

# The Who, What, Where, Why, When, and How of Backup

By **Victoria L. Herring**

**W**here to start? The list of issues that affect lawyers using Mac OS X—particularly those topics relevant to security—is almost overwhelming: viruses, phishing, wireless security, software and hardware protections. . . . In light of the hurricane-induced disasters this past summer, I will focus on backups and disaster recovery.

## The Why

Lawyers today must think through how they're going to handle a disaster, regardless of its cause. Backups guard against loss of data, time, and money as a result of a disaster, whether it's a spilled Coke in the keyboard, a hurricane or fire, or a terrorist attack. For lawyers and their clients both, not losing information may well be essential. Posts by Louisiana lawyers to listserves after Hurricane Katrina attest that being able to grab a backup drive and laptop and dash out the door allowed some to be up and running within days.

Lawyers cannot afford to let client data become lost or unsecured. Computers, hardware, communications systems, software, office furnishings, and the like can all be replaced with enough cash, but data cannot.

Reviewing how best to do this, I recently downloaded an excellent \$10 e-book from TidBITS, "Take Control of Mac OS X BackUps," by Joe Kissell ([www.takecontrol-books.com](http://www.takecontrol-books.com)). I'm a devotee of the Take Control series and have several of the e-books, each some 30 to 60-plus PDF pages of solid advice on various computing topics for Mac users. (Mac OS X users can easily access the books using OS X Preview, which will quickly open them into a searchable document, without the need for Adobe Reader or its full application.) Kissell's book outlines the many reasons to back up your essential data and discusses the methods available to do so; if you're serious about protect-

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ing your data, the \$10 is well worth it.

What you will want to back up depends on the purpose of the backup (discussed in more detail below). If you have paper files, keeping them safe from fire, flood, and theft may not be practical because of the amount of copying and physical storage space duplicates would entail—you might end up hauling boxes of them to an off-site location. Protecting digital files is not that difficult and need not be expensive. In fact, recent ethics discussions suggest it might be a form of malpractice to fail to take steps to protect confidential data on your computers.

Just realize that it is better to err on the side of over-inclusion and over-duplication. You can always delete and trash extraneous data, but you can't recreate it if it doesn't exist.

## The Where

Backing up data using a Mac—or any other computer system—requires access to the source computer (with the data you want to preserve); a target site (a drive, tape, CD, DVD, or other medium to hold the transferred data); a software program that will create what you want (a bootable clone, synchronization, or archival storage); and a plan to allow you to save what you need in a logical and useful fashion. Remember: garbage in, garbage out. If you don't save the right stuff or can't restore the data, backups are pointless.

Recently I had to do some major maintenance on my trusty 17-inch iMac that required me to copy its contents before wiping the hard drive and reinstalling the operating system and other contents. (I'm now using Tiger 10.4.3 and am a big fan of it.) I am insecure enough to want to have two or three backup copies when I do this; others may not need that level of comfort.

To back up that computer, I have a 500 GB LaCie external hard drive; I have a similar separate drive for my other computer, a G4 Cube. You may store your data in other ways (tapes, CDs, or DVDs), but a Firewire hard drive is the most efficient cost- and time-saver for immediate storage purposes. I use LaCie hard drives because I've found them reliable over the years, but many others are

available as well. (Friends on the listserv [www.maclaw.org](http://www.maclaw.org) have mentioned excellent performance from Wiebetech and Maxtor One Touch.)

This backup process in OS X is speedy and simple, whether to an external drive or another computer. Using another computer's hard drive as the backup target in "Target Disk Mode," so that it becomes yet another hard drive attached by its Firewire cable to your computer, provides a fast, reliable connection for the transfer of data. (For a full discussion, see <http://docs.info.apple.com/article.html?artnum=58583>.) When it's time to replace the backed-up content into the computer, the OS X program "Disk Utility" will help restore it. (Consult the Help section of Disk Utility for more information.) There is also a new "Migration Assistant" that will automate reentering only portions of your data after the backup process is complete. Having just used both, I can say they were easy, relatively quick, and very painless.

Another need is off-site storage. Backups that are stored next to your computer will likely be destroyed by anything that destroys the computer (although there are some excellent disk-recovery services these days, if you want to pay the price). Most experts in the data backup and retrieval business suggest that essential files be kept at another location, separate from the computers they replicate. Even simple locations such as your home, a neighbor's house (though you'd want to encrypt the data to prevent snooping), or a bank safe-deposit vault will secure data away from your office. Those of us who lawyer from the comfort of our homes often move the data off-site by backing up to an Internet storage location. Apple's new Backup 3 utility has a 1 GB storage capacity that may help, at least for the most essential data.

### The What and the How

There are many different strategies for backing up data, and what you decide to do will depend on the nature of the data and what it is you hope to accomplish. If you simply want to save family pictures, perhaps a CD or DVD will work, as long as it's stored safely; you can do that with Apple's iPhoto system, Mac's OS X Finder, or through third-party software. If you want to store client information that you will access every now and then, a periodic duplicate of the source disk may suffice. If you need to be able to roll back data to a version you stored in a previous backup session, you may need an archival copy (generally called an "incremental copy"). For a more detailed explanation, consult the Kissell e-book mentioned at the beginning of this article. Thinking about the value of the data you already have, and when you might need it next, is a good discipline—you might even decide to get rid of some stuff from the early 1990s, as I recently did. Upgrades of Mac hardware and software can enable data recovery even from 15 to 20 years ago, although that is unusual.

Some people consider making a "bootable clone"—a

precise duplicate of all OS X system files along with the contents of the hard drive—an essential part of a backup system, anticipating the day the actual computer dies and the clone on the external Firewire hard drive takes its place for the immediate future. This doesn't happen often, but Murphy's Law frequently controls our affairs. The bootable clone (also called a perfect copy) can restart operations if something goes haywire with the computer. Not every piece of software will make a true bootable clone, so searching diligently for the right software is essential. Here again, Joe Kissell's e-book will help.

### The When

Once you have the right hardware and software, you need to develop a backup strategy. Determining your strategy will involve deciding what to include and exclude, how often, and by what method. You may decide some files don't need backing up—I caution you from personal experience: Err on the side of complete backups. I learned my lesson about 20 years ago, after I had a tech "wizard" set up my Retrospect backup system—but he failed to include my Timeslip data folder. I ended up spending a few days reconstructing and reentering my work and that of several staffers when I needed that Timeslip data. I learned then that making a *complete* duplicate more frequently was a good idea.

Most users back up data when people aren't in the office inputting new data at the same time. I do it between midnight and 6:00 A.M. Making a bootable clone every week, late Friday or early Saturday, is probably a good idea. It may be overkill, but you're simply overwriting, not adding to, the data saved. For archival purposes, plan to copy new or revised data to the backup every day or so. Some do it hourly or in real time—which is really a form of synchronization—but once per day is enough for me. When you set up the script, be sure to select the *addition* of new changes to the saved data, not *replacement* of the data, so that you retain previous versions of documents in an incremental backup. (Once again, Kissell's e-book has a detailed explanation.) Then rotate the incremental archives every month or so, replacing the oldest backup with the fresh incremental backup.

### The Who

Several companies offer excellent backup products for the Mac.

- The gold standard for backup software is Retrospect by Dantz ([www.dantz.com](http://www.dantz.com)): it creates backups in its own unique format, which can be both a good and bad idea. Kissell highly rates it; I have used it for many years but wanted to change to something easier to access if desired.
- SuperDuper! is a program by Shirt-Pocket Software ([www.shirt-pocket.com](http://www.shirt-pocket.com)), which is my current fa-

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puter. The suite's capabilities exceed by far the graphics work that most of you will need or that you will use in your office, however. In that sense, the suite is overkill for most law offices. On the other hand, the portions of the suite that you will use most, Photoshop (which most of you will want) and Acrobat (which all of you should have) cost enough by themselves that getting the additional programs in the suite becomes a small additional cost. It makes good sense to consider getting the full suite in order to have the additional capabilities in case you want to use them.

Adobe offers Creative Suite 2 on the Mac and the Windows operating systems with identical pricing and substantially identical features. The Standard version of Creative Suite 2 costs \$899 as a first-time purchase or \$349 as an upgrade from Creative Suite 1. You can also upgrade from an earlier version of Photoshop to the suite for \$499. The Premium version of Creative Suite 2 lists for \$1,200. You can upgrade from Creative Suite 1 for \$549 (\$449 if you have version 1.3). You can also upgrade to the full Premium Creative Suite 2 from an earlier version of Photoshop for \$749. While at first blush that sounds like a fairly steep price, remember that a new purchase of Adobe Acrobat 7.0 Professional will cost you \$449 (you can upgrade from an earlier version for \$159), and Photoshop CS2 will cost \$559 as a new purchase (\$149 for an upgrade). Accordingly, if you planned on getting Photoshop and Adobe Acrobat Professional as new purchases, you would pay \$1,008 (or \$308 for upgrades of both). That means that you can have all the remaining components of the suite for only an additional \$191 as a new purchase (or an extra \$441 over upgrades to both Acrobat and Photoshop). And if you wanted to upgrade an older version of Photoshop and also planned to buy Acrobat 7.0 Professional as a new purchase, you can have the entire Creative Suite for only an additional \$151. At those price differentials, even though the full Creative Suite contains far more capability than you will likely need or use in your practice, it may well make sense to acquire the suite. That conclusion becomes inevitable if you also have an interest in acquiring or upgrading Adobe Illustrator to the CS2 version. A new purchase of Illustrator will cost you \$499 (you can save \$150 if you have CorelDraw or Macromedia FreeHand). An upgrade will set you back \$169.

If you have an interest in acquiring top-level drawing and photo-editing tools, you will have a hard time finding anything that will work better than Adobe Photoshop and Illustrator. In Adobe's Creative Suite 2, the suite's value as an integrated tool clearly exceeds the value of its individual parts. True, Creative Suite 2 has features that I am sure I will never use. It also has a number of excellent features that will make it quite useful to me. I must admit, however, that most of those graphics features appeal to me as a hobbyist, not as a lawyer looking for software to use in my practice. **GPSOLO**

## MAC USER

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vorite and rates high with other lawyers. It makes bootable clones, smart updates, and other types of backup and updating choices. The manual is excellent, although it requires some study to be confident about your backup strategy.

- Silverkeeper is a freeware application available from LaCie ([www.lacie.com](http://www.lacie.com)). It's an excellent product to use if you want to protect yourself while you're figuring all this out. It allows for scheduled backups and has other features.
- Another favorite of mine is MimMac ([www.ascendantsoft.com](http://www.ascendantsoft.com)): a barebones, easy-to-use application that is a bit more limited than others mentioned here.
- Others lawyers tout several excellent products that I haven't checked out myself, but I trust their recommendations. You can find them at Versiontracker.com or by googling their names: Carbon Copy Cloner (mainly pre-OS X 10.3), Tri-Backup from Tri-Edre.com, DataBackup by ProSoft Engineering, ChronoSync from Econtechologies.com, and Synchronize Pro X (and other varieties by the same company). You can find others by searching for "back up" in the search bar of Versiontracker.com, Tucows.com, and other Mac OS X- and Apple-oriented software sites.
- Apple provides exceptional tools for backups. The iPod is itself a backup of the music in your computer's iTunes folder, selected to update to the iPod. The iSync program that is part of the Mac OS and .Mac site allows OS X users to create data on one computer, upload it off-site to their storage space at .Mac, and then download it (sync it) to other computers, iPods, Palm PDAs, and cell phones. I have data on my Cube that is also on my .Mac space and is also copied to my iMac, Powerbook laptop, Kyocera phone, Palm PDA, and other devices.
- Apple's newest Backup Version 3 sends your data to CDs or DVDs for burning, to external hard drives, or up to the .Mac server space for off-site storage. This might well be the perfect solution for those of us who might otherwise have problems maintaining data off-site. Other commercial companies ([xdrive.com](http://xdrive.com) and others mentioned in Kissell's e-book) will provide space for such storage.
- Several types of Unix, open source, freeware, and easily available bits of software can be used to create good backup systems, although those named above may be easier for us non-techies to use.

Just remember, if something can go wrong, it will. So be proactive, take precautions in advance, and go about your work with a clear conscience and less stress. **GPSOLO**