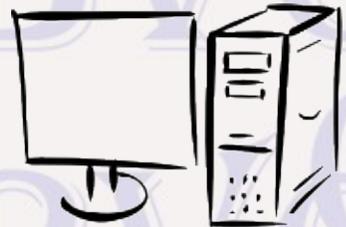


Bits & Bytes

Arkansas' Premier Computer Club



January 2020

Bella Vista Computer Club - John Ruehle Center

Highlands Crossing Center, 1801 Forest Hills Blvd Suite 208 (lower level), Bella Vista, AR 72715

Website: <http://BVComputerClub.org>

Email: editor@bvcomputerclub.org

HOW TO FIND US

All meetings are on the lower level of the Highlands Crossing Center in Bella Vista. You may use entrance A on the West side or entrance C on the South side and take the elevator or stairs to the lower level. Turn left (West) to reach the General Meeting room, right for the John Ruehle Training Center. **The lower-level NE entrance is also now available again.**

MEETINGS

Board Meeting: January 13, 6:00 pm, John Ruehle Training Center

General Meeting: January 13, (2nd Monday), 7:00 pm, Community Room 1001.

Program: "Going Paperless". Learn how to convert from keeping personal records on paper to keeping records in digital form. This is a presentation that was given by Pierre Darmon at the August Virtual Technical Conference of the Association of PC User Groups, to which BVCC belongs.

Bring a guest! New Members and Guests are always welcome at the General Meeting

Genealogy SIG: January 18, 10am - noon (3rd Saturday).

MEMBERSHIP

Single membership is \$25; \$10 for each additional family member. Join by mailing an application (from the web site) with check, or complete an application and pay at any meeting.

HELP CLINICS

Saturday, January 4, 9am – noon

Wednesday, January 15, 9am – noon

Saturday, February 1, 9am – noon

Help clinics are a free service for BVCC club members, held in the Training Center

Bring your tower, laptop, tablet or smartphone for problem solving.

CLASSES

"Computer Security for Regular People, Part 1" – Justin Sell, Wednesday, January 15, 6:30 – 8:30 pm. Part 2 will be offered again on 3rd Wed. in February.

"Slow PC? Let's Upgrade or Buy New" – Pete Opland, Tuesday, January 21, 9am – 11am

"Why, When and How to Backup Your C Drive" – Pete Opland, Thursday, January 23, 9am – 11 am

Advance sign up required for each listed class: Contact Grace: email to edu@bvcomputerclub.org, text 469-733-8395, call 479-270-1643, or sign up at the General Meeting. Classes are **free to Computer Club members** and are at our John Ruehle Training Center.

Check the monthly calendar and announcements for any last minute schedule changes at <http://bvcomputerclub.org> .

COMPUTER SECURITY CLASS MOVED TO THIRD WEDNESDAY

At the request of the class instructor, Justin Sell, this class has been shifted from the 3rd Tuesday to the 3rd Wednesday of the month. The weather in December resulted in some sign-up cancellations, which in turn resulted in a cancellation of the December Security class and a shift of the sessions. Part 1 will be offered again in January, alternating between Part 1 and Part 2 in subsequent months.

TOM'S TECH-NOTES: BACKUP TOOLS AND PROCEDURES

By Tom Burt, Vice President, Sun City Summerlin Computer Club, NV
May 2019 issue, Gigabyte Gazette
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It's been several years since I've written about tools and procedures for backing up your computer. With the growing popularity of smart phones and tablets, the need for backup has expanded to include those devices as well as traditional Windows and Macintosh PCs. I can't stress enough how important it is to make regular backup copies of your data files and of your computer's entire hard drive. This article, based on material from my annual "Backup" seminar, will explore these topics.

What is Backing Up?

Backing up means making an accurate copy of some or all of the data and software stored on your computer's storage drive. The copy is commonly stored on some type of external storage device that is not normally connected to your computer. The external device may be a USB hard drive or flash drive, a removable rack-mount hard drive, a folder or partition on another computer on your in-house network or a server elsewhere on the Internet such as Dropbox, MS OneDrive or Google Drive. A personal backup solution may include some or all of the above.

Why Back Up?

The reason to make backups is that (putting it politely) **BAD STUFF HAPPENS!**

Computer equipment is highly reliable and may run for years without failing, but sooner or later, storage devices fail. More likely is that accidents (drops and spills, turning off the power, power failures and power surges and so forth) happen, causing a storage device to fail. A vast array of malicious software waits for any opportunity to attack and damage or lock up saved data.

There's also basic human error – accidentally deleting a file or a folder. Without a safe backup copy, data saved on your computer may be irretrievably lost. Consider digital photos, videos, music, financial and tax records. Also, if you had to start over with a new, blank hard drive, it would be relatively easy to reinstall Windows or MacOS, but what about all the other programs, settings and all your data?

Full Disk Backup – Cloning and Imaging

A clone of a hard drive is a complete copy to another hard drive. All information needed to boot and run the computer, as well as all the programs, settings and data are written to the backup hard drive. A clone completely consumes the backup hard drive; only ONE clone can be written to the backup drive. To restore after the computer's internal hard drive has failed or been corrupted, one can either clone from the backup drive to the computer's (possibly new) internal drive or one can remove the failed drive and install the backup drive in its place. On a laptop or all-in-one computer, cloning back should be the first choice, provided the internal drive hasn't failed. Removing and replacing a laptop's internal drive is a challenging task.

An Image of a hard drive is a complete copy written to a single compressed file on another storage device. The compressed image file doesn't typically use up as much space as the original data, and only actual space used is backed up. It's usually possible to keep several image files on a single external storage device. As with a clone, the image file contains all the information needed to boot and run the PC along with all the programs and data. However, the image file is not itself bootable.

For restoring either a clone or an image file, a bootable recovery disk (CD or DVD) or flash drive is required. All the major backup tools include a tool to create bootable recovery media.

Popular Full Disk Backup Tools for Desktop Computers

There are several well-known software tools for backing up the hard drives of desktop PCs and Macs.

Acronis True Image Home (2019)

- <https://www.acronis.com/en-us/> or <http://ugr7.com/>
- Single PC about \$25, family pack of 3 about \$50 (UGR7.com)
- Excellent for backing up entire hard drives or partitions.
- Makes both "clones" or "images".
- Can "mount" a backup image as a logical drive.
- Can make bootable "Rescue Media" for both backup and restore.
- Can also can back up individual files and folders.

CASPER by Future Systems Software

- <https://www.fssdev.com/products/casper/>
- Makes both "clones" or "images".
- Features SmartClone technology (differential clones).
- Single system price about \$50; family pack of 3 for \$70

Macrium Reflect 7 – FREE Edition

- <https://www.macrium.com/reflectfree>
- Can back up entire hard drive or partitions.
- Makes both "clones" or "images".
- Can "mount" a backup image as a logical drive.
- Can make bootable "Rescue Media" for both backup and restore.
- Paid editions have extra features; you may not need them.

Of these, Macrium Reflect Free Edition has become my personal favorite [It is also the favorite for BVCC's Help Clinics – ed.]. It's fast, easy to use and does everything I need for whole disk backup. And the price is right!

File Backup Tools

Full disk backups are great, but users don't typically run them every day because they take time to run and the backup drive has to be retrieved and connected to the computer. This creates a risk that data files that change often may not be accurately reflected in the backup. Think about your saved email and contacts, financial and accounting files, other documents and spreadsheets you may be working on.

Windows File History or MacOS Time Machine

One approach is to use an automated file backup tool that scans a designated set of folders at some specified time interval (say every hour) and makes a copy of any new or changed files to a backup storage device such as a flash

drive, external hard drive or a shared folder on another computer. I use File History, checking once an hour, to supplement full disk backups for certain key file folders.

Windows File Explorer or MacOS File Manager / Finder

For simple one-shot backups, you can still use the built-in file manager programs to select a set of files and copy them to an external flash drive or hard drive or to a network shared folder.

Cloud Backup Tools

There are many free and paid cloud backup services. Most of these include an automatic sync tool that copies files from your computer to your private space on the cloud server. Here are some of the free ones:

Google Cloud (Google Drive) - FREE

- <https://drive.google.com/drive/u/0/my-drive>
- Requires a Google / Gmail account
- 15-17 GB of free cloud storage
- Install Google Backup and Sync app (Windows)
- Use Settings to specify a set of folders to be monitored and backed up to the Google Cloud whenever a change is detected (very similar to Windows File History)

Microsoft OneDrive - FREE

- <https://onedrive.live.com/about/en-us/>
- Requires a Microsoft Account
- 5 GB free (more if subscribed to Office 365)
- Syncs from a OneDrive folder on your PC or device to your OneDrive cloud storage.

Apple iCloud – FREE

- www.apple.com/icloud
- Requires an Apple ID (Account)
- 5 GB free, can add more space for a fee
- Built into all Apple devices, can install an App for Windows
- Syncs across all your devices

What About My Smart Phone or Tablet?

Many computer users now rely on a mobile device as their main computer for communication and for consuming news and entertainment as well as for taking photos, video clips and recording sound. What are the options for backing up mobile devices?

Android Phones and Tablets

If you have a Google account and have configured your device to link to it, you get quite a lot of automatic backup of files to your Google Drive cloud space. You will want to be connected to a Wi-Fi router when this is going on or your Android device may use up a lot of your monthly data allotment.

You can also connect your Android device via a USB cable to your desktop computer and use the File Manager or Finder to copy files from the mobile device to a folder on the desktop computer. You can also copy files from the desktop computer to the Android mobile device.

To fully back up all your Android device's data, you can purchase and install third-party backup Apps. Try a web search for Android Full Backup to see what's available.

Apple Phones and Tablets

If you have an Apple ID, all your devices: iPhone, iPad, Mac, Apple Watch already have built-in iCloud support and will back up data files to your iCloud private storage space on Apple's servers. If you have several Apple devices, a concern is using up your free 5GB allocation; you may have to buy some extra space to cover backups from all your Apple devices.

You can connect your iPhone or iPad to your PC or Mac via a USB cable and then use Apple's iTunes program to synchronize various file types between your mobile device and your desktop computer. This isn't quite as general as what Android offers, but it takes care of many file types. iTunes also offers an easy way to make a full backup of all the data on your Apple mobile device into a file on your desktop computer.

It's a good idea to have the iCloud backup enabled on your mobile device. This takes care of frequently changing files. Use the iTunes full backup occasionally to make sure ALL your devices' files are backed up.

With these backups in place, if your phone or tablet is damaged, goes up in flames or gets lost, you can replace the phone or tablet and with relative ease, restore all your saved data files and be back in business.