

Simple Backup Strategy for Home Computers

Corey's Postulate of Data Loss: "If you want to lose it, keep only one copy of it."

From **Corey Keating** (www.ComputerSecurityNW.com)

Backing up the information on your computer is critical! (Just ask anyone who has lost years worth of irreplaceable photos or important documents just because they thought their hard drive would never fail or that files cannot get corrupted.) Your backup plan can range from something very simple to very elaborate, but you need to have a **plan** to backup **regularly** and the confidence that you can **restore** your data if your computer crashes or gets stolen. Create a plan that works for you. Don't get caught in the "it-won't-happen-to-me" syndrome; just start backing up today!

Executive Summary – "The Bottom Line"

Mac Users:

- (1) Buy and attach an external hard drive (between 500 Gigabytes to 2 Terabytes).
- (2) Turn on the "Time Machine" program. Whenever your external hard drive is plugged in, the backup will happen automatically in the background. You're backed up!

Windows PC Users:

- (1) Buy and attach an external hard drive (between 500 Gigabytes to 2 Terabytes).
- (2) Buy the backup software "Acronis True Image Home". Install it and (a) allow it to backup your entire system; set the schedule to backup weekly. (b) Turn on the "Continuous Backup" so your files are backed up as they are changed. Your files are now backed up!

SmartPhone (Android/iPhone), iPad, iPod Touch:

Please be aware that if you have a SmartPhone/iPad/iPod, you should back it up regularly by syncing it with your computer or using a third-party utility.

Online Data (Windows and Macs):

If you have online data, such as on Facebook, email data (Gmail, Yahoo, etc.), Flickr photos, Twitter, Google Calendar and Contacts, Picasa Photos, etc. that need to be backed up, you can use Backupify. It will backup 3 of these online services for free, or you can pay to backup more See this article for more info: <http://www.makeuseof.com/tag/easily-online-accounts-free-backupify/>

If You Hesitate to Implement the Bottom Line (above), Read This Paragraph

I strongly urge you to follow the directions in this document to form a backup plan with appropriate hardware and software; you must prepare to recover your critical files (pictures, contacts, emails, budgets, correspondence, etc.) when your computer crashes or needs to be rebuilt. However, if you choose not to do so, then at least do the minimum and periodically copy your files to a flash drive or burn them to a CD/DVD so you do not permanently lose all copies of any irreplaceable information.

However, most of us will not interrupt our busy schedules for a complicated or difficult process. Please work to make your backup process as **simple** and as **automated** as possible.

This document contains the most essential elements of a backup strategy for your computer. If you don't feel comfortable with these issues and want a detailed discussion of each of these topics, please see the other document: "[Detailed Backup Strategy for Home Computers](#)".

Detailed Overview of Simple Backup Strategy

In order to be ready for the time when you will need to rebuild your computer, (and it *will* happen, whether out of necessity or by choice) keep all of your **Program CDs and Serial Numbers** in one spot. This includes all Operating System CDs/Serial Numbers (such as Windows XP, Vista, Windows 7, Mac OS X, etc.) and all application programs you run on your computer. If you lose your serial numbers you may have to spend a lot of money to re-purchase software you technically already own.

An overview of the steps to protect all your data includes:

- 1) (If using Windows) Keep all your documents in one location on your computer (e.g. "My Documents").
- 2) Purchase and setup backup hardware and software (or sign-up for online backup). (Details below.)
- 3) Configure the backup to occur regularly (automatically if possible). Decide how often you need to backup, based on your needs.
 - 3) (a) Periodically check the log files for the backup software to ensure that your automatic backups have completed successfully. (Worse than "not having a backup" is "thinking you have one when you actually don't!")
- 4) Before you are done with your initial program setup, test to make sure you can restore one file from your backup; that way you know your data was backed up successfully.
- 5) If you use a method to backup other than the ones recommended here, then make sure you feel comfortable with the "restore" process since you might not easily be able to get help from someone who is familiar with the backup method you have selected.

Backup Details - If you have an Apple Macintosh Computer

If you have a Macintosh with the **Leopard**, **Snow Leopard**, or **Lion OS X**, then buy an external hard drive that is at least twice as large as your internal hard drive (or a minimum of 500 Gigabytes, preferably 1 Terabyte or larger). Plug it in and initiate the **Time Machine** program. Plug in the hard drive whenever you are home or plug it in once a day if you are on the go. Your job is done; let Time Machine do its job! It will keep a current backup of all files that change on your computer. If you ever have to restore your computer, the Mac will ask you if you want to restore from a Time Machine backup at the time of install. (When using Time Machine, your external hard drive needs to be dedicated to backups; don't try to use it for copying other files to since Time Machine needs full control of that drive. There are ways to partition a hard drive for shared use with Time Machine, but that is beyond the scope of this document.)

If you own an older version of OS X, like **Tiger**, then you will need to install a separate backup program (instead of using OS X Time Machine) and follow the directions for backing up a Windows PC (above). I suggest using either SilverKeeper or SuperDuper! as your backup software.

As an option, you can also use an online backup service like Mozy Pro with your Mac. Please see the comments below concerning online backup services; both the advantages and disadvantages apply to Macs too. (SOS Online Backup software does not work with Macs.)

Backup Details - If you have a Windows PC

Make sure you keep all your data in the "My Documents" area of your computer and backup this folder to your external device regularly. Make sure to also backup your email address book (and **emails** if they are stored locally) and your **Internet Favorites** (bookmarks). Alternatively, if you have room on your backup drive, you can just backup your entire computer, not just your data.

Option 1 - Backup to External Hard Drive with Windows PC

- 1) Buy an external hard drive to connect to your computer; it should be at least twice as large as your internal hard drive (or a minimum of 500 Gigabytes or 1 Terabyte).
- 2) You will need to buy a backup program to manage the backup to the external device. I recommend purchasing Acronis True Image Home; it may cost \$30 to \$50, but it will (1) create a backup "image" of your computer (which makes restoring very easy), (2) will maintain multiple copies of your data, and (3) make it easy to backup your email.
 - a) Please see the end of this document for detailed directions on how to use Acronis software.
 - b) If you choose to use a free program contained on your external hard drive, instead of a program like Acronis, then please be aware that someone else may not easily be able to help advise you if you need to do a restore. Make sure you understand the restore process before there is an emergency.
 - c) If "budget" is real high on your list of priorities in choosing backup software, then please see the "Other Resources and Ideas for Backing Up" section below for some suggestions/ideas.
- 3) If you don't have the option to chose the "Acronis Continuous Backup" option (described below), then configure your software to backup on a regular schedule (probably once per week or month, based on, "How hard would it be for me to recreate all this information if my hard drive crashed?" Or to replace those pictures? What if I lost all the emails from this last week?). You may also choose to backup critical files that change frequently to a flash drive.
 - a) Besides that Continuous backup, you also may want to backup your entire System once per month.

Option 2 - Backup to Online Service with Windows PC

- 1) An alternative to backing up your data to an external hard drive is to use an "online" service.
 - a) Advantages: (1) One advantage for using an online backup service is that the software is usually **easy to configure**; no need to purchase anything else, just download the software and away you go. (2) Another advantage is that a copy of your data is stored "**offsite**", at an external location. In case your computer is lost, stolen, or destroyed, you still have a backup of all your critical data.
 - b) Disadvantages: (1) Be aware that backing up over an Internet connection is **much slower** than connecting to a local hard drive. Backing up lots of data (like photos, etc.) will take considerably **longer** than to a local drive. Backing up all your data (many gigabytes) may be completely unfeasible (taking weeks to complete). (2) Storing more than a few gigabytes on one of these online services may also be expensive and **cost** you a monthly fee, as opposed to the one-time cost of your external hard drive and backup software.
- 2) Online Backup Options: Here are some recommendations for online backup services:
 - a) SOS Online Backup (www.sosonlinebackup.com) (Monthly/yearly fee) - SOS Online Backup is a full-feature online backup solution, backing up files automatically as often as you configure it to do so. SOS provides the option to initially send all your data to them on a disk so that it will not take a week to upload all your data. From that point on, only additional files or changes to your data will be uploaded over the Internet. The SOS software can also be used to make local backups onto disk. The SOS servers store virtually unlimited versions of your files; you can restore files from any date you chose. One downside is that even if you want to backup locally, you must be online (i.e. have an Internet connection).
 - b) Acronis Online Backup (www.acronis.com) (Monthly/yearly fee) - Acronis has a very good online backup (that must be purchased in addition to their local/disk backup) that also allows for unlimited versions of your files (i.e. you can do a restore from any date you choose). Again, data is backed up automatically as often as you configure it to do so. You can access the Acronis Online Backup through the same Acronis program used for backing up locally.
 - c) Mozy Pro (www.mozy.com/pro) (Monthly/yearly fee) - Mozy Pro is a reliable online backup option, but may not be as easy to use or offer some of the advanced features as SOS Online or Acronis Online, such as the option to backup locally.

- d) If you have only 2 gigabytes or less to backup, then you can use the online Mozy Home backup for free. (www.mozy.com/home) Alternatively, if you have information that is updated often, then in addition to your full backup plan, you may want to use Mozy Home to back up your most critical data on a daily basis. (However, do *not* choose to use the "for pay" version of Mozy *Home* to backup all your data, rather choose one of the above.)
- e) Although the Dropbox software is not meant primarily to be a "backup" software, it is a great way to backup 2 Gigabytes online for free. You can also get to these files from a website interface, or have them automatically copied to (and kept in synch with) another computer – Mac or PC. (www.dropbox.com) Just be aware that if you delete these files (or they are corrupted) on your local drive, then they will be deleted from your online version.

Appendix A - Other Resources and Ideas for Backing Up

[If you choose not to use Acronis (PC) or Time Machine (Mac)]:

- For the PC, if "budget" is real high on your priority list for deciding on your backup software, you may want to look into these free backup software options. They don't have all the features and ease-of-use of Acronis, but they can work to produce a good backup with a little extra effort. Again, be sure you know the process to restore since there may not be others who know enough to help you with it.

- 1) See this article for some options for free backup software: "The Best Free Backup Software for your PC": <http://www.makeuseof.com/tag/3-backup-tools/>
 - 2) Windows Vista and Windows 7 have a reasonably good backup program built-in. You can get more information at <http://www.microsoft.com/windows/windows-7/features/backup-and-restore.aspx>
 - 3) Some external hard drives come with their own backup program.
- Review of online backup services: <http://www.pcmag.com/article2/0,2817,2288755,00.asp>
- "Five Ways to Backup Your Email": <http://www.makeuseof.com/tag/5-ways-to-keep-your-emails-backed-up/>
- "Eight Ways to Backup Your Computer": <http://www.switched.com/2009/02/26/8-ways-to-back-up-your-computer-and-keep-your-stuff-safe/>
- "How to Back Up Your Hard Disk in Windows": <http://www.howtohaven.com/system/how-to-back-up-hard-disk.shtml>

Appendix B - Details for Acronis Backup Software with Windows PC

- These instructions are for Acronis True Image *2010*; if you have an older version of the software, then please see the directions posted online in this document:

www.ComputerSecurityNW.com/Acronis2009.pdf

- If you choose to use Acronis software, the actual name of the backup software is "Acronis True Image Home 2010". One place that offers a good price for Acronis is the website: www.allacronis.com

- You should download the Acronis True Image Home 2010 **User Guide** from <http://www.acronis.com/homecomputing/download/docs/> Please see the User Guide for more details about any of the steps listed below. It may be a good idea to make sure you have a copy of the User Guide available even in the situation that you do not have access to your computer (e.g. on a different computer, on a flash drive, or printed out). This would be helpful if you need to read the details on how to restore your data in case of a computer crash.

1) First, Create a Bootable Rescue Media CD to Prepare for a Complete Restore

If you downloaded Acronis, you will want to create a bootable rescue media CD. If your system crashes, you will be able to boot from this CD, run the Acronis program (stored on the CD), and choose to restore your computer from a disk image that you will create (explained below). To create this CD, choose "Create Bootable Rescue Media" and choose to create it (burn it) to a CD. (If you purchased Acronis on CD, that CD is already your bootable rescue CD; no need to create one.)

Important: After creating your rescue CD, follow the directions in the User Guide for testing your bootable rescue media.

2) Backup the System Partition Image using "One-Click Backup"

Before starting the Acronis program, plug in your external hard drive. You should then initiate the One-Click Backup (by double-clicking the One-Click Backup icon on your Desktop, or through Tools & Utilities from the Acronis program). If you are prompted, choose to backup all "partitions". This will backup your entire system partition, creating a **Disk Image** of your hard disk which includes *everything* on your hard disk (including your Windows operating system, your applications, and all your data files). In case of a major disk crash, this disk image can be used to restore your system back to the current state at the time of the backup. Although you can schedule to make new system images with the One-Click Backup, a better option after this first one is just to allow further backups to be managed by the Continuous Backup as described below.

3) Turn on the "Acronis Continuous Backup" Service

Before starting the Acronis program, plug in your external hard drive. Turn on the Continuous Backup feature of Acronis. It will automatically backup the partition/disk you choose (i.e. C:\) and will back up all files on that drive every 5 minutes until your external drive is full (at which point you need to tell it to erase the oldest backups). (Because it uses disk space intelligently, it should not fill up that fast if you have a large external hard drive.)

With the Continuous Backup turned on, you are able to either do a complete restore of your hard drive (in the case of a major disk crash or operating system corruption) or you can restore any file from any date you chose since the time your backup has been active.

Comments about Restoring with Acronis on Windows PC

If you need to do a "restore" of your computer from your backup, here are some things to consider. Before you enter a crisis, you should watch the tutorials on restoring listed below (Videos 7 and 9).

Disk Image Restore: Use this option if you backup a disk image of your computer ("My Computer" in Acronis). If your computer crashes and you want to do a restore your disk image, then you would first restore your original complete disk image and then restore the latest differential backup of your computer. Restoring the initial image will put your computer back to the original state (including your operating system, programs, and old data files) and restoring the differential backup will reinstate all changes made since the time the initial image was created.

Data File Restore: Use this option if you backup your data files and email ("My Data" and "My Email" in Acronis) rather than doing a Disk Image ("My Computer" in Acronis). If you need to reload your computer, then you would install your Windows operating system and all application programs from the original CDs. In order to get your data from your backup, you would then restore your original "full backup" of your data files and then restore the latest "differential" backup of your data files. (You need to repeat this process for restoring email.)

Starting with Disk Image then Adding Data File Restore: If you started your backup regimen with a backup of your entire computer to create a Disk Image ("My Computer" in Acronis), but after some time switched to backing up only your data files ("My Data" and "My Email" in Acronis), then you have two options for reloading your computer, as follows:

(1) You can reload your computer from CDs and then restore your data files (as described in "Data File Restore" above) or (2) you can choose to restore the original Acronis "Disk Image" (as described in "Disk

Image Restore" above) and then restore your most recent data file backup (both the "original" data file and the latest "differential"), overwriting the old data from the original image.

Tutorials for Using Acronis Backup Software with Windows

If you want more detailed information about using Acronis, there are some tutorials available at this web site: www.acronis.com/homecomputing/products/trueimage/video10/

(Although these tutorial videos are for the previous version of Acronis True Image Home, the concepts are the same and menus are very similar.)

(If the first link on each tutorial page [Streaming Version for Watching Online] does not work, then choose the second option [Download Version (WMV)] and watch it with Windows Media Player.) (If you hear mention of the "Acronis Disk Director", it is a different product that you do not need.)

You probably will want to watch Videos: 1, 2, 4, 5, 7, 8, 9.

For other step-by-step instructions, please see: www.allacronis.com/step-by-step.php