Divorcing a Dual-Boot System and Migrating to a New Drive

By Travis Sherwood, CEO of Amati Industries.

If you ever need to separate a dual-boot Linux system, this is the guide for you. This was written using my own Ubuntu 10.04/Mate 18.04 system which entered service on its Seagate 250gb hard drive in 2012 with 10.04. In 2019, it received Ubuntu Mate 18.04. This procedure includes cloning to a new SSD using **Gparted**, fixing Grub with **Boot-Repair** and expanding the cloned partition in **Gparted** to use the entire drive again. Before you begin, make a backup of your setup.

For this guide, the Source Drive will be SDAx and the Target Drive will be SDBx. My deprecated 10.04 install was SDA1, while SDA2 contained SDA6 (Ubuntu Mate 18.04 install) and SDA5 (Swap). Only 18.04 and Swap are being cloned, nothing else here.

Your drives and partitions may be identified differently, so **check, double check and triple check** that your Source and Target are correct. I am not responsible for lost data due to incorrect Source/Target identification.

Special thanks to Steven Shiau from the Clonezilla Development Team for helping me create this process from scratch after Clonezilla would not work and we could not determine why.

Hardware you need:

Source Drive to clone from (Mine is 250gb Seagate Barracuda 7200rpm drive, over 10 years old)
A new Target drive to clone to (Mine is 256gb Inland SSD drive, free with New Customer Coupon from Micro Center)
Flash drive for Boot-Repair ISO to be installed on. A 2-pack of Kingston 32gb USB 3.0 drives were $8 at Micro Center (SKU# 256552 for White). The second one is in case space needs to be made on the Target drive during the procedure.
USB Adapter for your Target drive. Mine is a Vantec USB 3.1 to SATA 2.5” Adapter, $8 at Micro Center (SKU# 870154)

Software you need:

Boot-Repair ISO, installed on Flash drive. I used Ubuntu Startup Disk Creator to do this.
Link: https://sourceforge.net/p/boot-repair-cd/home/Home/
Gparted (included with Boot-Repair)

Procedure:

Part 1: Cloning your Partitions

1. Back up your system. The Ubuntu Disk Utility can make an image of everything.
2. With **Boot-Repair** installed on a Flash drive, boot from it and then close out the Boot-Repair window.
3. Open **Gparted**. Go to SDA drive, unmount and SwapOff all partitions. Identify what partition is the one you want to clone (SDA6). Choose COPY.
4. Switch to the SDB drive, choose PASTE and click Apply. This copies the SDA6 partition to the SDB drive, creating the SDB1 partition with the desired Mate 18.04 install. Mine was ~120gb, so it took about 30 minutes.
5. Go back to the SDA Drive, select the Swap (SDA5) partition, then paste it over to the SDB drive just like before and click “Apply”. It will be named “SDB2” and should take less than a minute. When finished, close Gparted.
6. In the bottom right corner, click the power button and let the system shut down.

Part 2: Fixing Grub

1. Remove the **Source** drive from the system and set it aside.
2. Connect the **Target** Drive where the Source Drive **was**. This removes any possibility of mixing up what drive is what.
2. Reboot into **Boot-Repair** and choose “Advanced”. Make sure your desired OS is found on the **SDA** drive. This is the only drive in the system now. Confirm that and proceed with Boot-Repair. It may give you a warning that the disk is nearly full if your partition is close to full. I had ~2gb free the first time and 1.3gb free the second time, so I ignored this warning. Boot-Repair was successful anyway.
3. Shut down the system, remove the Flash drive
4. Boot up from the cloned partition. It should boot up with no issues. Since I went to a SSD, boot time was considerably faster than with the 10+ year old Seagate drive. From the time I pressed the power button, I had a Grub Menu in 1 second, at the Login screen in 8 seconds, and on Youtube in 15 seconds. If everything looks good, proceed with Part 3.

Part 3: Expanding the Partition

1. Boot up from the Boot-Repair Flash drive once more, closing out the Boot-Repair windows.
2. Open Gparted and identify the partition you wish to expand. Mine was SDA1.
3. Before altering SDA1, move the Swap (SDA2) fully to the RIGHT. Click Apply. This will be less than a minute
4. Now right-click on the SDA1 Partition, choose “Resize/Move” and expand it to full all remaining space on the drive.

Click Apply. This will be less than a minute.
5. Close Gparted, shut down the system, then remove the Boot-Repair Flash Drive.
6. Boot up your system from the Hard drive/SSD like before. All should work with no issues. Copy any files from the deprecated drive's partition that you did NOT clone.
7. Enjoy your system now that it is faster and has a LOT more free space.