

Re: dd to backup fat32 drive?

Source: <http://linux.derkeiler.com/Newsgroups/comp.os.linux.hardware/2006-01/msg00253.html>

- *From:* hazzmat <hazzmatunitedstatesgovernment@xxxxxxxxxxxxxx>
 - *Date:* Tue, 17 Jan 2006 18:26:56 -0500
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Henrik Carlqvist wrote:

> hazzmat <hazzmatunitedstatesgovernment@xxxxxxxxxxxxxx> wrote:
>> I saw something online about making a "dd" image of only the MBR—it
>> involved strange blocksize and count arguments
>> bs=? (I don't think it was 512) count=1,
>
> Yes, it should be bs=512 count=1 to copy the MBR as the MBR is the first
> 512 bytes of your HD. The MBR contains some booting code and your
> partition table.
>
>> If I am going to dd the whole disk (/dev/hdc) shouldn't I make a
>> partition of the same block count# that fdisk sees on the original
>> laptop drive, on the new drive
>
> If you do dd on the entire drive you will also copy the MBR and you will
> get an identical copy of your partition table. Trying to alter that
> partition table afterwards will most likely cause data loss as you also
> would lose data if you alter the partition table on any disk with data.
>
>> (which may not be identically sized overall?)
>
> If the disk has a different size it also has a different geometry. (Number
> of cylinders, heads and sectors).
>
>> Also Is there any way to know ahead of time how likely a certain
>> replacement disk is to work with the whole disk image approach?
>
> It is probably hard to find anyone that can tell the likelihood of this.
> To get a feeling for likelihood you need experience and in this case it
> will take a lot of failures to get that experience. Most people probably
> resort to another solution after a few failures.
>
>> An identical model of drive could be in new old stock inventories
>> probably —it would cost as much as a brand new but considerably larger
>> drive I expect.
>
> If you are going with the dd approach it means that you are going to write
> the old disks geometry data to the MBR and the partitions. This also means

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> that the new disk is going to look like it is as small as the old disk
> was. To use the entire new disk you would need a partition table and
> partitions with the correct geometry information.
>
>> Would it help to buy the same manufacturer's model of the same time
>> period but a different size?
>
> I'm only guessing now, but maybe it would help if none of the values of
> cylinders, heads or sectors are less than the corresponding value of the
> old disk.
>
> If I were you I would do the following:
>
> 1) Use dd to make a backup image of the entire old disk.
>
> 2) Use dd to also make backup images of each of the partitions on the old
> disk.
>
> At this point you have done all you can to save the data from the old
> disk.
>
> 3) Install the operating system on the new disk from the OS installation
> media.
>
> 4) Install the applications on the new disk from the application
> installation medias.
>
> 5) Do a "mount -o loop ro" of the partition images to restore data from
> the old disk.
>
> 6) If the above 5 steps are not good enough you could experiment with dd
> to restore to the new disk, but be prepared that the dd restore method
> might fail.
>
> regards Henrik

Thanks for all the information—I'm sorry I haven't been checking back but, between various emergencies that have required my round the clock attentions and my ISP's wretched (non)performance as a usenet provider, I have not been able to follow up until this afternoon.

The owner of the laptop was too impatient to wait for an identical Toshiba 15GB drive—or any further advice—and she ran out and bought the first 40GB drive she could find. I knew very well she would do that. dd-ing the imagefile onto the new 40GB disk (the image of the whole drive including MBR and partition table which is the obly ghost backup I made because of space constraints on the target drive) appeared to work. At least there is a mountable fat32 partition and all the data appears to be there when accessed from a Linux system. However, in a nasty turn of events now neither the new drive nor the old one can be recognized

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by the laptop. The laptop will boot from the cdrom just fine, but no harddrive can be detected on the primary position. (maybe the original drive was fine and it's the motherboard that's flaking out.) The laptop with original drive is in the hands of professional repair people at the moment.

The new drive with the ghost image of the drive is attached to a regular Windows 2000Pro box in a USB mass storage housing. I don't know why this happens but, frequently when accessing the new drive "G" with her old information on it, Windows will say something like there was an "error writing to drive G, data was lost, there may be a hardware malfunction. Error: delayed write" It's a message similar to that. What's strange is that the error message doesn't mean necessarily that a file that was supposed to be created wasn't created. I have yet to see it actually fail—but it thinks it's failing. I was thinking that if there was any problem with doing a ghost image of the old drive it would manifest itself as a simple incoherence of the filesystem and it would be 100% failure. But maybe there are intermediate modes of failure? Another thing: I can't scandisk the USB attached drive G: or defrag it.

I wish very much that I could have simply reinstalled the OS to a new drive and then brought over her backed up data from the server after reinstalling applications. But this is the new Microsoft era and there is no installation media with the purchase of a new PC/laptop just useless recovery discs. If the drive blows up one has to buy yet another license to the "operating system". I wish I could make the owner understand how all her frustration and inconvenience, which by this point appears like the end of the world to her, is due to the greed and arrogance of this company which she has become dependent on, a total hostage to, but it would be like talking to a brick wall.

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