

Re: Cloning a disk using dd

Source: <http://linux.derkeiler.com/Newsgroups/comp.os.linux.misc/2007-11/msg00042.html>

- *From:* General Schvanzkoph <schvanzkoph@xxxxxxxxx>
 - *Date:* 1 Nov 2007 18:42:14 GMT
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On Thu, 01 Nov 2007 11:09:00 -0700, Bill Waddington wrote:

On 1 Nov 2007 17:30:12 GMT, General Schvanzkoph
<schvanzkoph@xxxxxxxxx> wrote:

On Thu, 01 Nov 2007 08:27:28 -0600, Douglas Mayne wrote:

On Wed, 31 Oct 2007 19:44:41 -0500, General
Schvanzkopf wrote:

I'm trying to clone a Win2K disk using
Fedora Live on a USB FLASH
disk. I did a

```
dd if=/dev/sda of=/dev/sdb
```

It seems to have cloned the MBR correctly
and the partition layout
looks correct when I look at it using
GParted. However when I tried
to boot the cloned 2K disk it started to
boot and then failed
with an inaccessible boot disk error. When I
booted the original 2K
disk and tried to look at the cloned disk it
said that the disk
wasn't formatted. So it appears that the
NTFS file system wasn't
cloned correctly.

The source disk is an old 40G that I had
laying around, the
destination disk is a new 500G. After the dd
there was a 40G
partition on the 500G disk and dd reported

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that it copied the right number of bytes.

Is there a switch to dd that I need to add to the command? Does anyone have any idea about what went wrong?

The partition table uses (cylinders, heads, sectors). If the two drives have a different number of (heads,sectors), then I don't think strict "dd" will work. The drives have to be almost identical to work, especially with Windows in the mix. However, if the OS is only GNU/Linux, then it might work because LBA disk mode is always used— even by the loader.

I think the dd worked fine, as long as I have the old drive in the system I can boot the cloned partition. The problem is that Windoze is looking for something on the E: partition (where the original Win2K install was done) but the cloned partition is C:. In Linux I would just edit /etc/ fstab and I'd be done but I don't know how to do an equivalent thing in Windows. You can change drive letter in Windows but you can't do it to the root partition and the problem seems to be that I need to change the new drives to be the same as the old drive's number.

I should explain why I'm going through this pain. My girlfriend uses XP and no amount of pleading is going to get her to change. I'm planning on replacing an old 80G drive in her system with a new 500G, I also want to come up with a reasonable procedure for backing up her environment. What would be a simple removal in Linux is a heart lung transplant in Windows. In Linux you would just do a clean install of the OS, which is a 20 minute operation, and copy the other partitions. If you have a distro sensitivity you can run a VM on top of the host OS and you are done, I do that all the time running CentOS VMs on top of Fedora. A backup in Linux is just an rsync of your important data and binary applications to another system. In Windows none of this is possible because the applications and the OS are entangled plus they all have licensing issues. Instead of backing up a few gigabytes you need to backup everything because you can't disentangle the OS + Apps + Data. I tried doing a VMware snapshot of her system so that she could run it as a VM (which can be easily copied to another disk or system) but that ran into the Windows Activation problem. When I booted the VM it demanded to be activated which I couldn't do without risking deactivating the host OS on her system. I can't do a clean install of the OS either because she claims that it took her months to get the system into the state that she likes and because she would have to reactivate both XP and some of

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her apps like Photoshop (she had to call Adobe when she moved over to this box in the spring).

The bottom line is that I need a procedure for moving and backing up an XP environment. I'm trying to do this with tools I understand, which means Linux tools, but I've had to learn more about Windows than I ever wanted to know. Does anyone have any suggestions for accomplishing this task?

p.s. The reason that I've been using 2K and not XP for my experiments is that 2K doesn't use Activation, it uses the old serial number method. I'm doing this on my sandbox machine so I can start from scratch if someone has a straight forward procedure for doing this.

General, on further thought, you are making this too hard :) Just dd the entire `_XP_` drive, resize the cloned partition w/Gparted, (not QTParted) pull the old, install the new and boot it up.

My guess is that XP will run, do its "configuring new devices" thing, ask for a reboot, and run just fine.

My win forensic friend tells me that XP checks several things to see if it has been copied to a new machine. Just a drive change shouldn't trigger an activation request. If it does, decline and come back to fight another day.

Bill

I'm not sure how Windows decided that the original drive was E: and the cloned drive was C:. Before I did my second attempt at dd I formatted the new drive on the old OS, it was then that the C letter was assigned. Is it possible that they are just using a label in the partition table? If not where is Windows equivalent of `/etc/fstab`?

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