

Elastix Installation

Version 1.3.2



PaloSanto Solutions

June 2009

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Introduction

This manual corresponds to the Installation of the Elastix distro version 1.3.2

Elastix is distributed as an ISO file that can be burned to a CD from any CD burning software.

This version can be downloaded from http://www.elastix.org or directly from the download site for the project: http://sourceforge.net/projects/elastix/

1.- Installing from CD

Once you've downloaded the ISO of the distro be sure to burn it properly to a CD.

Turn on your server and insert the CD. Make sure that your server boots from the optical drive (CDROM), otherwise you must enable this option in the BIOS of your machine. If you burned correctly your CD you should get the following screen:



Picture 1.1 Initial installation screen

Note: The Elastix Installation CD will format the hard drive during the installation process. This will delete all the information in the system, please make sure you don't have any important information stored in the hard drive.

If you are an expert user write the command: advanced

Otherwise you can press ENTER or wait till the CD begins the installation automatically.



You have to choose the keyboard layout according to your language. If your keyboard language is English select the option: "en".

Welcome to Elastix	
	Keyboard Type
	What type of keyboard do you have?
	et fi fi-latin1 fr_CH fr_CH-latin1 fr-latin1
	Back
<tab>/<alt-tab> be</alt-tab></tab>	tween elements <space> selects <f12> next screen</f12></space>
	Picture 1.2 choosing the keyboard layout
to your every at logation	

Select your current location.

Welcome to Elastix	
	Time Zone Selection
	What time zone are you located in?
	[<mark>]</mark>] System clock uses UTC
	America/Montevideo ■
	America/Montreal 🔹
	America/Montserrat
	America/Nassau
	America/New York
	OK Back
<tab>/<alt-tab> he</alt-tab></tab>	tween elements <snace> selects <f12> next screen</f12></snace>
	Dicture 1.2 Selection of the current location
	Picture 1.3 Selection of the current location

Write the password that will be used by the Elastix administrator.

Note: Remember this is a critical issue for the system security.





Note: The next procedures will be executed by the installation CD automatically.

First, the installer will search the necessary dependencies for the installation.

come	e to Elastix
	Checking dependencies in packages selected for installation
	27%
Tab>	>/ <alt-tab> between elements <space> selects <f12> next scree</f12></space></alt-tab>

Picture 1.5 The installer searches dependencies between packets.



After this, the installation begins; you'll see the next screen:

Name : glibc-con Size : 65078k Summary: Common bi	mon-2.5-18.el5_1.	1-i386 data for g	ylibc
	100%		
Total : Completed: Remaining:	Packages 452 11 441	Bytes 1216M 7M 1209M	Time 0:29:21 0:00:11 0:29:10
	0%		

Screen of the installation process before ending.

Name : elastix-a Size : 16221k Summaru: Package 1	A2billing-1.3.0-1-	noarch ling.	
<i>y</i>	100%		
	Packages	Bytes	Time
Total :	452	1216M	0:16:26
Completed: Remaining:	443 9	1168M 48M	0:15:47
	97%		

Once the installation is complete, the system proceeds to reboot.

Note: You must remove the CD and is recommended to modify the BIOS to boot from the hard drive as the first option.

After the system restart the following kernel will boot automatically: Elastix-base (2.6.18-53.1.19.e15)

FREEDOM TO COMMUNICATE



	GNU GRUB version 0.97 (638K lower ∕ 255936K upper memory)
	Elastix (2.6.18-53.1.19.el5xen) Elastix-base (2.6.18-53.1.19.el5)
	Use the \uparrow and \downarrow keys to select which entry is highlighted. Press enter to boot the selected OS, 'e' to edit the commands before booting, 'a' to modify the kernel arguments before booting, or 'c' for a command-line.
	The highlighted entry will be booted automatically in 4 seconds. CUSTOM MADE TELEPHONY
	Picture 1.8 GRUB screen for boot image selection
Log in	as the root user with the password set at the moment of installation.
	EREEDOM TO COMMUNICATE
	CentOS release 5 (Final) Kernel 2.6.18-53.1.19.el5 on an i686
	elasti× login: _

Picture 1.9 Authentication screen to enter Elastix from the console



2.- Installing from a flash memory device

This procedure is aimed to users whit a flash memory distributed with an ELX series Appliance.

The Flash memory device should be placed on one of the USB ports of the Elastix server. Once you place the flash memory, start the server. Make sure that your server boots from a USB drive (Flash memory), otherwise you must enable this option in the BIOS of your machine. If everything is correct you should get the following screen.



Picture 2.1 Initial installation screen

Note: The flash memory device will format the hard drive during the installation process. This will delete all the information in the system, please make sure you don't have any important information stored in the hard drive.

If you are an expert user write the command: advanced

Otherwise you can press ENTER or wait till the flash memory device begins the installation automatically.



You have to choose the keyboard layout according to your language. If your keyboard language is English select the option: "en".

Welcome to Elastix	
	Keyboard Type
	What type of keyboard do you have?
	et fi fi-latin1 fr_CH fr_CH-latin1 fr-latin1
	Back
<tab>/<alt-tab> be</alt-tab></tab>	tween elements <space> selects <f12> next screen</f12></space>
	Picture 2.2 choosing the keyboard layout

Select your current location.

st your current location.					
Welcome to Elastix					
	Time Zong	- Selection			
		Selection			
	What time zone an	re you locate	d in?		
	[] Sustem clock	USAS UTC			
	I J SYSTEM CIUCK	uses ore			
	America/Montevia	leo			
	America/Montreal	1			
	America/Montserr	rat			
	America/Nassau	•			
	HMerica/New_Yori	ς			
	ОХ	Back			
<tab>/<alt-tab> be</alt-tab></tab>	tween elements 👘 🖡	<pre> <space> sel</space></pre>	ects I K	F12> next :	screen
	Picture 2.3 Selectio	n of the current	location		

Write the password that will be used by the Elastix administrator.

Note: Remember this is a critical issue for the system security.





Note: The next procedures will be executed by the installation device automatically.

First, the installer will search the necessary dependencies for the installation.

come	e to Elastix
00110	
	Dependency Check
	Checking dependencies in packages selected for installation
	270
	617
Tab>	>/ <alt-tab> between elements <space> selects <f12> next scre</f12></space></alt-tab>
	Disture 2.5. The installer accretes dependencies between poskets

Picture 2.5 The installer searches dependencies between packets.



After this, the installation begins; you'll see the next screen:

ا Name : glibc-com Size : 65078k Summary: Common bi	mon-2.5-18.el5_1.	1-i386 : data for (glibc
	100%		
Total : Completed: Remaining:	Packages 452 11 441	Bytes 1216M 7M 1209M	Time 0:29:21 0:00:11 0:29:10
	0%		

Screen of the installation process before ending.

Name : elastix-a Size : 16221k Summary: Package t	2billing-1.3.0-1- hat install A2Bil	noarch	
- · ·	100%	-	
	Packages	Bytes	Time
Total :	452	1216M	0:16:26
Remaining:	443 9	1168M 48M	0:15:47
	9?%		

Once the installation is complete, the system proceeds to reboot.

Note: You must remove the flash memory device and is recommended to modify the BIOS to boot from the hard drive as the first option.

After the system restart the following kernel will boot automatically: Elastix-base (2.6.18-53.1.19.e15)

FREEDOM TO COMMUNICATE



Elastix (2.6.18-53.1.19.el5xem)	
Elastix-base (2.6.18-53.1.19.el5)	
Use the ↑ and ↓ keys to select which entry is highlighted. Press enter to boot the selected OS, 'e' to edit the commands before booting, 'a' to modify the kernel arguments before booting, or 'c' for a command-line.	
The highlighted entry will be booted automatically in 4 seconds. CUSTOM MADE TELEPHONY	
Picture 2.8 GRUB screen for boot image selection	K
	TE
CentOS release 5 (Final) Kernel 2.6.18-53.1.19.el5 on an i686	
elasti× login: _	

Picture 2.9 Authentication screen to enter Elastix from the console



3.- Installing Elastix over a pre-installed CentOS or Red Hat

Even though Elastix CD is the recommended way to install the distro there are some scenarios where is desirable to start off on a pre-installed operating system. Some reasons to do this could be the following:

- Support on 64 bits and obviously more than 4 GB de RAM
- To gain Red Hat Support

In order to fulfill this assignment a script called CentOS2Elastix has been developed. This script basically turns CentOS to Elastix. CentOS is a popular distribution of Elastix based on another popular distribution, "Red Hat". By all this, at least on theory, this script should work well on Red Hat too.

However, not everything it's so easy. Just a few versions of CentOS are supported. The last version of CentOS2Elastix works using the kernel 2.6.18-53. It is necessary to keep this kernel installed because some Elastix drivers are dependent of it. For example, Zaptel.

CentOS2Elastix can be downloaded from elastix.org. However it's only an ISO image and you have to "mount" it before being able to access to the content.

mkdir /testFolder
mount -o loop ElastiXCorE-xxxx.iso /testFolder
cd /testFolder
./install

In the last example we have to replace xxxx with script version we downloaded.

Note: for more information there's a how-to on Elastix.org wiki

4.- Installing over a soft RAID

The possibility to configure disc arrangement by software (Software RAID) is a very useful configuration Elastix has inherit from Linux. This allows us to add a minimum level of redundancy at a low cost.

Even though, there are 3 kind of RAID supported (0, 1 y 5), is a general practice the use of RAID 1 or "mirror"; this allows us to duplicate the information in partitions. It's important to say that it's not really necessary to add all the partitions to the arrangement; however, it's recommendable to make a mirror of every partition if you have 2 hard drives.

A common scheme for partitioning consists on having a 100Mb partition for "/boot", 2Gb for swap memory and the rest of the space for the root "/". If you are following this scheme with a type 1 array, you will need to create 3 partitions on each hard drive, in such a way that you will end up with 6 RAID type partitions

Software RAID configuration is setup during Elastix installation process using advanced mode. Basically, an additional step related with the hard drive partition will show. This step is divided in additional steps: the creation of the RAID partitions, and the creation of RAID devices to group these partitions.

To enter in advanced mode is necessary to write the command advanced in the initial installation screen.

 To install or upgrade in graphical mode, press the <enter> key.</enter> To install or upgrade in text mode, type: linux text <enter>.</enter> Use the function keys listed below for more information. IF1-Main] [F2-Options] [F3-General] [F4-Kernel] [F5-Rescue] boot: advanced_ 	CUSTOM MADE TELEPHONY
- To install or upgrade in text mode, type: linux text <enter>. - Use the function keys listed below for more information. [F1-Main] [F2-Options] [F3-General] [F4-Kernel] [F5-Rescue] boot: advanced_</enter>	- To install or upgrade in graphical mode, press the <enter> key.</enter>
- To Install or upgrade in text mode, type: linux text (ENIER). - Use the function keys listed below for more information. [F1-Main] [F2-Options] [F3-General] [F4-Kernel] [F5-Rescue] boot: advanced_	
- Use the function keys listed below for more information. [F1-Main] [F2-Options] [F3-General] [F4-Kernel] [F5-Rescue] boot: advanced_	- To install or upgrade in text mode, type: linux text <enter>.</enter>
[F1-Main] [F2-Options] [F3-General] [F4-Kernel] [F5-Rescue] boot: advanced_	- Use the function keys listed below for more information.
	[F1-Main] [F2-Options] [F3-General] [F4-Kernel] [F5-Rescue] boot: advanced

Picture 4.1 Initial installation screen: choosing "advanced" option

Like the normal installation process, the advanced installation requires the setup of the keyboard layout according to the keyboard language. Once you have selected the keyboard layout the partition type screen will appear.



Picture 4.2 Partition Options

To begin with the partition we have to select "*Create custom layout*", the hard drives must be listed and selected too. The partition screen will show the list of partitions once they're created.



Je	lcome to Elasti	X	- Partit	ioning 📙			
	Device	Start	End	Size	Туре	Mount Point	
	Free space		l 1045	8192M	Free space		
	∕dev∕sdb Free space	1	L 1045	8192M	Free space		
	New	Edit	Delete	RAID	OK	Back	•
	F1-Help F	'2-New F3-1	Edit F4	-Delete	F5-Reset	F12-0K	

Picture 4.3 Partition tool showing hard drives without partition

The first step will be to create all RAID partitions choosing the option "New".

Velcome to Elastix									
∕dev∕sd <mark>Free</mark> ∕dev∕sd Free	Add Partition /dev/sd Free /dev/sd File System type: Allowable Drives: /dev/sd Free Software RAID Size (MB): 100() Fill maximum size of (MB): () Fill all available space:								
Ę	DK	Cance 1							
F1-Hel;) F2-New F3-Edit F4-D Disture 4.4 Creati	elete F5-Reset F12-(אנ						

In system file type it's necessary to choose "*software R*", additionally it's necessary to specify the partition size, the hard drive for the partition, and if it is a primary partition. After selecting "OK" the new partition will show on the list as shown below:



elcome to Elastix Partitioning										
Device	Start	End	Size	Туре	Mount	Point				
∕dev∕sda										
sda1	1	13	101M	software R						
Free space /dev/sdb	14	1044	8087M	Free space						
Free space	1	1045	8192M	Free space						
New	Edit	elete	RAID	OK	Back		•			
F1-Help F	2-New F3-E	dit F4-	Delete	F5-Reset	F12-0	<				

Picture 4.5 Partition summary: at that moment

It's necessary to repeat this process for every RAID partition. Finally you should have the following list:

We	lcome to Elas	tix							
			Pi	artitic	oning 🔶				
	Deuic	e St	art I	End	Size	Tune	Mount	Point	
	/dev/sda	C 00	art i	una	0120	rgpo	Houre	TOTIC	• 1
	sda1		1	261	2047M	software R			
	sda2		262	274	101M	software R			
	sda3		275	1044	6040M	software R			
	∕dev∕sdb								
	sdb1		1	261	2047M	software R			
	sdb2		262	274	101M	software R			
	sdb3		275	1044	6040M	software R			
									•
	New	Edit	Delet	te 📘	RAID	OK	Back		
	F1-Heln	F2-New	F3-Edit	F4-I)elete	F5-Reset	F12-01	2	
	i i norp		10 2010			10 110300	116 01		

Picture 4.6 Partition list at the end of the process

The list of partitions is exactly the same between the two hard drives. The next step is the creation of RAID devices. For this operation you select the option "RAID".





In this screen you have to choose the mount point for the device, the type of system files, the type of RAID (1) and the RAID partitions that belongs to the device. It's necessary to be careful and choose the corresponding partitions. This process it's going to repeat for every RAID device according to the scheme of partitions defined. Later, the RAID devices will appear in the partitions list.



Picture 4.8 we're done, the RAID is created.

Finally, you select the option "OK" and continue with the normal installation procedure.