3-2-1 Data Backup

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By now you've heard about 3-2-1 computer backup. Having three copies of your data makes sense, but this relies on knowing where your data is in the first place. Is everything on your computer? What about the external drive in the closet? Or the SD cards in the drawer? Is some of your data in a cloud application, and what happens to that data if you forget to pay the subscription?

I call this problem "Data Scatter" and it is the enemy of the 3-2-1 backup model. It's hard to back up all your data if the primary copies are scattered everywhere. Let's walk through the problem and we'll propose a few things you can do to reign in your data and give the 3-2-1 backup model a fighting chance.

What is the 3-2-1 Data Backup?

Me, the "tech guy" got burned by the Cloud once. It was my own fault and I accept full responsibility for just being plain lazy. While I've been using Dropbox, a cloud-based storage program, since its inception, I TURNED OFF the syncing feature on my desktop because of "the need for speed" when it came to working. Each day I kept telling myself that I would turn it back on and watch television or do something while the program caught up and copied my local data up to the Cloud. And then the hard drive failed on my desktop computer. I lost two weeks' worth of writing and research. Poof! Gone!

So now I use what I call the **3-2-1 Backup Plan** and I stick to it religiously. I don't get greedy for speed or laziness and put it off until tomorrow. Here's how the plan works:

- At least **3** different backups. One is not enough. For me, I use a cloud-based program (Amazon Web Services), a 4TB external hard drive, and a 2TB external solid state drive.
- Use **2** different media for backup. I chose three actually, but never have all your backups in the cloud or on solid state drives.
- At least **1** backup must be offsite, and away from the original source computer. For me, the cloud qualifies as well as a USB flash drive since I store it in a fire safe away from my computer.

What to do BEFORE backing up data

Remember to look everywhere and anywhere to identify possible genealogy data. This includes going beyond the database where you store your research data. Don't overlook Internet bookmarks, emails, scanned photos and documents, research logs.

- **Genealogy Software Data**: There is usually one main database file and very often it is located under **c:\program files** and the program name such as Legacy Family Tree. Most programs allow you to select the storage location such as **c:\documents** or even a location you create.

- **Scanned Images and Documents**: Make sure you check not only **c:\my pictures** but also any folder you may have created on your computer.
- **Research Materials**: These include PDFs of books and documents, research logs, notes, and more.
- **Internet Favorites and Bookmarks**: Usually stored under your Settings folder but they may also be stored in your Internet browser program file directory if you are using a browser such as Google Chrome or Firefox.
- **Emails**: If you use an online program such as Gmail or Hotmail, you don't need to worry. But if you use other software, know how to get to that email data file.
- **Social Media**. Don't forget any content you post on a blog or social media sites!

3-2-1 Data Backup: Step-by-Step

Deploying the 3-2-1 Data Backup is fairly easy once you understand what backup methods to use for each section.

Basic Data Backup Methods

These methods involve backing data up to different media.

- **External hard drive**: Purchase an external hard drive with storage of up to 5 terabytes (TBs) for under $100. By the way 1 terabyte = 1,000 gigabytes (GB). New **Solid State Drive (SSD) t**echnology means less drive failure and the portable drives are as small as a credit card! **Plus**:easy to use; inexpensive; convenient; small; most have software for automating the backup including incremental backups. **Minus**: requires power; can fail just like a hard drive; shared location with original data.
- **Flash drive**: Flash drives are convenient and portable BUT they do fail over time so they should not be considered a reliable data storage method. **Plus**: easy to use; inexpensive; convenient; small. **Minus**: must remember to copy data; limited storage size; too easy to copy over or delete data.

Online Data Backup Methods

A variety of web applications exist that can either backup your computer's data or provide storage and synchronization of your computer data. While few programs are entirely free, most have a "freemium" option or reasonably priced plans.

These programs take a "set it and forget it"approach to backing up data which is best for many computer users.

- **Backblaze**: Backs up everything on your personal computer except for the operating system, applications and temporary files. Includes PC and Mac as well as external drives. Also provides a mobile app to access backed up files. Visit http://www.backblaze.com/partner/af4859 for the latest offer at Backblaze.

- **Carbonite**: Backup personal data with no limit on storage space; does not include system files or programs. No free version but free 15 day trial. Plans start at $79 USD for up to three computers per year.
- **iDrive**: A continuous online backup with up to 5TB of storage with NO LIMIT on the number of computers or devices and includes the ability to backup mobile devices and tablets. Visit http://www.genealogybargains.com/idriveoffer for a special sale offer with 90% off the first year.

Online Cloud Computing Programs

These programs are different from typical backup programs in that they place your data in the cloud and synchronize updates from your computer resident file to the cloud copy.

- **Dropbox**: Automatic synching of files of any size or type to different computers. Includes mobile option and file sharing. Free option allows up to 2 GB of storage.
- **Google Drive**: Formerly Google Docs, offers file storage and automatic synching with a free option of up to 15 GB of storage.
- **OneDrive**: Formerly SkyDrive, Microsoft's version of online storage and backup. Requires a Windows Live ID and offers RSS feeds. Free version is 7 GB.

Free, Freemium or Fee?

The opinions vary as to which method is better when it comes to online data backup sites. Should you use free sites or pony up some money for more storage space and more security? The decision is yours, but select a vendor that is reliable. Many vendors such as Dropbox offer a small quantity of storage for free and then charge for larger amounts. There is also nothing to stop you from using multiple emails to open multiple free accounts at a vendor. But keeping track of the data could be a nightmare.

Creating a Data Backup Plan

The easiest way to approach backing up your genealogy data is to come up with a plan and to stick with it. Sounds like a diet, right? Well in a way, it is. What makes for a good backup plan? Here is what you need:

- **Identify the data you need to backup**. Most users think of their genealogy software data and that's it. But don't forget the other programs you use when doing your research such as images, research logs, scanned documents, Internet bookmarks. Do a thorough inventory of locating where your genealogy data might be hiding.
- **Identify a backup method that works for you**. Don't commit to a method like copying to a flash drive once a week if it won't work for you. The method should be easy to use, have some form of automation, and use some sort of reminder.
- **Perform a test restore of data**. Why wait until you need that backup to find out that the data is no good? Make sure you do a test restore of your data from time to time to ensure that your method is working.

- **Keep up with technology**. Some call this “future proofing” your data. Make sure you are using current technologies. Remember those 3 1/2” floppy disks? If that is where your backup data is, good luck finding a working drive to read the disks.

Restoring Data

What’s the use of creating a backup plan, setting up a schedule and performing the backup if the resulting data can’t be used? Just as hard drives fail, so do data backups! Periodically test your data backup to make certain that the data is there when needed.

- If your data backup process incorporates any log files (files ending in .log or .txt) or messages listing backup data, make sure you read these from time to time.

- Do a test restore – but do it carefully! Don’t actually delete any data – just move it to a different location, rename a folder etc. Then perform a restore based on the backup plan you have in place. Once the restore is done, check to make sure the results are what you expected.

Finding and Deleting Old Backups

A frequent question when setting up a data backup plan is “What should I do about old backup files? They take up too much space on my computer.”

For some, it can be difficult to “locate” the backups you created in the past. One tip is to be consistent in how you name backup files. I use the “date” method as in “20230908 Backup” meaning a backup performed on 8 September 2023.

Also use your operating system’s search feature to locate LARGE files. In Windows, you can filter by size and look for files over 50 MB or any threshold you set.

Finally, as for how long you should hold on to backup files? That is a personal preference. I only keep the latest previous backup. The others are copied on to a 4TB portable solid state drive in case I need them. And every so often, I review the contents of that portable drive and delete older backups.

Data Backup Best Practices

A list of basic do’s and don’ts to ensure your data is secure and always accessible:

- **Make sure you identify all your data**. Remember that genealogy data can hide in the weirdest places on your computer. Think beyond genealogy software and include favorites, bookmarks, emails and photos.

- **Keep a regular schedule**. Backing up on a regular basis—not just when you remember to do it—is the key to successfully ensuring your data is available in case of a mishap. Whether it is a sticky note on the wall in your office, an automated reminder in your email or online calendar, set up a schedule.

- **Automate as much as possible**. If you don’t currently think much about data backups, then select an automated process that does all the thinking for you!

Look for online backups such as Carbonite, Dropbox or Backblaze. Or use an external hard drive with software that will perform a backup on a regular basis.

- **Test your backups**. All your planning and work aren't worth anything if you aren't capturing all your data during backups or your backup can't restore data properly. Don't wait until Kitty knocks that glass of water all over your laptop to find out that your backup process stopped working six months ago. Periodically test your backups. Also realize that CDs and DVDs can degrade over time.
- **Use current technology**. Data backups should be in a format that can be used in the future. If a technology starts to fade—like 5 1/4" floppy drives—make sure you upgrade your backup method.

Resources

- **Backblaze**
  http://www.backblaze.com/partner/af4859
- **Carbonite**
  http://www.carbonite.com
- **CNET Reviews – External Storage Devices**
  http://reviews.cnet.com/best-external-storage-drives/
- **CNET Reviews – Flash Drives**
  http://reviews.cnet.com/usb-flash-drives/
- **Dropbox**
  http://www.dropbox.com
- **Google Drive**
  https://drive.google.com
- **iDrive**
  http://www.genealogybargains.com/idriveoffer
- **OneDrive**
  https://onedrive.live.com
- **Online Backup Reviews**
  http://www.backupreview.com
- **Wikipedia – Comparison of Online Backup Services**
  http://en.wikipedia.org/wiki/Comparison_of_online_backup_services

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