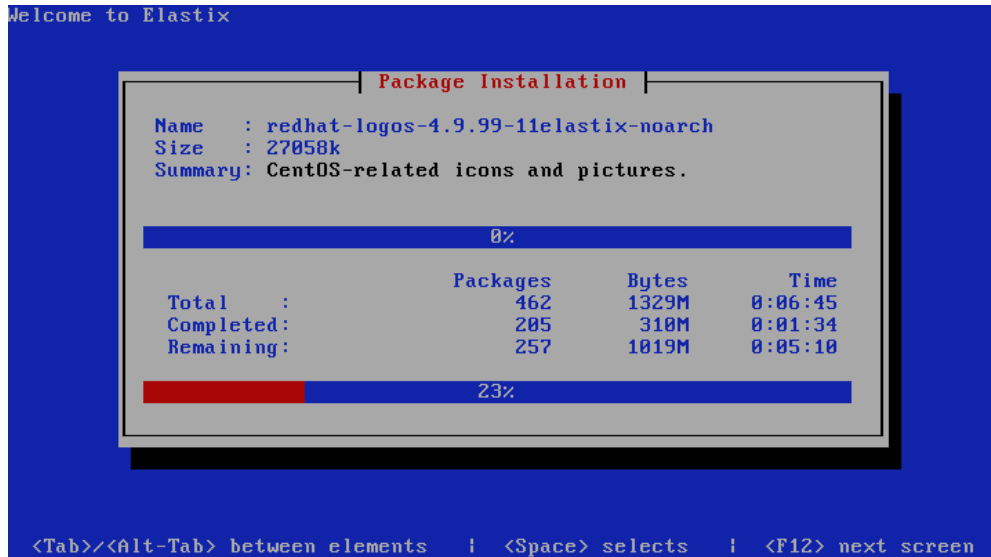
▪ When Elastix completes the installation, it will reboot automatically, this is normal. Then, after logging in you will create passwords for the Elastix services.

▪ The first password belongs to MySQL's root user. Navigate to "Accept" and press Enter. *It is very important that you remember this password, so write it down safely or memorize it.*
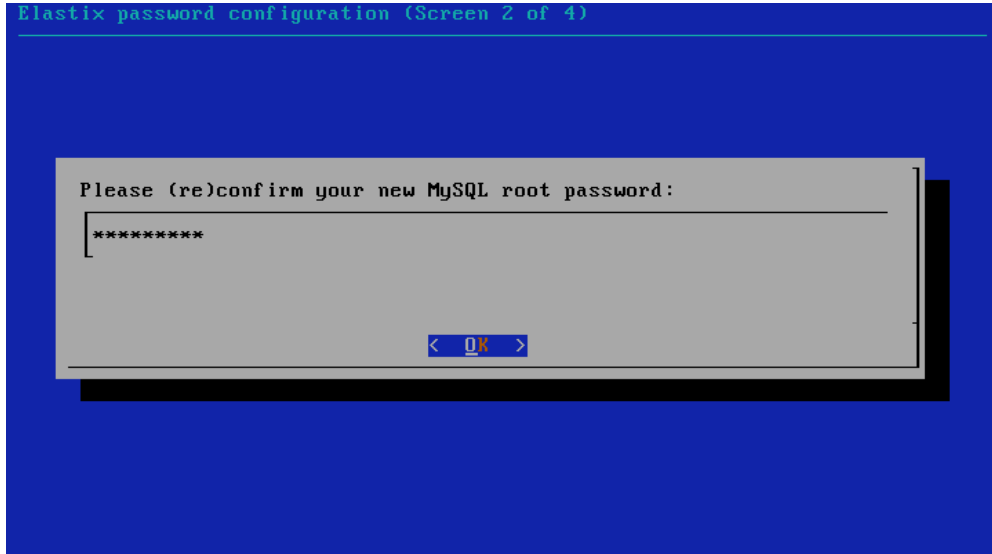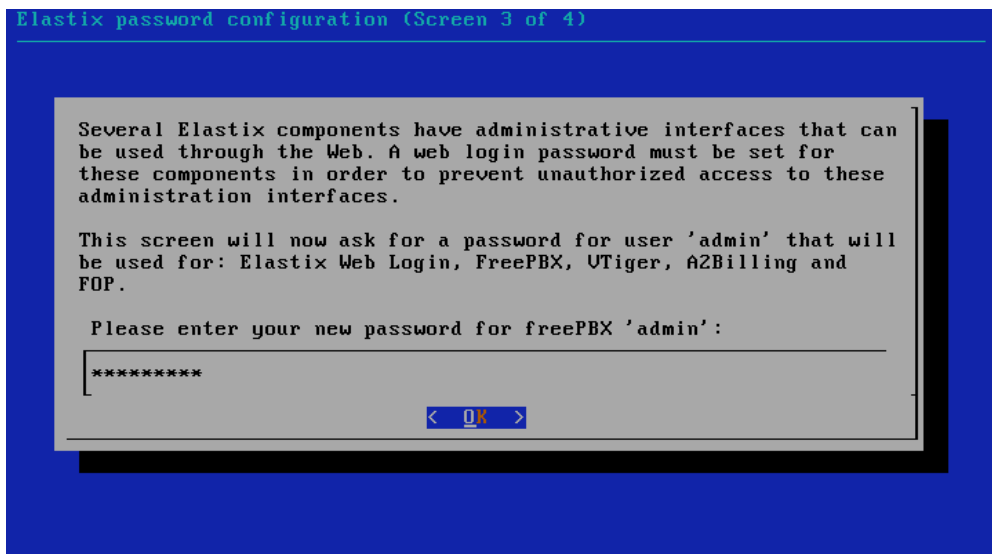

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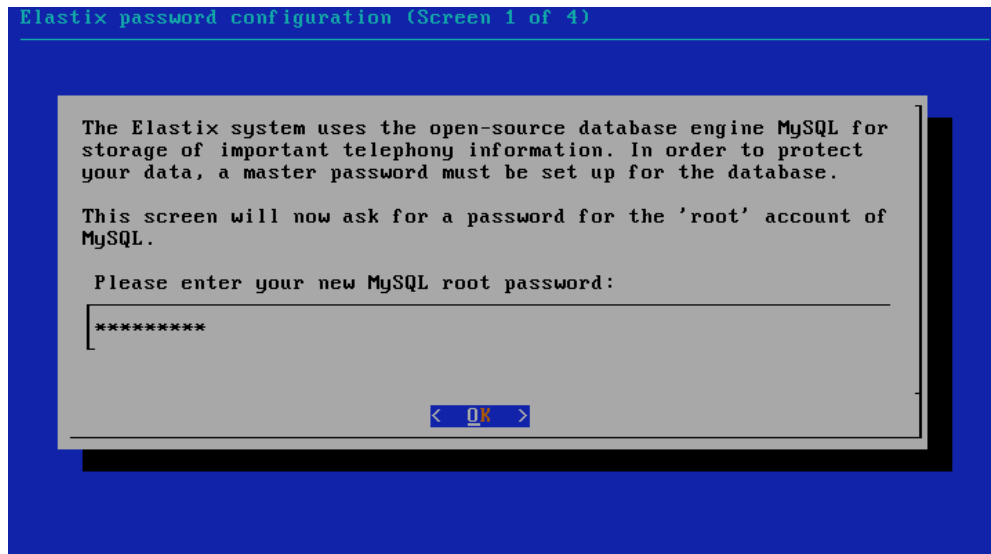
▪ Re-confirm the password as confirmation. Then navigate to "OK" and press Enter.

```
Elastix password configuration (Screen 2 of 4)



     Please (re)confirm your new MySQL root password:

     |*********
     [

                        <  OK  >
```
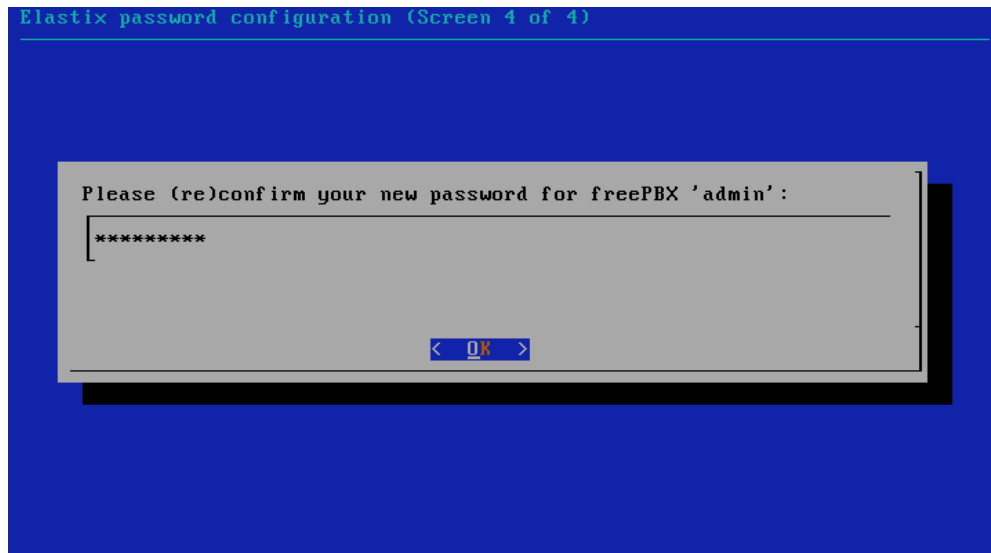
▪ Now enter a password for the admin user of Elastix's Web Administration Interface. This password is the same for other components such as: FreePBX, Vtiger, and A2Billing. Once you have entered it, navigate to "OK" and press Enter.

Note: It is important that this password is strong enough for minimizing intrusion problems; you must not forget it too, therefore write it down safely or memorize it.

```
Elastix password configuration (Screen 3 of 4)


     Several Elastix components have administrative interfaces that can
     be used through the Web. A web login password must be set for
     these components in order to prevent unauthorized access to these
     administration interfaces.

     This screen will now ask for a password for user 'admin' that will
     be used for: Elastix Web Login, FreePBX, VTiger, A2Billing and
     FOP.

      Please enter your new password for freePBX 'admin':

     |*********
                        <  OK  >
```

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▪ Now re-confirm the password by writing it agai. Then navigate to "OK" and press Enter.

```
Elastix password configuration (Screen 4 of 4)




    Please (re)confirm your new password for freePBX 'admin':

    ┌─────────────────────────────────────────────────────────────┐
    │ *********                                                     │
    │                                                               │
    │                                                               │
    │                                                               │
    │                         <  OK  >                              │
    └─────────────────────────────────────────────────────────────┘
```

▪ Once the installation is completed you will get a window for accessing Elastix via the console or command line.

```
CentOS release 5.9 (Final)
Kernel 2.6.18-348.1.1.el5 on an i686

ecte login: _
```
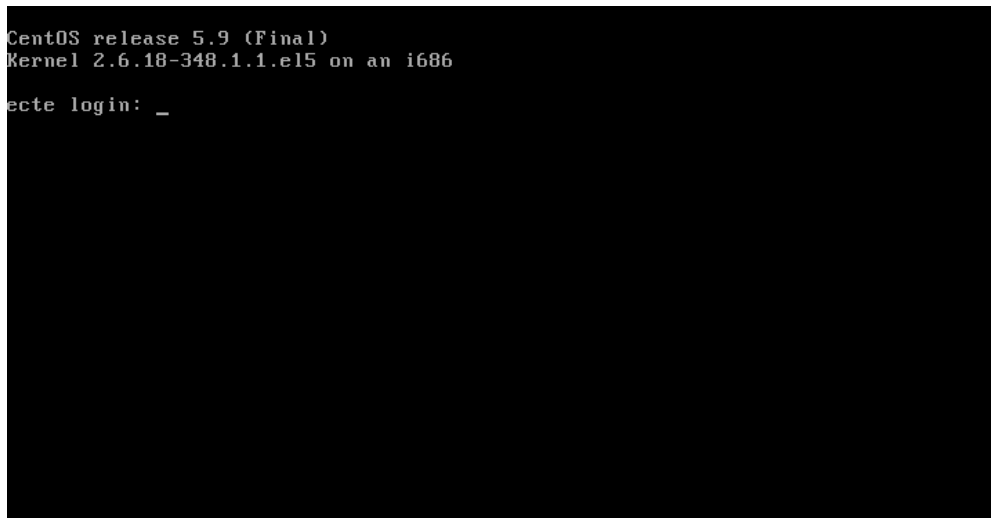
▪ We can log in as root user, with the password we entered during the installation.

ecte login: root (instead of ecte you will observe the name of the host you selected during the installation)
Password: XXXXXXXXX

- You can access Elastix's console, from here we can make everything, from creating an extension to dial plans, however, the purpose of this course is working at the management interface level, thus we will access the GUI through an Internet browser.


- In the console you can see the IP that was assigned to Elastix via DHCP for the central server or network, in this example is the IP 192.168.0.106.
- Open a web browser and enter this IP with the following format: https://192.168.0.106 (in your case you must place the IP you have in your console)
- It is very possible that your browser throws a security error related to the certificates issued by the Elastix's server, this is a normal behavior. Click on "*Proceed anyway*" and accept the certificate.
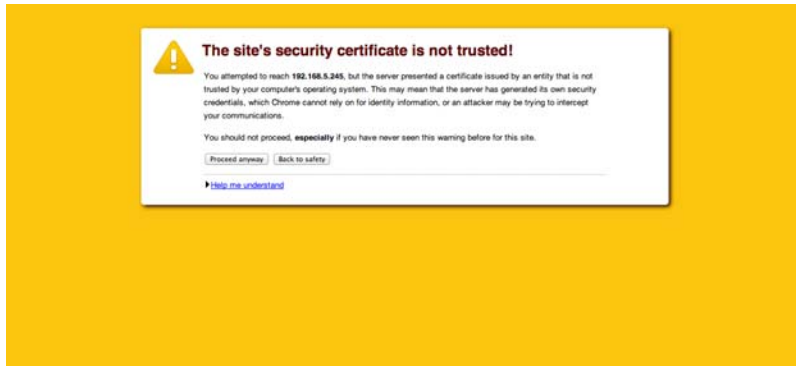
▪ After this, you will have access to the Elastix's administration interface.

▪ Log in with the user "admin" and the password you defined during the Elastix's installation process.
▪ The first page is the Elastix's "Dashboard", which displays the server summary page and contains information if the equipment used and other Elastix services.
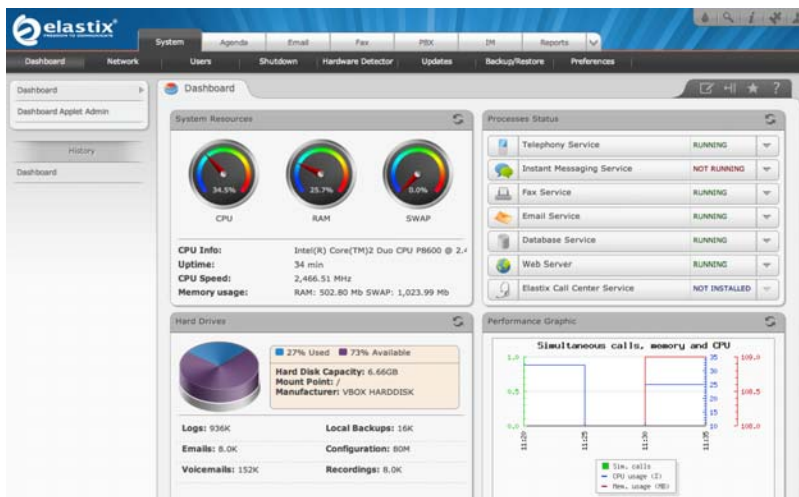
▪ Now you have a functional Elastix server.

- ▪ The advantage of a virtual machine is that you can perform tests without worrying about interrupting a company's operation or using a real server that can be used for other services.
- ▪ With a stable version, a virtual machine works as well as an Elastix installed in a physical server, however we don't recommend using this for a rigorous working environment.

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