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How to transfer your physical disk content to a virtual machine.

Create a image of the disk

There are several tools that we can use to create a clone of our disk, like clonezilla, g4l, or dd. This wiki will focus on dd but there maybe other simple and more efficient ways of doing this.

Assuming a full disk image with all the partitions:

Local storage:

```
dd if=/dev/<disk device> ( of=/dev/<external disk> | of=/tmp/disk_image.img ) bs=<block size> <ot
```

Remote storage:

```
dd if=/dev/<disk device> bs=16065b | nc <ip of the remote machine> <port> => Source machine
nc -l <port> | ( dd of=/dev/<device> | dd of=/tmp/disk_image.img) bs=16065b => Target machine (Ex
```

If you can't use nc because of firewall, try the following method:

```
dd if=/dev/<disk device> | ssh root@<remote-machine> 'dd of=/tmp/<disk image>' bs=<block size>
```

To find out the disk structure use fdisk and df -h.

Variations of the commands are possible, like using gzip or bzip2 to compress the image or "zeroing" all the free space so it compresses to almost nothing. To find out more about dd use *man dd*

Ramdisk image

After the creation of the disk image you will probably need to build a custom ramdisk for the image. To do this we use the command mkinitrd on a xen machine.

Assuming that the image doesn't contain any vg partition (check with vgs), it is possible to create a working ramdisk image issuing this command...

```
mkinitrd --with=<module> | --omit-scsi-modules --omit-lvs-modules --omit-raid-modules <ramdisk n
```

Important: You may need to adapt this to your particular image. To find out which modules you should put in the ramdisk check the modules that we were in the source pc with the command *lsmod*

Example:

```
mkinitrd -f --preload=xenblk --with=xenblk --with=ext3 --with=jbd --with=ata_piix --with=libata -
```

Setup the configuration

Below is a possible configuration file to start the virtual machine...with your disk image

```
name = 'disk-rawimage'
ip = "some ip" #optional
kernel = '/boot/vmlinuz-2.6.18-53.1.19.slc4xen' # Dom0 kernel
```

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```
ramdisk = '/boot/initrd-2.6.18-53.1.19.slc4xen.1.img' # created ramdisk
hostname = 'some hostname' #optional
memory = '256'
disk = [ 'file:<path to disk image>,xvda,w' ] #may need to replace file to tap:aio
vif = [ '' ]
gateway = 'some gateway' #optional
netmasks = 'put a netmask' #optional
root = "/dev/xvda2 ro" #Points to the root partition
#bootloader = '/usr/bin/pygrub' #Commented
on_reboot = 'restart'
on_crash = 'restart'
#extra = 'single init=/bin/bash' #Single mode
```

Boot the virtual machine

```
xm create <config file>
```

Add -c if you want to attach a console to the virtual machine.

Extras

None yet..to be updated

-- RicardoMendes - 27 May 2008

This topic: Virtualization > DiskImageToXen

Topic revision: r2 - 2008-05-27 - RicardoMendes



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