

California Computer Care

News,
Views,
Tips and
Cool Techniques
for CCC Members

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We
speak
Geek,
so you
don't
have to.

Bits, Bytes & Backups

It just keeps growing. The amount of data that we need to store, send, receive and back up just keeps getting bigger and bigger. There's no end to it.

The original Macintosh, from 1984, could hold its operating system and a couple of applications on a single, tiny 400KB (kilo-byte) floppy disk and still have room for a few documents. Today, a single picture, from a good quality digital camera, won't fit on that old floppy! Even with monstrous, 200GB (gigabyte) hard disk drives, folks are running out of space and losing files.

Measuring your need for data storage begins with minding your Ps and Qs. In *geekese*, we call Ps: kilobytes and Qs: megabytes. But, just as pints can be broken down to cups and ounces and quarts can add up to gallons; kilobytes are made up of bytes and bits and many megabytes added together become gigabytes, terabytes and more.

The basic data measuring unit is the bit. A bit is the smallest amount of computer information that can exist. When computers "think," they do so in a series of yes/no decisions. Each yes or no is a bit. To define something useful such as a letter of the alphabet requires eight bits. Eight bits received its own name: byte. Add a thousand bytes together and you get a kilobyte. Add a thousand kilobytes together and you get a megabyte. Add a thousand megabytes together and you get a gigabyte, and so on.

Let's take an inventory. To see how many bytes of data you have in your Mac's hard drive we need to check. Click once on your Mac's hard drive icon and then, from the *File* menu, choose *Get Info...* When the info window opens, you will see something similar to this:

Note the *Capacity* of your hard drive, then note the *Used* amount. This should not be more than 90% of *Capacity*.

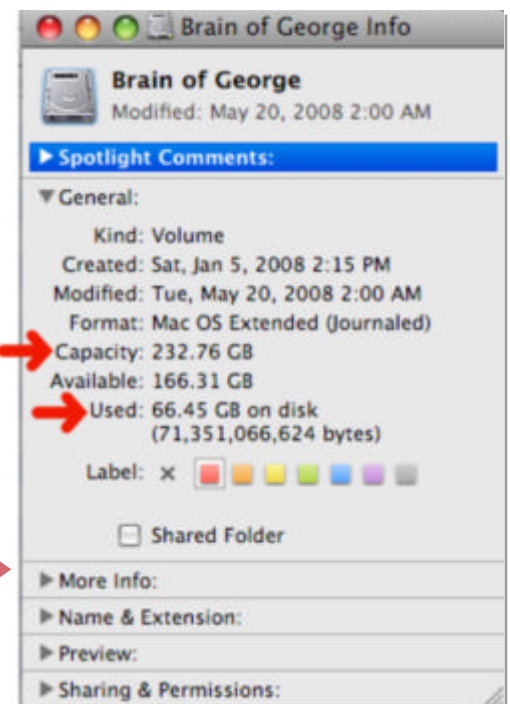
You probably have many gigabytes of data in your Mac's hard drive. If you pass the 90% mark, throw some unnecessary files away until you get below that point. Most of us have lots of unnecessary pictures, songs and movies that we don't really need to keep. However, if you want to keep them, copy them to another disk and then trash them from the hard drive.

Did someone say "Back up?" If you have files on your Mac that you would be sad to lose, then be sure to make back up copies. You can choose. Back up only the most important stuff? Back up all of your stuff? Or, back up everything on your Mac?

Backing up your most important stuff will use less space and time spent in the process, but you may miss something or have a hard time deciding what is important.

Backing up all of your stuff takes more time, but you won't miss anything. You'll need a lot of space for so much stuff.

Backing up everything will take as much space as is being used on your Mac's hard



drive, but it will make restoring easy and quick if ultimate disaster strikes.

Back up easy or cheap? If you want to back up inexpensively, use your Mac's built-in CD-R or DVD-R drive. Pop in a blank disk and drag the files and folders that you want to copy to it. This will do if you are backing up a few files, but if you have many megabytes of files to back up, CDs and DVDs may be too small to hold them.

It is easier to back up to another hard drive. External hard drives can be plugged into your Mac that can have as much or more capacity than your Mac's built-in hard drive. These can be costly. A 500GB external hard drive will cost about \$125.00, for a basic model like *Western Digital's MyBook*, or more for a premium drive with more speed, flexibility and durability.

Then there is back up software. Back up software helps you automate the process and can make back ups faster. If you are using Mac OS X 10.5 (Leopard), you have great back up software built right in called *Time Machine*. Good non-Apple back up software also exists. I like *Propaganda Productions' Déjà Vu* and *Shirt Pocket Software's SuperDuper*. Both will do a fine job of automating your back ups.

But what about backing up your back up? It makes your head hurt, but what happens if your back up fails? It has happened to me. So, I make two back ups (sometimes more; I'm paranoid). That means two external hard drives, maybe more! You want to store one back up offsite in case of theft, fire or other disaster. This is where a new product comes in very handy.

The Stage Rack. The Stage Rack is a base unit that connects to your Mac (by USB, Fire-wire or e-SATA cable). You pop bare hard drive mechanisms into it. This device allows you to treat bare hard drives (hard drives without cases, power supplies and interfaces) like removable cartridges or USB flash drives. This makes it cheaper and easier to use multiple hard drives to make multiple back ups and store them any way you like. I'll be testing one of these soon. If you'd like to jump right in, the *USB Stage Rack* is available only from Geek-Stuff 4U at: <http://geekstuff4u.com> and costs \$44.84 plus shipping. Bare hard drives are available from major computer and office supply retailers.



MayTip—

It's annoying that the menu bar clock doesn't show you the calendar date along with the time and day of the week.



Guess what? It can! Do this:

- 1) From the *Apple* menu, choose *System Preferences*.
- 2) Click the *International* preference.
- 3) Click the *Formats* tab.
- 4) In the *Dates* section, click the *Customize...* button.
- 5) Use the *Show:* menu to choose how you want the date to look.
- 6) Highlight the date format you created and choose *Copy* from the *Edit* menu.
- 7) Click the *OK* button.
- 8) In the *Times* section, click the *Customize...* button.
- 9) Use the *Show:* menu to choose how you want the time to look.
- 10) Click before the time display you created to add a flashing insertion point.
- 11) Choose *Paste* from the *Edit* menu.
- 12) Click the *OK* button.
- 13) Quit *System Preferences*.

Your menu bar clock now displays the date and time:



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