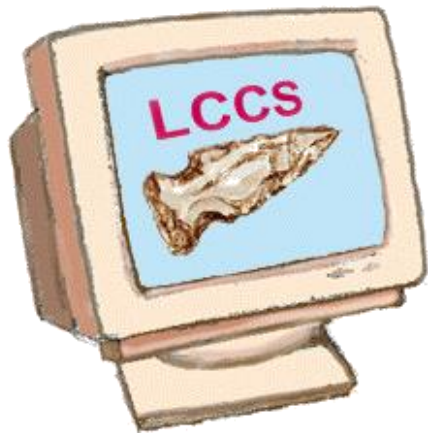


SSD CLONING

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Web location for this
presentation:

<http://aztcs.org>

Then click on
"Meeting Notes"

SUMMARY

Cloning SSDs are a great way to proactively back up your data files and provide for a quick repair when a bootable SSD fails in the near future!

TOPICS

- Free cloning apps versus non-free cloning apps
- Selecting a new SSD to purchase
- Preparing a new SSD to be a clone target
- Preparing the old existing SSD to be the clone source
- Two ways to clone SSDs
- Using the cloning app

FREE CLONING APPS VERSUS NOT-FREE CLONING APPS

- Best free cloning app is "Macrium Reflect Free"
- Best not-free cloning app is "Minitool Partition Wizard". It can clone to a smaller drive
- None of the free cloning apps can clone to a smaller drive:
"Macrium Reflect Free" can only clone to a same-sized or larger drive

SELECTING AN SSD TO BUY

- Description must say "SATA 3" or "SATA III" or "SATA 6.0 Gb/s"
- Description must not say "SAS" (= "Serial Attached SCSI")
- Description must not say "M.2"
- Description must not say IDE (= "Integrated Device Electronics")
- Description must not say PATA (= "Parallel Advanced Technology Attachment")

SELECTING AN SSD TO BUY (continued)

- Depending on your needs and available funds, buy a 500 GB, a 1TB, or a 2TB SSD.
- 3TB and larger SSDs are prohibitively expensive

PREPARING A NEW SSD TO BE A CLONE TARGET

- Two ways to attach a new SSD to a Windows.. computer:
Method 1:
SATA data cable and SATA power cable
Method 2:
SATA to USB A or USB C adapter

PREPARING A NEW SSD TO BE A CLONE TARGET (continued)

- Method 1 Details:
SATA data cable connects to a motherboard SATA port
and
SATA power cable connects to the computer's ATn power supply or an external SATA power supply

PREPARING A NEW SSD TO BE A CLONE TARGET (continued)

- Method 1 Details (continued):
The two "SATA.." cables can usually be done with the computer powered up but then the computer usually needs to be re-booted before Windows.. "sees" the new SSD
- -

PREPARING A NEW SSD TO BE A CLONE TARGET (continued)

- Method 2 details:
Connect the new SSD to the computer by means of either a SATA to USB A adapter
or
SATA to USB C adapter

PREPARING A NEW SSD TO BE A CLONE TARGET (continued)

- After using one of the two methods to connect a SSD to a computer, reboot the computer, then use "Disk Management" to "Initialize" the disk (= "Partition" the disk):
Right click on the "Start" button, left click on "Disk Management", etc.

PREPARING A NEW SSD TO BE A CLONE TARGET (continued)

- Then use the right mouse button to click on the disk
- Use the left mouse button to click on "New simple volume".
- Click on "Next" 4 times.
- Click on the "Finish" button

PREPARING A NEW SSD TO BE A CLONE TARGET (continued)

- Use the right mouse button to click on the new drive partition
- Click on "Explore".
- Copy a few files to the new drive partition.

PREPARING AN OLD EXISTING SSD TO BE THE CLONE SOURCE

- Use "Revo Uninstaller Portable" to remove any unwanted software apps from the old, existing SSD as described at http://aztcs.org/meeting_notes/winhardsig/uninstaller/RevoUninstallerPortable.pdf

PREPARING AN OLD EXISTING SSD TO BE THE CLONE SOURCE (continued)

- Start "File Explorer"
- Locate the old existing SSD
- Use the right mouse button to click on it
- Use the left mouse button to click on Properties
- Use the left mouse button to click on the "Tools" tab
- Run "Error checking"

PREPARING AN OLD EXISTING SSD TO BE THE CLONE SOURCE (continued)

- Start "File Explorer"
- Locate the old existing SSD
- Use the right mouse button to click on it
- Use the left mouse button to click on Properties
- Use the left mouse button to click on the "Tools" tab
- Run "Optimize and defragment drive"

TWO WAYS TO CLONE SSDs

(continued)

- Two procedures for cloning:

Method 1:

Direct clone from source drive to target drive

Method 2:

Make backup image of the source drive.

Then use the backup image to "restore" to the target drive

TWO WAYS TO CLONE SSDs (continued)

- The not-free "Minitool Partition Wizard" only allows you to use "Method 1"
- The free "Macrium Reflect Free" lets you use either "Method 1" or "Method 2"
- If "Method 1" fails when using "Macrium Reflect Free", "Method 2" will probably succeed

TWO WAYS TO CLONE SSDs (continued)

- "Macrium Reflect Free" also has two ways for you to perform the two methods for cloning:

Booting up with a bootable CD or DVD that you make ("burn") from inside the "Macrium Reflect Free" app

OR

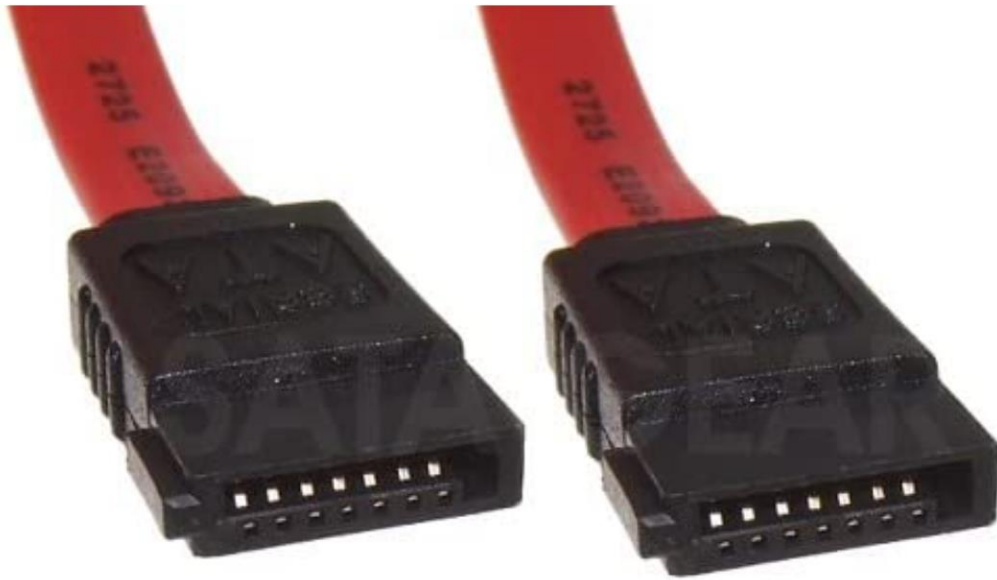
performing the cloning from inside the "Macrium Reflect Free" app

SATA DATA CABLE FOR THE TARGET DRIVE

- In some computers, you have to get a right-90-degree cable end or a left-90-degree cable end on one or both ends of the SATA data cable.
- SATA and eSATA are not the same
- Here is an example of a SATA data cable that is straight on both ends:

SATA DATA CABLE FOR THE TARGET DRIVE (continued)

- https://www.amazon.com/gp/product/B01N03T1T0/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1



SATAGear 40in Internal SATA III Cable Straight to Straight

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Compatible Devices Desktop

Color Red

Brand SATAGear

Data Transfer Rate 6 Gigabits Per Second

SATA POWER CABLE EXTENSION FOR THE TARGET DRIVE

- Most Windows.. desktop computers will have ATn power supplies that have spare (or borrowable) SATA power cables that you can temporarily extend for use with a new SSD that you using as a clone target.

SATA POWER CABLE EXTENSION FOR THE TARGET DRIVE (continued)

- https://www.amazon.com/gp/product/B0711M91D4/ref=ppx_yo_dt_b_search_asin_title?ie=UTF8&psc=1



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Gender	

SATA TO USB 3 ADAPTER FOR THE TARGET DRIVE

- https://www.amazon.com/StarTech-com-SATA-USB-Cable-USB3S2SAT3CB/dp/B01EK9LRLM/ref=sr_1_2?dchild=1&keywords=sata%2Bto%2Busb%2B3&qid=1610956320&refinements=p_89%3AStarTech&rnid=2528832011&s=electronics&sr=1-2&th=1



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You Save: **\$13.22 (24%)**

"MACRIUM REFLECT FREE"

- The "Macrium Reflect Free" app is totally free for both private in-home use and business use
To download it, use a Web browser to go to
<https://www.macrium.com/reflectfree>

"MACRIUM REFLECT FREE" (continued)

- You can learn to use "Macrium Reflect Free" by viewing the videos at <https://www.youtube.com/c/Macrium/videos>

"MACRIMUM REFLECT FREE" (continued)

- After you clone a smaller SSD to a larger one, power down your computer.
- Then disconnect the smaller SSD

"MACRIMUM REFLECT FREE" (continued)

- Then connect the newer SSD to your computer, using a SATA data cable and a SATA power cable (if you newer SSD was connected via a SATA to USB adapter during the cloning process)
- The power up your computer to see if the cloning process is successful.

"MACRIUM REFLECT FREE" (continued)

- At this point, you will probably want to do the following:
Right-click on the Start button.
Left-click on "Disk Management".
Right-click on the C: partition on the new SSD.
Then left-click on "Extend volume".
Etc.

