## Οδηγίες Χρήσης του CloneZilla

Έχετε εγκαταστήσει ένα υπολογιστή με το λειτουργικό σύστημα και θέλετε να κρατήσετε ένα image αρχείο σε περίπτωση που θέλετε να το επαναφέρετε σε περίπτωση που χαλάσει κάτι. Το εργαλείο λέγεται <u>Clonezilla</u>.

Καταρχήν κατεβάστε το πρόγραμμα. Μπορείτε να το κατεβάσετε σε <u>LiveCD ή USB</u>. Η πιο εύκολη εγγραφή είναι αυτή του LiveCD. Κατεβάζετε το αρχείο <u>ISO</u> που είναι 110MB και το γράφετε σε ένα CD.

Ξεκινήστε τον υπολογιστή σας με το LiveCD (αν δεν ξεκινάει από CD, μπείτε στο Bios και αλλάξτε την σειρά boot ή πατήστε το F12)

Θα εμφανιστεί η οθόνη που παραπέμπει ποιά έκδοση θέλετε να ξεκινήσετε (επιλέξτε την 1η επιλογή):



Περιμένετε να φορτώσει το σύστημα:

VMware Virtual I 0000 PQ: 0 ANSI: 5 2.298874] scsi 1:0:1:0: Direct-Access ATA 2.340195] ata2.00: ATAPI: VMware Virtual IDE CDROM Drive, 00000001, max UDMA/33 2.341583] ata2.00: configured for UDMA/33 2.342129] scsi 2:0:0:0: CD-ROM NECVMWar VMware IDE CDR10 1.00 PQ: 0 ANSI: 5 350556] sr0: scsi3-mmc drive: 1x/1x xa/form2 cdda tray 2 2.352065] Uniform CD-ROM driver Revision: 3.20 2.358812] sd 1:0:0:0: [sda] 16777216 512-byte logical blocks: (8.58 GB/8.00 GiB) 2.359612] sd 1:0:0:0: [sda] Write Protect is off 2.361466] sd 1:0:0:0: [sda] Write cache: disabled, read cache: enabled, doesn't support DPO or FUA 2.362200] sda: sda1 sda2 sda3 < sda5 > 2.363092] sd 1:0:1:0: [sdb] 31457280 512-byte logical blocks: (16.1 GB/15.0 GiB) 2.363185] sd 1:0:1:0: [sdb] Write Protect is off 2.363228] sd 1:0:1:0: [sdb] Write cache: disabled, read cache: enabled, doesn't support DPO or FUA 2.380613] sdb: sdb1 2.386360] sd 1:0:1:0: [sdb] Attached SCSI disk 2.387994] sd 1:0:0:0: [sda] Attached SCSI disk 391994] sd 1:0:0:0: Attached scsi generic sg0 type 0 2 2.3938971 sd 1:0:1:0: Attached scsi generic sg1 type 0 2.400551] sr 2:0:0:0: Attached scsi generic sg2 type 5 Begin: Loading essential drivers ... [ 2.593615] Atheros(R) L2 Ethernet Driver - version 2.2.3 [ 2.593830] Copyright (c) 2007 Atheros Corporation. 2.612151] Broadcom NetXtreme II 5771x 10Gigabit Ethernet Driver bnx2x 1.52.1 (2009/08/12) 2.632202] device-mapper: uevent: version 1.0.3 2.634009] device-mapper: ioctl: 4.15.0-ioctl (2009-04-01) initialised: dm-devel@redhat.com done. Begin: Running /scripts/init-premount ... done. Begin: Mounting root file system ... [ 2.745155] Uniform Multi-Platform E-IDE driver Begin: Mounting root file system ... [ 2.745836] ide\_generic: please use "probe\_mask=0x3f" module parameter for probing all legacy ISA IDE ports 2.882403] aufs: module is from the staging directory, the quality is unknown, you have been war ned. 2.885440] aufs 2-standalone.tree-32-20100125 2.930106] loop: module loaded 3.041203] squashfs: version 4.0 (2009/01/31) Phillip Lougher

Στην επόμενη οθόνη θα ζητήσει τι γλώσσα θέλετε. Επιλέξτε Αγγλικά:



Στη συνέχεια θα μας ζητήσει για την διάταξη πληκτρολογίου. Επιλέξτε Don't touch keymap (όπως η φωτογραφία):

The keymap records the layout of symbols on the keyboard. - 'Select keymap from arch list': select one of the predefined keymaps specific for your architecture (recommended for non-USB keyboards); - 'Don't touch keymap': don't overwrite the keymap in /etc/console, which is maintained manually with install-keymap(8); - 'Keep kernel keymap': prevent any keymap from being loaded next time the system boots; - 'Select keymap from full list': list all the predefined keymaps. Recommended when using cross-architecture (often USB) keyboards. Policy for handling keymaps: Select keymap from arch list Don't touch keymap Keep kernel keymap Select keymap from full list 	<pre>The keymap records the layout of symbols on the keyboard 'Select keymap from arch list': select one of the predefined keymaps specific for your architecture (recommended for non-USB keyboards); - 'Don't touch keymap': don't overwrite the keymap in /etc/console, which is maintained manually with install-keymap(8); - 'Keep kernel keymap': prevent any keymap from being loaded next time the system boots; - 'Select keymap from full list': list all the predefined keymaps. Recommended when using cross-architecture (often USB) keyboards. Policy for handling keymaps: Select keymap from arch list On't touch keymap Keep kernel keymap K</pre>		
<ul> <li>'Select keymap from arch list': select one of the predefined keymaps specific for your architecture (recommended for non-USB keyboards);</li> <li>'Don't touch keymap': don't overwrite the keymap in /etc/console, which is maintained manually with install-keymap(8);</li> <li>'Keep kernel keymap': prevent any keymap from being loaded next time the system boots;</li> <li>'Select keymap from full list': list all the predefined keymaps. Recommended when using cross-architecture (often USB) keyboards.</li> <li>Policy for handling keymaps:</li> <li>Select keymap from arch list On't touch keymap from arch list Don't touch keymap Select keymap from full list</li> <li>(0k) </li> </ul>	<ul> <li>'Select keymap from arch list': select one of the predefined keymaps specific for your architecture (recommended for non-USB keyboards);</li> <li>'Don't touch keymap': don't overwrite the keymap in /etc/console, which is maintained manually with install-keymap(8);</li> <li>'Keep kernel keymap': prevent any keymap from being loaded next time the system boots;</li> <li>'Select keymap from full list': list all the predefined keymaps. Recommended when using cross-architecture (often USB) keyboards.</li> <li>Policy for handling keymaps:</li> <li>Select keymap from arch list On't touch keymap from arch list Non't touch keymap Select keymap from full list</li> <li>(Ok&gt; </li> </ul>	The keymap records the layout of s	ng console-data   symbols on the keyboard.
Policy for handling keymaps: Select keymap from arch list Don't touch keymap Keep kernel keymap Select keymap from full list <ok> <cancel></cancel></ok>	Policy for handling keymaps: Select keymap from arch list D <mark>on't touch keymap</mark> Keep kernel keymap Select keymap from full list <ok> <cancel></cancel></ok>	<ul> <li>'Select keymap from arch list': specific for your architecture</li> <li>'Don't touch keymap': don't ove which is maintained manually w:</li> <li>'Keep kernel keymap': prevent a the system boots;</li> <li>'Select keymap from full list' Recommended when using cross-a</li> </ul>	: select one of the predefined keymaps (recommended for non-USB keyboards); erwrite the keymap in /etc/console, ith install-keymap(8); any keymap from being loaded next time : list all the predefined keymaps. rchitecture (often USB) keyboards.
Select keymap from arch list D <mark>on't touch keymap</mark> Keep kernel keymap Select keymap from full list <ok> <cancel></cancel></ok>	Select keymap from arch list D <mark>on't touch keymap</mark> Keep kernel keymap Select keymap from full list <ok> <cancel></cancel></ok>	Policy for handling keymaps:	
<ok> <cancel></cancel></ok>	<ok> <cancel></cancel></ok>	Select keyma D <mark>on't touch</mark> Keep kernel Select keyma	ap from arch list <mark>keymap</mark> keymap ap from full list
		<0k>	<cancel></cancel>

Τώρα ξεκινάει το πρόγραμμα. Επιλέξτε Start Clonezilla.



1. Επιλέξτε την επιλογή όπως στην φωτογραφία:

NCHC Free Software Labs, Taiwan	
*Clonezilla is free (GPL) software, and co ///Hint! From now on, if multiple choice: your selection. An asterisk (*) will be s Two modes are available, you can (1) clone/restore a disk or partition us (2) disk to disk or partition to partition Select mode:	Clonezilla omes with ABSOLUTE NO WARRANTY* s are available, you have to press space key to mark hown when the selection is done/// ing an image on clone/restore.
<mark>device-image work with disks (</mark> device-device work directly fro	o <mark>r partitions using images</mark> om a disk or partition to a disk or partition
<0k>	<cancel></cancel>

2. Επιλέξτε την επιλογή local\_dev ώστε να αντιγραφεί το εικονικό αρχείο σε ένα USB δίσκο (εκτός αν είστε σίγουροι τί κάνετε με σώσιμο σε δίκτυο).

NCHC Free Software Labs, Ta	iwan		
Before cloning, you have will mount that device or to or read from /home/par Select mode:	Mount Clonezilla ima to assign where the Clonezi remote resources as /home/ timag.	i <mark>ge directory</mark> lla image will be saved to or re ′partimag. The Clonezilla image u	ead from. We will be saved
<mark>local_dev</mark> ssh_server samba_serve nfs_server enter_shell skip	Use local device (E.g.: h Use SSH server r Use SAMBA server (Network Use NFS server Enter command line prompt Use existing /home/partim	ard drive, USB drive) Neighborhood server) Do it manually mag (Memory! *NOT RECOMMENDED*)	
	<0k>	<cancel></cancel>	

2. Θα σας ζητήσει να συνδέσετε ένα δίσκο USB ώστε να τον προσαρτήσει. Όταν τον προσαρτήσει, πατήστε Enter.

Before cloning, you have t will mount that device or to or read from /home/part Select mode:	Mount Clonezilla image direc o assign where the Clonezilla imag remote resources as /home/partimag imag.	ctory ge will be saved to or read from. We g. The Clonezilla image will be saved
<mark>local_dev</mark> ssh_server samba_server nfs_server enter_shell skip	Use local device (E.g.: hard driv Use SSH server Ouse SAMBA server (Network Neighbo Use NFS server Enter command line prompt. Do it Use existing /home/partimag (Memo	ve, USB drive) orhood server) manually ory! *NOT RECOMMENDED*)
	<0k>	<cancel></cancel>
ocsroot device is local dev		
Preparing the mount point /h If you want to use USB devic achine *now*. Wait for about d later we can mount it as / Press "Enter" to continue	nome/partimag e as a Clonezilla image repository 5 secs then press Enter key so th 'home/partimag. 	y, please insert USB device into this m hat the OS can detect the USB device an

3. Στο επόμενο βήμα θα σας ρωτήσει σε ποιο δίσκο θέλετε να σώσει το εικονικό αρχείο.

4. Μετά θα σας ζητήσει σε ποιο κατάλογο θέλετε να σώσει το εικονικό αρχείο.

Πατήστε Enter όταν σας το ζητήσει (δείτε φωτογραφία).

DOCS	2010-07-28_07:07
Photos	2010-07-28_07:07

<0k>

<Cancel>

he file system disk	space	usage			
	****	жжжж	кжжж	- 	кжжжжжжж
ilesystem	Size	Used	Avail	Use%	Mounted on
ufs	541M	4.6M	537M	1%	
mpfs	541M	0	541M	0%	/lib/init/rw
roc	0	0	0		/proc
ysfs	0	0	0		/sys
idev	535M	156K	535M	1%	/dev
mpfs	541M	4.0K	541M	1%	/dev/shm
levpts	0	0	0		/dev/pts
dev/sr0	118M	118M	0	100%	/live/image
mpfs	541M	4.6M	537M	1%	/live/cow
mpfs	541M	0	541M	0%	/live
mpfs	541M	0	541M	0%	/tmp
usectl	0	0	0		/sys/fs/fuse/connections
dev/sdb1	15G	33M	15G	1%	/tmp/local-dev
tmp/local-dev	15G	33M	15G	1%	/home/partimag
*****	жжжж	жжжж	кжжж		кжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжжж
ress "Enter" to cont	inue				

5. Στο βήμα αυτό, επιλέξτε Beginner.



6. Εδώ θα πρέπει να επιλέξετε την 1η επιλογή αν ξέρετε ότι ο δίσκος σας είναι 1 partition ή την 2η επιλογή αν ξέρετε αν ο δίσκος σας έχει παραπάνω από 1 partition. Αν δεν γνωρίζετε πόσα είναι, καλό θα είναι να επιλέξετε την 2η επιλογή.

1010 Free Coffware Labor Triver
"Clonezillo is free (CPL) software and same with ACPULITE NO WARPANTY"
This caftware will augurate the date on your hand drive when pactaning. It is personnered to
has soluble will over write the data on god. Hard unive when restoring: it is recommended to
Jackup important files before restoring the
vous calestion for acteriate (will be shown when the calestion is denoted (//
Selection. An asterisk (*) will be shown when the selection is unlevy?
Select mode.
counties Sour local diek as an image
savelisk <u>savelocal_alsk_as_al_linge</u>
pertonedisk Restore an image to local disk
restorements Restore an image to local martitions
recoveru-iso-zin Create recoveru Clonezilla live
exit Exit Enter command line promot
(Ok) (Capel)

7. Μετά θα σας ζητήσει το όνομα που θέλετε να σώσει το εικονικό αρχείο.



8. Στο βήμα αυτό θα σας ζητήσει ποιον δίσκο θέλετε να σώσετε σε εικονικό αρχείο.

NCHC Free Software Labs, Taiwan	
Clonezilla – Opensource Clone S Choose local disk as source.	ystem (OCS)   Mode: savedisk
the 2nd disk is "hdb" or "sdb" Press space key be shown when the selection is done:	rtual_IDE_Hard_Drive_000000000000000000000000000000000000
<0k>	<cancel></cancel>

9. Ανοίγει ένα "τερματικό" όπου χρειάζεται να πατήσετε Enter.

Clonezilla – Opensource Clone System (OCS) Choose local disk as source. The disk name is the device name in GNU/Linux. The first di the 2nd disk is "hdb" or "sdb" Press space key to mark yo be shown when the selection is done:	│ Mode: savedisk │ .sk in the system is "hda" or "sda", our selection. An asterisk (*) will
Sda 8590MB_VMware_Virtual_I_ata-VMware_Virtual_IDE_H	ard_Drive_000000000000000000000000000000000000
<0k>	<cancel></cancel>
Selected device [sda] found! The selected devices: sda ************************************	
/opt/drbl/sbin/ocs–sr –q2 –c –j2 –z1p –i 2000 –p true savedisk This command is also saved as this file name for later use if 7–img–2010–07–28–07–10 Press "Enter" to continue	lucid–2010–07–28–07–img sda necessary: /tmp/ocs–lucid–2010–07–28–0

10. Μπορείτε ακόμα να σταματήσετε την αντιγραφή. Σε αυτό το βήμα αν είστε σίγουροι, πατήσετε y.

Gelected device [sda] found! The selected devices: sda \*\*\*\* PS. Next time you can run this command directly: /opt/drbl/sbin/ocs–sr –q2 –c –j2 –z1p –i 2000 –p true savedisk lucid–2010–07–28–07–img sda This command is also saved as this file name for later use if necessary: /tmp/ocs–lucid–2010–07–28–0 7-img-2010-07-28-07-10 Press "Enter" to continue... Activating the partition info in /proc... done! Selected device [sda] found! The selected devices: sda Searching for data partition(s)... Excluding busy partition or disk... Unmouted partitions (including extended or swap): sda1 sda2 sda3 sda5 Collecting info.... done! Searching for swap partition(s)... Excluding busy partition or disk... Unmouted partitions (including extended or swap): sda1 sda2 sda3 sda5 Collecting info..... done! The data partition to be saved: sda1 sda5 The swap partition to be saved: sda2 Activating the partition info in /proc... done! Selected device [sda1] found! Selected device [sda5] found! The selected devices: sda1 sda5 Getting /dev/sda1 info... Getting /dev/sda5 info... The following step is to save the hard disk/partition(s) on this machine as an image: Machine: VMware Virtual Platform "/home/partimag/lucid-2010-07-28-07-img" Are you sure you want to continue? ? (y/n) y

11. Ξεκινάει η αντιγραφή. Πρέπει να περιμένετε αρκετή ώρα.

dd if=/dev/sda of=/home/partimag/lucid–2010–07–28–07–img/sda–hidden–data–after–mbr skip=1 bs=512 cou nt=2047 2047+0 records out 1048064 bytes (1.0 MB) copied, 0.0908714 s, 11.5 MB/s done! Saving the MBR data for sda... L+O records in 1+0 records out 512 bytes (512 B) copied, 0.000579185 s, 884 kB/s \*\*\* Starting saving /dev/sda1 as /home/partimag/lucid–2010–07–28–07–img/sda1.XXX... /dev/sda1 filesystem: ext4. Checking the disk space... Use partclone with pigz to save the image. Image file will be split with size limit 2000 MB. If this action fails or hangs, check: \* Is the disk full ? Partclone v0.2.11 http://partclone.org Starting to clone device (/dev/sda1) to image (–) Reading Super Block Calculating bitmap... Elapsed: 00:00:01, Remaining: 00:00:00, Completed:100.00%, Fotal Time: 00:00:01, 100.00%% completed! File system: EXTFS 4.0 GB Device size: Space in use: 779.6 MB ree Space: Block size: 4096 Byte Used block : 190326 Elapsed: 00:00:09, Remaining: 00:01:10, Completed: 11.37%, Rate: 591.11MB/min,

12. Όταν τελειώσει, επιλέξτε 1 για να μείνετε στην κονσόλα, 2 για να βγείτε από το σύστημα.

4096 Byte Block size: Jsed block : 33972 Elapsed: 00:00:05, Remaining: 00:00:00, Completed:100.00%, Rate: 1.67GB/min, Total Time: 00:00:05, Ave. Rate: 1.7GB/min, 100.00%% completed! Syncing... OK! 'artclone successfully cloned the device (∕dev∕sda5) to the image (−) Checking the disk space... >>> Time elapsed: 6.39 secs (~ .106 mins) inished saving /dev/sda5 as /home/partimag/lucid–2010–07–28–07–img/sda5.ext4–ptcl–img.gz Saving hardware info by lshw... Saving DMI info... Saving PCI info... Saving package info... Saving swap partition sda2 info in /home/partimag/lucid–2010–07–28–07–img/swappt–sda2.info if it exi sts... Saving swap /dev/sda2 info in /home/partimag/lucid–2010–07–28–07–img/swappt–sda2.info... \*\*\*\* This program is not started by Clonezilla server, so skip notifying it the job is done. inished! Now syncing – flush filesystem buffers... \*\*\*\* If you want to use Clonezilla again: (1) Stay in this console (console 1), enter command line prompt
 (2) Run command "exit" or "logout"
 экняникания сонности (сонности (сонности)) time! \*\*\*\*

13. Πατώντας το 2 στην προηγούμεν οθόνη, βγαίνει η εξής οθόνη.



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ΕΠΑΝΑΦΟΡΑ	ΣΥΣΤΗΜΑΤΟΣ	ΔΠΟ	ΕΞΩΤΕΡΙΚΟ	USB	ΔτΣΚΟ	ΣΕ	ΕΣΩΤΕΡΙΚΟ
LIIANAYUFA				030	AIZNO	<b>2</b> L	

Ακολουθήστε την παραπάνω διαδικασία μέχρι το βήμα 6.

6. Επιλέξτε την 3 επιλογή αν γνωρίζετε ότι έχετε 1 partition ή την 4η επιλογή αν έχετε παραπάνω από 1 partition.

NOUG Frank On Character Andrew The Same	
NURU Free Sultware Labs, Taiwan	
Clonezilla: Select mode	
*Clonezilla is free (GPL) software, and comes with ABSOLUTE NO WAR	RANTY*
hackun important files before restoring/***	(oring) it is recommended to
///Hint! From now on, if multiple choices are available, you have	to press space key to mark
your selection. An asterisk (*) will be shown when the selection i	s done///
Select mode:	
coundisk - Coun local dick on an image	
savenarts Save local partitions as an	image
restoredisk Restore_an_image_to_local_d	isk
restoreparts Restore_an_image_to_local_p	artitions
recovery-iso-zip Create_recovery_Clonezilla_	live
exit Exit. Enter command line pr	umpt
<ok> <canc< td=""><th>el&gt;</th></canc<></ok>	el>

7. Θα σας δείξει ποιο εικονικό αρχείο έχει βρεί στο δίσκο.

NCHC	Free Softwa	are Labs, `	Taiwan				
		- Aleren			(222) L Madaa a		
		Choose t	ne image file to	ce clone System ) restore: 7–28–07–img 2010	(UCS)   Mode: r -07-28_07:12_sc	estoredisk p	
			<0k>		<cancel></cancel>		

8. Επιλέξτε τον δίσκο που θέλετε να το γράψει.

Clonezilla – Opensource Clone Sy Choose the target disk(s) to be overwritten (ALL	JSTEM (OCS)   Mode: restoredisk   DATA ON THE ENTIRE DISK WILL BE LOST AND
The disk name is the device name in GNU/Linux. The 2nd disk is "hdb" or "sdb" Press space key be shown when the selection is done:	The first disk in the system is "hda" or "sda", y to mark your selection. An asterisk (*) will
eda REROMP VMwana Vintual I ata VMwana Vin	tual TRE Hand Drive 0000000000000000000
<0k>	<cancel></cancel>

Θα σας ζητήσει να πατήσετε το Enter για να προχωρήσει.

	Clonezilla – Opensource Clone System (OCS)   Mode: restoredisk Choose the target disk(s) to be overwritten (ALL DATA ON THE ENTIRE DISK WILL BE LOST AND REPLACED!!) The disk name is the device name in GNU/Linux. The first disk in the system is "hda" or "sda", the 2nd disk is "hdb" or "sdb" Press space key to mark your selection. An asterisk (*) will be shown when the selection is done:
	sda_8590MB_VMware_Virtual_I_ata-VMware_Virtual_IDE_Hard_Drive_000000000000000000000000000000000000
	<ok> <cancel></cancel></ok>
F F F	S. Next time you can run this command directly: opt/drbl/sbin/ocs-sr –g auto –e1 auto –e2 –c –r –j2 –p true restoredisk lucid–2010–07–28–07–img sda his command is also saved as this file name for later use if necessary: /tmp/ocs-lucid–2010–07–28–0 –img–2010–07–28–07–47 ress "Enter" to continue

Πριν αρχίσει την διαδικασία, θα σας ρωτήσει 2 φορές αν είστε σίγουροι.

his command is also saved as this file name for later use if necessary: ∕tmp/ocs−lucid–2010–07–28–′ 7-img-2010-07-28-07-47 Press "Enter" to continue... Activating the partition info in /proc... done! Getting /dev/sda1 info... Getting /dev/sda2 info... Getting /dev/sda3 info... Getting /dev/sda5 info... The following step is to restore an image to the hard disk/partition(s) on this machine: "/home/part imag/lucid–2010–07–28–07–img" -> "sda sda1 sda5" NARNING!!! WARNING!!! WARNING!!! NARNING! THE EXISTING DATA IN THIS HARDDISK∕PARTITION(S) WILL BE OVERWRITTEN! ALL EXISTING DATA WILL BE LOST: achine: VMware Virtual Platform sda (8590MB\_VMware\_Virtual\_I\_ata-VMware\_Virtual\_IDE\_Hard\_Drive\_0000000000000000000000) sda5 (4076MB\_ext4(In\_VMware\_Virtual\_I)\_ata-VMware\_Virtual\_IDE\_Hard\_Drive\_00000000000000000000) Are you sure you want to continue? ? [y/n] y OK, let's do it!! This program is not started by clonezilla server. The following step is to restore an image to the hard disk/partition(s) on this machine: "/home/part imag/lucid=2010-07-28-07-img" -> "sda (sda1 sda5)" WARNING!!! WARNING!!! WARNING!!! WARNING! THE EXISTING DATA IN THIS HARDDISK/PARTITION(S) WILL BE OVERWRITTEN! ALL EXISTING DATA WILL BE LOST: зоконски стреконски стр Achine: VMware Virtual Platform Let me ask you again, Are you sure you want to continue?? [y/n] y\_

9. Από εδώ και πέρα, πρέπει να περιμένετε να τελειώσει.

dev∕sda4 Empty ′dev∕sda5 548+ 1044-496-Linux New situation: Units = sectors of 512 bytes, counting from O Device Boot Start End #sectors Id System ∕dev/sda1 \* 2048 7813119 7811072 83 Linux 999424 /dev/sda2 8812543 82 Linux swap / Solaris ′dev∕sda3 8814590 16775167 7960578 Extended /dev/sda4 0 Empty 7960576 83 Linux /dev/sda5 Successfully wrote the new partition table Re–reading the partition table ... 59.058620] sda: sda1 sda2 sda3 < sda5 > If you created or changed a DOS partition, /dev/foo7, say, then use dd(1) to zero the first 512 bytes: dd if=/dev/zero of=/dev/foo7 bs=512 count=1 This is done by sfdisk ——force /dev/sda < /home/partimag/lucid—2010—07—28—07—img/sda—pt.sf Checking the integrity of partition table in the disk /dev/sda... \*\*\*\* No volume groups found Informing kernel that the OS that partition table has changed... 59.435020] sda: sda1 sda2 sda3 < sda5 > The first partition of disk /dev/sda starts at 2048. Restoring the hidden data between MBR (1st sector, i.e. 512 bytes) and 1st partition, which might be useful for some recovery tool, by: ld if=/home/partimag/lucid−2010–07–28–07–img/sda−hidden−data−after−mbr of=/dev/sda seek=1 bs=512 cou nt=2047 2047+0 records in 2047+0 records out 1048064 bytes (1.0 MB) copied, 0.0868335 s, 12.1 MB/s Restoring partition /dev/sda1...

Partclone	
Partclone v0.2.11 http://partclone.org	
Starting to restore image (–) to device (/dev/sda1)	
Calculating bitmap Please wait done!	
File system: EXTFS	
Device size: 4.0 GB	
Space in use: 779.6 MB	
Free Space: 3.2 GB	
Block size: 4096 Byte	
Used block : 190326	
Element: 00:00:04	
Persiping, 00:00:19	
Rete: 981 25MB/min	
Nate: Joi.23ND/MIN	
71%	71.33%

Starting to restore image (–) to device (/dev/sda5 Calculating bitmap Please wait done! File system: EXTFS	
Device size: 4.1 GB Space in use: 139.1 MB Free Space: 3.9 GB Block size: 4096 Byte Used block : 33972	
Elapsed: 00:00:01 Remaining: 00:00:02 Rate: 2.16GB/min	
26%	25.93%

Αφού τελειώσει, μπορείτε να βγείτε από το πρόγραμμα (δείτε το βήμα 12 παραπάνω). ------------ΑΝΤΙΓΡΑΦΗ ΔΙΣΚΟΥ Η PARTITIONS ΣΕ ΑΛΛΟ ΔΙΣΚΟ Ακολουθήστε την παραπάνω διαδικασία μέχρι την έναρξη του Clonezilla.

1. Επιλέξτε την 2η επιλογή (φωτογραφία) για αντιγραφή από δίσκο σε δίσκο.

NCHC Free Software Labs. Taiwan
Clopezille
*Clonezilla is free (GPL) software, and comes with ABSOLUTE NO WARRANTY*
///Hint! From now on, if multiple choices are available, you have to press space key to mark
your selection. An asterisk (*) will be shown when the selection is done///
(1) clone/restore a disk or partition using an image
(2) disk to disk or partition to partition clone/restore.
Select mode:
device-image work with disks or partitions using images
device-device work directly from a disk or partition to a disk or partition
<ok> <cancel></cancel></ok>

2. Επιλέξτε Beginner.

NCHC Free	Software	Labs,	Taiwan	
	Choose	e the m	Clonezilla – Opensource Clone System (OCS)	
		l	Beginner Beginner mode: Accept the default options	
		I	Expert Expert mode: Choose your own options	
			<ok> <cancel></cancel></ok>	

3. Επιλέξτε disk to local disk για αντιγραφή από δίσκο σε δίσκο.

CHC Free Software Labs, Taiwan
Clonezilla is free (GPL) software and comes with ABSOLUTE NO WARRANTY*
This software will overwrite the data on your hard drive when cloning! It is recommended to
backup important files on the target disk before you cloning!***
Select mode:
disk_to_local_disk local disk to local disk clone
disk_to_remote_disk local disk to remote disk clone
part_to_remote part local partition to remote partition clone
exit Exit. Enter command line prompt
<ok> <cancel></cancel></ok>

Η 2η επιλογή είναι για αντιγραφή του δίσκου μας σε απομακρυσμένο δίσκο. Η 3η επιλογή είναι για αντιγραφή partition σε άλλο partition του σκληρού δίσκου μας. Η 4η επιλογή είναι για αντιγραφή partition του δίσκου μας σε άλλο partition απομακρυσμένο του δίσκου μας.

4. Επιλέξτε την "πηγή", τον δίσκο που θέλετε να αντιγράψετε.

ICHC Free Software Labs, Taiwan	
Clonezilla – Opensource Clone System (OCS)   Mode: disk_to_local_disk	
The disk name is the device name in GNU/Linux. The first disk in the system is "hda" or "sda", the 2nd disk is "hdb" or "sdb" Press space key to mark your selection. An asterisk (*) will be shown when the selection is done:	
sda_8590MB_VMware_Virtual_I_ata-VMware_Virtual_IDE_Hard_Drive_000000000000000000000000000000000000	
<ok> <cancel></cancel></ok>	

5. Επιλέξτε τον δίσκο στον οποίο θέλετε να αντιγράψετε τον δικό σας.

NCHC Free Software Labs, Taiwan		
Clonezilla – Opens	source Clone System (OCS)   Mou	de: disk_to_local_disk
Choose local disk as target (AL The disk name is the device na the 2nd disk is "hdb" or "sdb". be shown when the selection is	L DATA ON THE ENTIRE DISK WILL me in GNU/Linux. The first dis Press space key to mark you done:	_ BE LOST AND REPLACED!!) sk in the system is "hda" or "sda", ur selection. An asterisk (*) will
sdb 16.1GB_VMware_Virtua	l_I_ata-VMware_Virtual_IDE_Har	rd_Drive_01000000000000000001
<0k>		<cancel></cancel>

Σας δείχνει την πλήρη εντολή να γίνει αυτό. Πατήστε απλά Enter.

Clonezilla – Opensource Clone System (OCS)   Mode: disk_to_local_disk Choose local disk as target (ALL DATA ON THE ENTIRE DISK WILL BE LOST AND REPLACED!!) The disk name is the device name in GNU/Linux. The first disk in the system is "hda" or "sda", the 2nd disk is "hdb" or "sdb" Press space key to mark your selection. An asterisk (*) will be shown when the selection is done:	
sdb 16.1GB_VMware_Virtual_I_ata-VMware_Virtual_IDE_Hard_Drive_01000000000000000001	
<ok> <cancel></cancel></ok>	
	J
S. Next time you can run this command directly: opt/drbl/sbin/ocs-onthefly –g auto –e1 auto –e2 –j2 –f sda –t sdb his command is also saved as this file name for later use if necessary: /tmp/ocs-onthefly–2010–07– –08–09 ress "Enter" to continue	2

6. Πριν ξεκινήσει την αντιγραφή, θα σας ζητήσει επιβεβαίωση.

ress "Enter" to continue... \*\*\*\* The first partition of disk /dev/sda starts at 2048. Saving the hidden data between MBR (1st sector, i.e. 512 bytes) and 1st partition, which might be us eful for some recovery tool, by: dd if=/dev/sda of=/tmp/ocs\_onthefly\_local.gI4rwh/src-hidden-data.img skip=1 bs=512 count=2047 2047+0 records in 2047+0 records out 1048064 bytes (1.0 MB) copied, 0.0413072 s, 25.4 MB/s Collecting partition /dev/sda1 info... Collecting partition /dev/sda2 info... Collecting partition /dev/sda3 info... Collecting partition /dev/sda5 info... Outputing swap UUID/LABEL of sda2... Saving swap /dev/sda2 info in /tmp/ocs\_onthefly\_local.gI4rwh/swappt–sdb2.info... The target device you want to overwrite has this hard disk info: юкжиски стрекки Machine: VMware Virtual Platform /dev/sdb: 16.1GB\_VMware\_Virtual\_I\_ata-VMware\_Virtual\_IDE\_Hard\_Drive\_01000000000000000000 Model: ATA VMware Virtual I (scsi) Disk /dev/sdb: 16.1GB Sector size (logical/physical): 512B/512B Partition Table: msdos Number Start Туре File system Flags 32.3kB 16.1GB 16.1GB primary reiserfs WARNING!!! WARNING!!! WARNING!!! WARNING! THE EXISTING DATA IN THIS HARDDISK/PARTITION(S) WILL BE OVERWRITTEN! ALL EXISTING DATA WILL BE LOST: sdb are you sure you want to continue? ? [y/n] y

Για δημιουργία partition.

ful for some recovery tool, by: dd if=/dev/sda of=/tmp/ocs\_onthefly\_local.gI4rwh/src–hidden–data.img skip=1 bs=512 count=2047 2047+0 records in 2047+0 records out 1048064 bytes (1.0 MB) copied, 0.0413072 s, 25.4 MB/s Collecting partition /dev/sda1 info... Collecting partition /dev/sda2 info... Collecting partition /dev/sda3 info... Collecting partition /dev/sda5 info... Outputing swap UUID/LABEL of sda2... Saving swap /dev/sda2 info in /tmp/ocs\_onthefly\_local.gI4rwh/swappt–sdb2.info... \*\*\*\* The target device you want to overwrite has this hard disk info: \*\*\* Machine: VMware Virtual Platform /dev/sdb: 16.1GB\_VMware\_Virtual\_I\_ata-VMware\_Virtual\_IDE\_Hard\_Drive\_01000000000000000000 Model: ATA VMware Virtual I (scsi) Disk /dev/sdb: 16.1GB Sector size (logical/physical): 512B/512B Partition Table: msdos Number Start End Туре File system Flags 32.3kB 16.1GB 16.1GB primary reiserfs WARNING!!! WARNING!!! WARNING!!! WARNING! THE EXISTING DATA IN THIS HARDDISK/PARTITION(S) WILL BE OVERWRITTEN! ALL EXISTING DATA WILL BE LOST: sdb are you sure you want to continue? ? [y/n] y OK, let's do it!! . Will create the partition on the target machine.. Are you sure you want to continue? If you go on, the original data existin on the target device will be destroyed!!! Be careful!!! Are you sure? [y/n] y

Για αντιγραφή του Boot Loader.

1957 1958-15727603+ Linux dev/sdb1 04 /dev/sdb2 Empty /dev/sdb3 Empty /dev/sdb4 Empty New situation: Units = sectors of 512 bytes, counting from O Device Boot Start End #sectors Id System 7813119 /dev/sdb1 2048 7811072 Linux /dev/sdb2 7813120 8812543 999424 82 Linux swap / Solaris 16775167 5 Extended 7960578 8814590 /dev/sdb3 ′dev∕sdb4 Empty 8814592 16775167 ′dev∕sdb5 Linux Warning: partition 1 does not end at a cylinder boundary Successfully wrote the new partition table Re–reading the partition table ... 265.830359] sdb: sdb1 sdb2 sdb3 < sdb5 > If you created or changed a DOS partition, /dev/foo7, say, then use dd(1) to zero the first 512 bytes: dd if=/dev/zero of=/dev/foo7 bs=512 count=1 (See fdisk(8).) This is done by "sfdisk —-force /dev/sdb < /tmp/ocs\_onthefly\_local.gI4rwh/tgt\_pt.sf" Checking the integrity of partition table in the disk /dev/sdb... done! + The first partition of disk /dev/sdb starts at 2048. Restoring the hidden data between MBR (1st sector, i.e. 512 bytes) and 1st partition, which might be useful for some recovery tool, by: dd if=/tmp/ocs\_onthefly\_local.gI4rwh/tgt–hidden–data.img of=/dev/sdb seek=1 bs=512 count=2047 2047+0 records in 2047+0 records out 1048064 bytes (1.0 MB) copied, 0.0994391 s, 10.5 MB/s \*\*\*\* Do you want to clone the boot loader (executable code area, the first 446 bytes) to: sdb ?

Για τα δεδομένα.

Units = sectors of 512 bytes, counting from O Device Boot Start End #sectors Id System ′dev∕sdb1 2048 7811072 Linux 8812543 ′dev∕sdb2 7813120 999424 Linux swap / Solaris ′dev∕sdb3 8814590 16775167 Extended /dev/sdb4 0 Empty 8814592 16775167 7960576 83 Linux /dev/sdb5 Warning: partition 1 does not end at a cylinder boundary Successfully wrote the new partition table Re–reading the partition table ... 265.830359] If you created or changed a DOS partition, /dev/foo7, say, then use dd(1) o zero the first 512 bytes: dd if=/dev/zero of=/dev/foo7 bs=512 count=1 (See fdisk(8).) This is done by "sfdisk --force /dev/sdb < /tmp/ocs\_onthefly\_local.gI4rwh/tgt\_pt.sf" Checking the integrity of partition table in the disk /dev/sdb... done! юкжеркжеркенска страковска страковска страковска страковска страковска страковска страковска страковска страков The first partition of disk /dev/sdb starts at 2048. Restoring the hidden data between MBR (1st sector, i.e. 512 bytes) and 1st partition, which might be useful for some recovery tool, by: dd if=/tmp/ocs\_onthefly\_local.gI4rwh/tgt–hidden–data.img of=/dev/sdb seek=1 bs=512 count=2047 2047+0 records in 2047+0 records out 1048064 bytes (1.0 MB) copied, 0.0994391 s, 10.5 MB/s Do you want to clone the boot loader (executable code area, the first 446 bytes) to: sdb ? [Y/n] y Cloning the boot loader (executable code area) from "sda" to "sdb"... Now we will start to clone data to the target machine... re you sure you want to continue? ? [y/n] y\_

7. Περιμένετε να γίνει η αντιγραφή.

8. Όταν τελειώσει η διαδικασία, μπορείτε να βγείτε ή να μείνετε στο πρόγραμμα (δείτε παραπάνω πως βγαίνετε από το πρόγραμμα).

Δημιουργία LiveUSB με το Clonezilla

Για να ολοκληρωθεί ο οδηγός, θα δούμε πως μπορεί να φτιάξει κανείς ένα LiveUSB με το πρόγραμμα. Κάπου θα υπάρχει πεταμένο ένα παλιό USB μέχρι 150-200MB. Για να μην πάει χαμένο, μπορούμε να το χρησιμοποιήσουμε εδώ.

1. Ετοιμάστε το USB με σύστημα αρχείων FAT (FAT16 ή FAT32). Εαν το USB δεν έχει ενεργοποιηθεί (partition) μπορείτε να δημιουργήσετε με τα gparted, fdisk κλπ. Εδώ υποθέτουμε ότι το όνομα του USB θα είναι το /dev/sdb (στο δικό μου ήταν /dev/sdf1)

Σε τερματικό δώστε

Κώδικας:

# fdisk -I /dev/sdb

και το αποτέλεσμα θα είναι:

Κώδικας:

Disk /dev/sdb: 12.8 GB, 12884901888 bytes 15 heads, 63 sectors/track, 26630 cylinders Units = cylinders of 945 \* 512 = 483840 bytes Disk identifier: 0x000c2aa7 Device Boot Start End Blocks Id System /dev/sdb1 \* 1 26630 12582643+ b W95 FAT32

Για να διαμορφώσετε (φερμάρετε) σε FAT πρέπει να χρησιμοποιήσετε την εντολή:

Κώδικας:

# mkfs.vfat -F 32 /dev/sdb1

2. Τοποθετήστε το USB στον υπολογιστή σας και περιμέντε μέχρι να το αναγνωρίσει. Μετά τρέξτε σε τερματικό την εντολή:

## Κώδικας:

dmesg

Για να δείτε το όνομα που παίρνει το USB. Ας πούμε για παράδειγμα /dev/sdb1. Το /dev/sdb1 έχει σύστημα αρχείων FAT, και προσαρτείται αυτόματα ως /media/usb/. Εαν δεν προσαρτείται αυτόματα πρέπει να τρέξετε την εντολή mkdir -p /media/usb; mount /dev/sdb1 /media/usb/.

3. Αποσυμπιέστε όλα τα αρχεία στο USB. Μπορείτε να δώσετε σε τερματικό την εντολή:

Κώδικας:

unzip clonezilla-live-1.2.2-26.zip -d /media/usb/											
ΠΡΟΣΟΧΗ:	Κρατήστε	την	αρχιτεκ	rovική τω	v фак	έλων	ως	έχει.			
4. Πρἑπει	να κάνετε	то	USB	εκκινήσιμο.	Αυτό	γίνεται	ως	εξής:			
Σε τερματικό δα	Σε τερματικό δώστε:										
Κώδικας:											
cd /media/usb/utils/linux											
Μετά τρέξτε την εντολή:											
Κώδικας:											

bash makeboot.sh /dev/sdb1									
(αντικαταστήστε	то	/dev/sdb1	με	то	όνομα	TOU	δικού	σας	USB)
Πατήστε		У			σε				όλα.
<b>ΠΡΟΣΟΧΗ:</b> Αν δεν έχετε ΣΩΣΤΑ το όνομα του USB σας, μπορεί να μην εκκινεί το σύστημά σας.									

Πηγή: <u>Insomnia.gr</u>