

Disk Cloning



Image Cloning

- Clone a disk or partition to a file
- Best image tools will backup only data sections of the disk
- Compression is a handy feature
- Live backups are available but I don't recommend this.

Image Cloning

FSArchiver 0.23

- NTFS, EXT2/3/4, xfs, jfs filesystems support (FAT, HFS & UFS not supported).
- Compression is fast utilising multiple threads.
- corrupt image recovery

Image Cloning

FSArchiver

Create a backup

```
$ net-setup eth1
```

```
$ mount.cifs //server/public /mnt -o user=<my user>
```

```
$ time fsarchiver savefs -z 1 -v /mnt/archive_name.fsa /dev/sda1
```

Restore a backup

```
$ net-setup eth1
```

```
$ mount.cifs //server/public /mnt -o user=<my user>
```

Use gparted to format beforehand.

```
$ time fsarchiver restfs -v /mnt/archive_name.fsa id=0,dest=/dev/sda1
```

Image Cloning

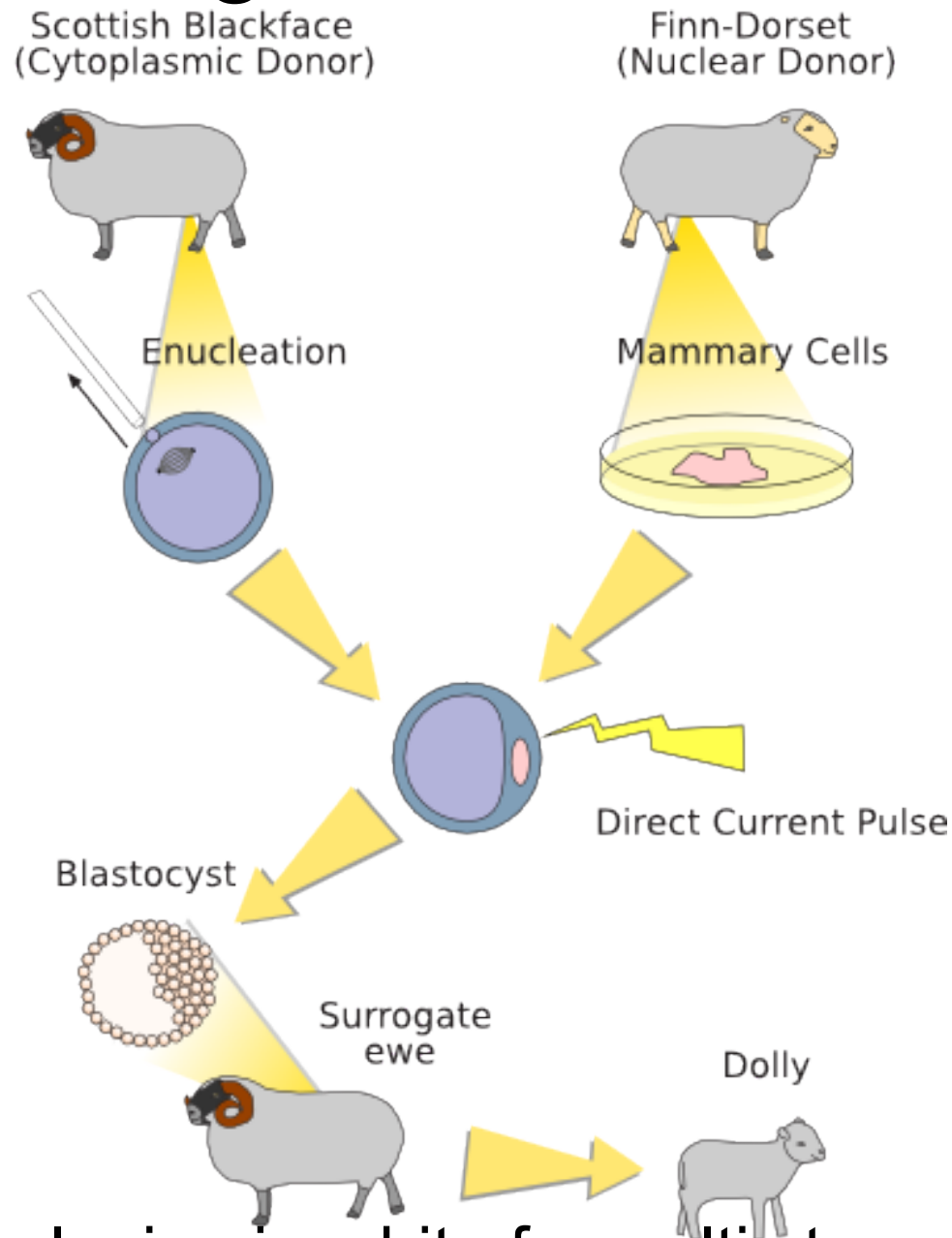


Image cloning is a bit of a multi step process

Image Cloning

FSArchiver

Pros

- Fast
- Good compression
- Encryption options
- Good filesystem support

Cons

- No support for UFS (BSD systems)
- Two step process to clone a drive.

Partition Cloning



Clone just part of the disk

Partition Cloning

Copy just a partition and only the data on that partition. This is the preferred cloning technique.

This is what the popular proprietary software packages like 'Ghost' perform.

Partition Cloning



gparted - <http://gparted.sourceforge.net/>

- Installed as default on Ubuntu & used in it's setup.
- To use this for cloning a system disk use a live cd.
- GUI driven
- Many other abilities.

Partition Cloning

gparted - <http://gparted.sourceforge.net/>

Pros

- Support for EXT4, UFS, HFS, NTFS and some more exotic filesystems like XFS
- Easy to use
- Can resize most partitions (no shrinking for UFS).
- Quick to copy as it just copies the data.

Cons

- Have to deal with GRUB and boot flags
- GUI only (have a look at partclone for a text based version)

Livecd Clone

Create a livecd clone of your system.

Remastersys allows you to clone any Debian/Ubuntu based system and turn it into a livecd.

- Command line and GUI tools for cloning available.
- Save settings on how you would like to clone
- Exclude directorys
- Include data or clone just the programs creating a distro.

Livecd Clone

Remastersys

Pros

- Easy to use
- Quick
- High compression
- Portable OS

Cons

- Cannot use for large distros (over 10GB I've had problems).
- Takes a lot of space to create image
- No good for LTSP setups or anything too tricky.
- Only debian systems!

Sector Cloning

Sector by sector copy means it copies every part of the hard drive even if it does not contain data. For this you will need your destination drive to be equal or greater than your source.



Sector cloning creates an exact copy of the original.

Sector Cloning

G4U - Ghost for Unix

<http://www.feyrer.de/g4u/>

- Allows network backups to an image.
- Local backups to a drive equal or greater in size.
- Menu driven with some nice tools
- Small, fast, boots off a CD or floppy.

Sector Cloning

Using G4U

First check HD's

1. Utilities
2. System info (Check your drives, sometimes you may have to unplug and reboot a few times to get your device names)

Cloning

1. Raw mode.
2. Click'n'Clone
3. Select Source (Use the spacebar to select).
4. Select Dest.
5. Click'n'Clone
6. Check your source & target are correct.

Sector Cloning

G4U

Pros

- Simple copy
- No need to worry about GRUB setup or special setups
- Can copy any type of system

Cons

- Takes a long time as it's copying everything
- Image sizes are huge as it includes blank data.
- Cannot clone to a small drive, unless you resize beforehand

Tools



SystemRescueCD 1.5.0

- fsarchiver
- gparted



RemasterSys package
G4U CD Image 0.22



Clonezilla

- partclone

Conclusion

I use each on of these techniques. Mainly though I stick to FSArchiver and G4U.

Windows/Linux systems: FSArchiver

BSD: G4U