

By Benjamin Sotelo and James Gillen

# Current Methods for Making Backups of Data and Hard Drives

## Lawyers who depend on their computers need backup systems and procedures

Data backup is not terribly difficult, while the consequences of not performing backups can go beyond the cost of data recovery and encompass legal malpractice. Yet, new storage replication software, coupled with the falling cost of hardware and high-speed connections, has created the potential to eliminate the problems related to data backup, storage, and restoration. The small firm or sole practitioner who has been relying on divine protection now has no excuse not to establish a proper data backup system.

The value of a data backup system depends upon how well a law office understands the options available, its level of understanding of the technology, and how efficiently the software is used. Although there are approximately 200 software backup products, most operating systems now provide simple, effective data backup options. Fundamentally, a firm needs to set three cornerstones for data backup: an understanding of the technology and the needs of the firm, software, and hardware.

The first cornerstone dictates how the second two will be configured.

For example, if the amount of data is relatively small and the content of the data is relatively unimportant to the practice, then simply making CD backups of the data from time to time could be sufficient. This may be the case, for example, if a sole practitioner uses his or her computer as little more than an address book. If the data is critical to the practice, however, then a more robust (and expensive) solution is needed. The best method of data backup depends on the size of the firm, how much it needs the data, and how much it needs to keep its data up-to-date, among other factors.

In the typical law office, however, the firm's data is its bread and butter. Restoring a hard drive is no trifle, so for most firms the time and the money spent on establishing an appropriate backup system and training people to use and maintain it amount to cheap insurance.

After a crash, an attorney who has to perform nothing more than a simple restoration of data is indeed lucky. Less fortunate is the attorney who has to perform a system restoration. If a hard drive fails completely, it will probably take days to restore a computer's operating system, modem and network drivers, printer drivers, scanner driver, and all its complicated law office software.

If a computer's hard drive is physically damaged or breaks down, data recovery may not be possible. Sending the hard drive to a data recovery firm is an option, but the results are unpredictable. With a physically disabled hard drive, however, this is the only way to accomplish data recovery. The cost (expect to pay around \$1,500) is usually non-refundable, due in advance, and without any guarantee that useful data can be extracted once the drive is repaired.

Moreover, if the firm cannot afford to operate without computers and their data for a few days, then a backup system that refreshes itself continually and that maintains a copy of an entire hard drive may be the most appropriate option. Such a system may involve new hardware, new software, and possibly the hiring of a consultant to install everything and get it working, but the alternative could be the loss (during trial, perhaps) of the data and the means of using it.

For this reason, attorneys should remember the difference between data backup and system backup. For most firms, the more thorough system backup should be preferred. Additionally, a practitioner who backs up but does not use adequate virus protection is inviting trouble. Many viruses corrupt all the data on the hard drives they infect. An example of this is the Klez virus.

Therefore it is critical to make sure no viruses are on the systems before running backups. Note that the best method to scan for viruses is not to do a full system scan with your current antivirus software, even if it is a

recent version that automatically visits Web sites that are maintained by the makers of the software and downloads the latest inoculations. Instead, the virus scan should be run online.

Online scanning is a new virus scanning technique. This method provides a more comprehensive scan, in that it does not rely on the antivirus software that is installed on the local computer's hard drive—which may be installed incorrectly, corrupted, or out-of-date. For an example of an online scan, users can go to [www.sarc.com](http://www.sarc.com) and click on Free Online Virus and Security Check.

### Hardware Options

Zip drives once were the most familiar method of data backup, but by today's standards they have limited speed and storage capacity. Today, CD burners have replaced the Zip drive as the standard data backup method. The cost to implement a data backup system with a CD burner is minimal, because most computers already have a burner (and if yours does not, they are no longer expensive), and blank CDs are quite cheap. The limitation of CD burners is that they cannot perform system backups, because they do not have enough disk space. The common remaining alternatives that can perform system backups are external hard drives and off-site storage.

Currently, the preferred method for small firms with limited technical knowledge is to use an external or removable hard drive for each computer that contains vitally important data. This device, coupled with software that copies information from one drive

*Benjamin Sotelo is a legal engineer with [legalfriendly.com](http://legalfriendly.com) and can be reached at [benjamin@legalfriendly.com](mailto:benjamin@legalfriendly.com). James Gillen practices personal injury law in Marina del Rey.*

to another (Norton Ghost is an example), covers data and system backups and is recommended for firms of small to medium size. Larger firms, firms with especially valuable data, and firms staffed by people who cannot or will not keep their backup system up-to-date should consider off-site, managed storage solutions.

Tapes remain a popular backup method for network administrators performing on-site backups, because the storage capacity of tapes greatly exceeds Zip drives or CDs. Tapes are relatively inexpensive, so administrators can keep a fairly large number of tapes in rotation. This method is particularly

efficient if a virus infects a firm's system, because the administrator can restore the system to a time that predates the infection. Tapes are less easy to use, however, than separate hard drives. Another large-capacity, removable storage method is the DVD burner. This option is still rather uncommon, but it may become the preferred backup medium for most small firms because of its large storage capabilities.

#### Backing Up with Windows

For many small and solo law firms, a workable data backup and storage system will consist of Windows and a removable hard drive.

To use this system, purchase and install a removable or external hard drive. Make sure the drive is formatted and ready for data storage. When the drive is ready, follow this path in Windows: Start, Programs, Accessories, System Tools, Backup. Begin with the backup wizard. If you have installed a removable hard drive that is larger than your internal one, choose Backup Everything on My Computer. Assign a name to the backup (this name can be the date of the backup) and use the Browse button to point the system to the removable hard drive. Then choose Finish. This method will back up everything—all system data and critical data. If the computer's internal hard drive fails, the whole system can be recovered by running the Windows backup program again. To do so, choose the restore wizard and follow the directions. As with all backup methods, it is advisable to practice the procedure before having to perform it in a real emergency.

If you do not have a removable hard drive, another method is to use Windows backup and a working CD burner. No system backup is possible with this method, but you can create copies of your data. Begin by labeling a blank, burnable CD as Critical Data Backup. Add the date and make sure the CD is ready in the burner drive. Launch your CD burning software, make sure your burnable CD speed matches the speed of your burner, and configure the settings so that the computer will recognize and add to the blank CD that has been formatted as a separate drive on your system. Go to Windows backup and choose Backup Selected Files. Check those folders that contain critical data and choose Next. In the next screen, choose Browse and point the software to the drive you previously configured. Then click Finish.

Note that the main screen for Windows backup (which appears behind the wizard dialogue box) provides an easy, automated feature that allows users to schedule daily, weekly, or monthly backups. Click on the Schedules tab and select Add a Job at the bottom right. Follow the wizard to establish dates and times for backups.

These two methods—complete system backups with an external hard drive and critical data backups with a CD burner—can be used together, and they are the current standard for the needs of small firms. Remember that there are other devices that may need backups, such as Palm and pocket PC devices, and establish a system for making, filing, and testing your backup media. Data management is critical for the legal professional who is dependent on a computer, and with an effective backup system, your firm will be in a safe position if a critical system failure should occur. ■



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