Server name	Server IP address or its fully qualified domain name (FQDN)
Domain name	(When in a MS-Windows WorkGroup, leave empty)
Share name	The share name
Share user	The user name for accessing the share (must have write access rights for the backup feature)
Share password	The user password for accessing the share

The remainder is similar to local imaging or restoration (see D and E).

✎ Other supported servers are SSH and NFS.

G   Image ISO or ZIP File Generation

This option helps creating a self-restoring device from any Clonezilla image. It prepares either an ISO or ZIP file which is the first step before generating a self-booting DVD (ISO file) or USB thumb drive (ZIP file).

✎ To access the ISO/ZIP file generation option, follow the D1 to D5 steps, then read on... Burning the DVD: see H.

(!) As these files are created within **/home/partimag**, make sure you've got room enough (ca. the image size) to store them on the corresponding device!

Both processes are symmetrical. Here's for ISO files:

1   Source Image Selection
Select the source image in the list.

2   Target Device For The Restoration
Specify the target device for the restoration process (by default, the same device as the one used as a source during the image creation).

3   Advanced Parameters
These parameters are the ones for the restoration process, as shown at E9.

✎ If you want to get an auto-restore image, with no user input at all, deselect the **–c** option and select the **–b** one.

4   MBR And Partition Parameters
Specify the target MBR and partition processing (see E10).

5   Extra Parameters
Used to set the restoration process behaviour at the end of the operation. The options are self-explanatory: **-p reboot**, **-p poweroff**, **-p choose**, **-p true** (= do nothing)

6   Language Selection
Set the interface language for the restoration process.

✎ Useful only when user interaction is planned.

7   Keymap Selection
Defaults to **NONE**. Keymaps are stored in **/usr/share/keymaps/i386**.

8   File Type Selection
The type of file you want: ISO, ZIP, or both.

9   ISO File Creation
A confirmation is asked whenever the ISO file size exceeds a CDROM space.

10   Checking Things
If you peep at the **/home/partimag** directory, you can check that the ISO file was created. Its name is following the **clonezilla-live-<name-of-image>.iso** pattern.

H   Burning The ISO File

(though using the command-line is out of this RefCard scope, it seems interesting to describe this feature here)

When the ISO file is ready (see G), it can be burned to a CD or DVD.
Simply select the **Command shell option** Clonezilla offers in many dialogs and select **[2] Enter shell**. Then insert a blank CD or DVD in the drive (any type except DVD–RW! Rewritable disks are erased if necessary) before running the following commands:

(here, we suppose **/home/partimag** was previously set)
```
sudo su -
cd /home/partimag
growisofs -Z /dev/hdx=<name of ISO file>
```
Where:

/dev/hdx (or **/dev/sdx**) is the name of the IDE (resp. SATA) burning device,

---

<name of ISO file> should be replaced with the actual ISO file name, starting with **clonezilla-live-**, eg: **clonezilla-live-testimage.iso**.

I   Hints

1   Warning To MS-Windows Users
Cloning an MS-Windows system using Clonezilla live is fast and efficient. But, if you don't use the Sysprep tool provided by Microsoft, you'll end up using systems with identical SIDs (security IDs). As SIDs are used for security purposes on the network, you **must** ensure different PCs have different SIDs.
Solution: use some dedicated tool to change the newly cloned MS system SID (eg: **NewSID.exe** by SysInternals.
See also http://technet.microsoft.com/en-us/sysinternals/bb897418.aspx.

2   An MS-Windows Cloned System Fails To Boot
This might be because GNU/Linux and MS-Windows interpret the CHS value (cylinder, head, sector) of harddrive differently. Possible solutions are:
1. Try to change the IDE HD setting in BIOS: use LBA instead of auto mode.
2. When restoring the image, at step E9, check **-t1** option, and at step E10, check **-j0** option.
3. Boot under MS-Windows 9x bootable floppy and run **fdisk /mbr**.
4. Enter MS-Windows XP recovery mode (boot on install CD). In the console, run **fixmbr** to fix it. You may also try the **fixboot** command.
5. Use **ntfsreloc** to adjust filesystem geometry on NTFS partitions. EG:
   (boot Clonezilla live into command line mode)
   ```
   sudo su -
   partclone.ntfsreloc /dev/sda1
   ```
   (replace **/dev/sda1** with the actual NTFS boot partition ID).
For more information, see http://www.linux-ntfs.org/doku.php?id=contrib:ntfsreloc

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Powered by Clonezilla

This quick reference card shows the basic uses of Clonezilla Live, when used in Wizard Mode (opposite to Expert Mode aka command-line).

(!) Incorrect use of the software is easy and can be harmful to the data. *Always save your data first!*

A   Interface Usage
The Clonezilla Live wizard mode interface is menu-driven. Use the following keys:

- **Space** (De)select options in lists (an asterisk witnesses the selection)
- **Tab**
- **arrow keys** Move from an item to another
- **Enter** Validate the dialog and skip to next

✎ Whenever you're not sure about the correct choice in a dialog, just keep the default. This will generally fit the bill.

✎ Some questions are waiting for a Y/N answer. The uppercase character depicts the default answer, entered using **Enter** (eg: in **y/N**, "no" is the default).

B   Initialization
The initialization options are common to all wizard mode uses.

1   Startup options
Select the screen definition most suited to your hardware.

✎ The **To RAM** option is useful for machines with only one optical drive which must be used for both loading the Clonezilla program and other purposes, such as inserting a DVD to restore an image or to burn a CD/DVD.

✎ To edit the startup options, just press **Tab**.

2   Choose Language
Sets the user interface language. Default is English (en_US).

3   Configuring Console Data
Sets the keyboard mapping.
If your keyboard is US-English, keep the **Don't Touch Keymap** default, otherwise **Select keymap from full list**
(eg. French, select **pc/azerty/French/Same as X11 (latin 9)/Standard**).

4   Start Clonezilla
Select **Start Clonezilla** for any wizard mode use (as described in this quick-ref). The **Enter_Shell** option gives full access to the Expert mode use.

C   Local Disk To Disk Cloning (Direct Cloning)
Direct cloning means copying the data from a device or a partition to another device or another partition, installed within the same machine.

✎ For imaging to a file, see D and E; for imaging on a network, see F.

1   Clone type
device-device

2   Image type
disk_to_local_disk

✎ Select **part_to_local_part** if you want to manage images on a partition-to-partition scheme.

3   Choose Local Disk As Source
Select the **source** device.

4   Choose Local Disk As Target
Same thing for the **target** device.

(!) Do not mess up with source and target devices! Any such error would result in an unrecoverable source disk.

5 Clonezilla On-The-Fly Advanced Parameters

Option	Use
-g-auto	(default) Reinstall grub on the target disk boot sector (if appropriate).
-r	Resize the filesystem of the target to fit the partition size.
-nogui	No partimage user interface (text mode only).
-m	Do not clone the bootloader.
-o	Force to load the source disk CHS values.
-b	Run imaging in batch mode. This is hinted as dangerous.
-v	Show verbose information when cloning.

Table 1

6 Advanced Extra Parameters

A few more options about the partitioning scheme and the MBR.

Option	Use
(nothing)	The MBR is restored from the one in the image.
-k	The partition table is not restored (the existing target disk MBR is kept).
-k1	The partition table is restored from the image. The partition(s) size(s) will be adjusted proportionally if the target disk is larger than the original one.
-k2	A command line will allows to enter whatever command in order to set the partition table.

Table The **–k1** option is recommended in order to deal with restoration on larger disks than the original.

7 Final Summary and Warning

A summary and a warning are displayed just before the actual cloning execution.
The next question allows to include the bootloader into the cloned data, if needed.

8 Cloning

As cloning is a destructive operation here's the last warning!
The execution is monitored with a processing gauge.

9 Summary

Clonezilla has completed its work. A short message hints for the next option: shutdown, reboot, start over or enter the command-line prompt (default option).

D Local Disk Imaging (Backup)

This option stores the image in a file. Thus, you need a local means of storage for the image file (eg: external HD or USB thumb drive). Though a USB device can be connecter later on, it's easier to connect the external device before booting the PC.

1 Cloning Type

`device-image`

2 Mount Clonezilla Image Directory

The image mounting point: `local_dev`
A warning gives the opportunity to insert a USB drive, if needed. If such is the case, insert that device now and give the system an extra 5 seconds to identify the device (some messages will appear on screen), then hit `Enter`.
Otherwise, just press `Enter`.

3 Choosing The « Home » Device

The place where the image is to be stored, associated with Clonezilla's `/home/partimag` directory.
✎ If the device filesystem is ntfs, you'll get a warning. Don't be too worried: though not being fully documented, ntfs is now well supported by GNU/Linux systems. Just accept the warning.

4 Home Directory On The Device

Default is root (`/`). Clonezilla lists subdirectories if (a) they are first level dirs and (b) their names don't contain any space char.
✎ Bypassing any of these constraints implies to handle this manually (Expert Mode).

5 Home Confirmation And Free Space Summary

A summary of all known partitions and devices is displayed.
⚠ It's time to check that `/home/partimag` has got enough room for the intended image storage.

6 Choose The Mode

Select `Savedisk`.
✎ If an individual partition restoration might be later needed, prefer `saveparts`.

---

7 Choose The Image Name

Enter any name you'd like for the image. Clonezilla images are made of several files, recorded in a directory whose name is the one entered here.

8 Choose Local Disk As Source

Select the disk (or partition if such was your choice at step 6 above) you want to image/backup.

9 Advanced Extra Parameters (1/2)

Set the priority order for the partition imaging tool to use.

Option	Use
-q	(default) ntfsclone > partimage > dd
-q1	dd only
-q2	ntfsclone > partclone > partimage > dd
(none)	partimage > dd

Table 3

✎ If the filesystem to be imaged is HFS+ (Mac OS) or reiser4, you might want to choose **-q2** since partclone clones HFS+ and reiser4 partitions very efficiently. Otherwise, unless you know what you're doing, keep the **–q** default option.

10 Advanced Extra Parameters (2/2)

Option	Use
-c	(default) Waits for confirmation before imaging
-nogui	Partimage user interface is hidden
-a	HD DMA is not forced on
-rm-win-swap-hib	The MS-Windows swap and hibernation areas are excluded from the image
-ntfs-ok	Skip NTFS integrity check
-gm	Generate image MD5 checksum
-gs	Generate image SHA1 checksum

Table 4

✎ If the partition you want to backup contains the Windows XP swap or hibernation files, set the **–rm-win-swap-hib** option which excludes these areas from being imaged. The image will then be more compact and created quicker.
There's no problem with such an exclusion since Windows re-creates these files when they are missing.

11 Compression Mode Selection

The default compression option (**-z1**) is usually giving a good efficiency/duration balance.

12 Image Splitting Threshold

In case no splitting is desired, set the value to 0 (zero).
⚠ Beware to the storage device filesystem limitations: some won't allow for files larger than 2 GB (eg: VFAT). This is why the default is set to that value.

13 Action Taken When The Process Finishes

Finally, decide whether to take some action in the end of the imaging process: do nothing (default), reboot, poweroff.

14 Options Summary Before Backup

Selections are now set. Clonezilla sums them all on screen under the form of the corresponding **ocs-sr** command and its parameters.
Press `Enter` to validate and run the operation.

15 Backup Is Running

The backup progress is displayed.

16 Summary After The Backup

After the backup process is finished, Clonezilla displays a summary. Hit `Enter` to quit.

17 Session End

Final choice : 0.Poweroff, 1.Reboot, 2.Enter command line prompt (default) or 3.Start over. Just pick your own.
✎ Option 3 may be useful to generate an ISO or ZIP file from the newly generated image (see G).

E Local Disk Restoration

You need the storage device holding the image (eg: external HD or USB thumb drive). It's easier to connect any external device before booting the PC.

---

1 Image Type

`Device-image`.
✎ If you want to deal with individual partitions, select `partition-partition`. Of course, the image must have been set accordingly (see D6).

2 Mount Clonezilla Image Directory

The image mounting point: `local_dev`
A warning then gives the opportunity to insert a USB drive if needed. If such is the case, insert that device now. Give an extra 5 seconds for Clonezilla to identify the device (some messages will appear on screen), then hit `Enter`.
Otherwise, just press `Enter`.

3 Choosing The Image « Home »

Select the device where the image is stored, associated with the Clonezilla `/home/partimag` directory.
✎ If the device filesystem is ntfs, you'll get a warning. Don't be too worried: though not being fully documented, ntfs is now well supported by GNU/Linux systems. Just accept the warning.

4 Home Directory On The Device

Default is the root directory (`/`). Clonezilla lists subdirectories only if (a) they are first level dirs and (b) their names don't contain any space char.
✎ Bypassing any of these constraints implies to handle this manually (Expert Mode).

5 Home Confirmation and Free Space Summary

A summary is displayed. For each filesystem, you get its size, used space, free space, use percentage and mounting name. Press `Enter`.

6 Choose The Mode

Select `restoredisk` (or `restoreparts` if the image was created with the `createparts` option). Clonezilla can restore an image to an unallocated disk or to a disk larger than the original one.
✎ When creating the image, it's a good idea to set the parameter to **–k1** (see Table 2).
⚠ You can NOT restore a disk (using `restoredisk`) from a set of partition images!

7 Image Selection

Select the image name in the list.

8 Target Partition

Select the target disk (or partition).

9 Restoration Parameters Selection

Just accept the defaults will generally fit most basic situations.

10 Advanced Extra Parameters

Specify the target MBR and partition processing. To Table 2 options, add:

Option	Use
-j0	Forces the use of dd to restore the partition table. Do not use whenever logical drives exist!

Table 5

11 Action Taken When The Process Finishes

Finally, decide whether to take some action in the end of the imaging process: true (=do nothing) (default), reboot, poweroff.

12 Summary

Selections are now set. Clonezilla summarizes them all on screen under the form of the corresponding **ocs-sr** command and its parameters. Press `Enter` to validate and run the operation.

13 Confirmation

Restoration confirmation. Given the risks, Clonezilla asks for double confirmation.

14 Restoration Execution

The process is then started. As usual, its progress is displayed.

F Imaging To A Samba Share

Clonezilla can image through a network to, among other types of shares, a Samba share (aka CIFS) or restore from there.
To use that feature, first set a Samba share on any machine in the network.
Clonezilla needs the following information in order to access the share: