superuser

Is there a way to DD multiple partitions into one raw image file in such a way that it boots?

Asked 4 years, 6 months ago Modified 2 years ago

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I have made great progress with my USB project so far, However I was wondering if there would be a way to DD multiple partitions into one Raw image file for redistribution. The following are the commands I have been using to achieve a full clone from usb to usb:

```
  DD if=/dev/sd[x] status=progress | gzip >
newredhat.raw.gz
```

however, the only issue with this, is that it copies the entirety of the USB stick, (meaning it would copy the volume as 28gb) and in some cases it doesn't work when trying to go to a smaller USB stick. I had tried doing the following to work around this :

```
dd if=/dev/sdb1 | dd if=/dev/sdb2 | dd
if=/dev/sdb3 | gzip > newredhat.raw.gz
```

Which to my surprise worked, however I don't believe it is saving the file the way I would imagine it is. Is there any way that I can avoid copying the entire disk drive (SDB) and only copy the necesarry partitions SDB1, SDB2, and SDB3, in such a way that I save them to one image file, and then zcat that file to a new USB of variable size in order for it to then run?

Thanks for any and all help in advance!

linux boot usb partitioning dd

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asked Jul 26, 2018 at 15:39

RickwhoPrograms
188 1 3 15

1 I'd recommend file-based backup instead. You `dd` the partition table (usually the first 1 MB of the disk) and `tar` contents individual partitions. The downside is, obviously, being impossible to store the backup in one file. – iBug Jul 26, 2018 at 15:49

Right, I thought of that approach as well however it doesn't preserve the one file structure, because eventually the whole package gets zipped down into a

gz, and the compression ratio is actually quite great.. I did 32gb gzipped into like 8gb! Also I know there must be a way to accomplish this, I had to struggle to find the other method as well but I did eventually haha!
– RickwhoPrograms Jul 26, 2018 at 15:52

`dd if=… | dd if=… | dd if=… | …` makes no sense. Only the last `dd` can do something useful.
– Kamil Maciorowski Jul 26, 2018 at 16:34

the first 2 (sdb1 and sdb2) are 200m and 1.1g respectively, so if the command isn't working why do I end up with a 3.6gb file? Is there some replication going on? – RickwhoPrograms Jul 26, 2018 at 16:35

Please post the output of `gdisk -l /dev/sdb` . Add this information to your question by editing.
– Kamil Maciorowski Jul 26, 2018 at 16:43

1 Answer

Sorted by: Highest score (default)

1

If you are only trying to avoid copying blank space at the end then the following should work.

1. Run `fdisk` on the device.
2. Make sure the units are set to sectors (they are by default in recent versions of fdisk)
3. Press `p` to print the partition table.
4. Read the end sector of the last partition.

5. Add 1
6. Divide by 2048 to convert to megabytes
7. Round **up** to the nearest whole number (better to copy an unneeded sector than not copy sectors that are needed)
8. Use this command:

```
DD if=/dev/sd[x] bs=1M count=<size in
megabytes you calculated> status=progress |
gzip > newredhat.raw.gz
```

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edited Jan 19, 2021 at 17:13

Dave M
13.1k 23 36 47

answered Jul 26, 2018 at 16:24

plugwash
5,736 2 18 25

let me give this a shot and see if it works as intended! thanks for the detailed response!!
– RickwhoPrograms Jul 26, 2018 at 16:29

Would this effectively save the file into a smaller sized bootable image though? also what If I just wanted to capture say the first 7gb of bootable media ?
– RickwhoPrograms Jul 26, 2018 at 16:32

`dd ... bs=7G count=1` ? – Alex Jul 26, 2018 at

16:35

but would that copy it in such a way that it is preserved as a bootable raw image? – RickwhoPrograms Jul 26, 2018 at 16:36

I'm not sure. If you want to optimize image, you can use clonezilla that keep in its image only actual data. I don't know if it would work for you if going to distribute your solution, but actually you can customize/automate clonezilla or give receiver a link to clonezilla and instruction how to restore image. – Alex Jul 26, 2018 at 20:49