

# THE COMPUTER CONNECTION

## SAUK COMPUTER USER GROUP

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**INSIDE THIS ISSUE:**

**BOARD MINUTES & JOKE** 2

**BACKUP TOOLS & PROCEDURES** 3-5

**HEIC FILE TYPE - SHOULD I CARE ABOUT THIS FILE TYPE?** 6-7

### September Minutes 9/14/2024

**Open Meeting:** Neal  
**Question and answers:**  
1) Showed videos of Big Boy train visit to Illinois; 2) Changing email provider- have forwarded to new email account, add/forward account to current provider, check my accounts; 3) If forced Windows 11 for installation, this fall there will be updates that this method could be a problem; 4) Plugging smart phone into non smart TV- need an adaptor (also would have a charge port incorporated); 5) Problem charging phone- check cord and connector for wear, use wireless charger.

**Treasurer's report:** by Joe 1 and approved.

**Old business:** N/A

**New business:** 1) Board meeting at Bogy's on Wednesday, 9/18/24 at 5:00 PM; 2) WCSC travel activity moved to computer in lab area.

**Adjournment:** Adjourned- Motion Cheryl, Gloria 2<sup>nd</sup>.

**Program:** DC Computer, Dixon, Chris and Josh-biggest problem on computers brought in- email alert for different issues; backing up computer to external HD- will automatically only backup new or changed data after first backup; brands of computers recommended- Lenora, Acer, Asus computers (MS Intel chips); other internet services- dcomp.net; use two factor authentication setup on email; iPhones (Apple) are most secure cell

phones/devices, also can store passwords on phone utilizing key chain; email provided by Gmail, yahoo, etc. are better than internet provider sponsored email; SS card on dark web- software apps scrub dark web of your info, credit karma app is constantly searching for use of your data on dark web, use Experian to freeze accounts, VPN necessary when connected to public Wi-Fi.

**Next month's program:** October- Marge Sadowski- .S.M.A.A.R.T. - Seniors Made Aware And Rightly Treated ) November-Back to Basics - Neal; December- Santa Joe food from Benny's Red Apple

*Respectfully submitted  
by Tom Rich*

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**Jokes**

**The Programmer and  
the Genie**

A programmer finds himself walking along a beach where he finds a lamp. He rubs the lamp, and out comes a genie. "I am the mightiest genie in the world. I can grant your wish, but you only get to make only one wish."

The programmer brings out a map and points to it, saying, "I would want peace in the Middle East." The genie responds, saying, "Gee, I do not know. Those people have been fighting for millennia. I can do anything, but this is quite beyond my limit."

The programmer replied, "Well, I'm a programmer, and my programs have a lot of users. Please make all my users satisfied and content with my software and make them ask for sensible changes." At this point, the genie responds, "Um, let me have a look at that map again."

Meeting was called to order by: Neal

Attending the meeting were: Joe1, Tom, Nancy, Neal, Cheryl, Lorraine, Gloria, George, and Joe2.

Treasurer's report was presented by: Joe1

**Discussion Highlights:**

1) Several laptops to be sold at \$50 high-end, \$40 for smaller unit (one per family).

2) Next board meeting at Bogey's on 10/16/24 at 5 PM.

**Future Programs:**

October- Marge Sadowski, S.M.A.A.R.T. presentation.

November- Back to

Basics by Neal, uploading receipts and attaching to documents, reviewing basic tasks (i.e. accessing task manager and any other suggested issues).

December- Santa Joe, food provided by Benny's Red Apple.

**Adjournment:**

Motion by Cheryl, 2<sup>nd</sup> by Gloria

*Respectfully submitted by  
Nancy Rich*

# Backup Tools and Procedures

By Tom Burt

It's been a few years since I've written about tools and procedures for backing up your computer. With the growing popularity of smartphones and tablets, the need for backup has expanded to include those devices and traditional Windows, Macintosh, and Linux 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. The backup landscape has changed somewhat, so it seemed a good time for an update.

## WHAT IS BACKING UP?

Backing up means accurately copying 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 generally 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 commonly, accidents (drops and spills, turning off the PC's power, power failures and power surges, and so forth) happen, causing a storage device or other device component to fail. A vast array of malicious software waits for any opportunity to attack, damage, or lock up saved data. There's also a fundamental human error – accidentally deleting a file or a folder.

Without a safe backup copy, data saved on your computer may be irretrievably lost. For example, consider digital photos, videos, music, and financial / tax records. Also, if you had to start over with a new, blank hard drive, it would be relatively easy to reinstall Windows, Linux, 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 and all the programs, settings, and data are written on the backup hard drive. A clone fills up all 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 remove the failed drive and install the backup drive in its place. Cloning back should be the first choice on a laptop or all-in-one computer, 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 as much space as the original data; only the actual space is backed up. Keeping several image files on a single external storage device is usually possible. 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.

A bootable recovery disk (CD or DVD) or flash drive is required to restore either a clone or an image file. All the primary 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 Cyber Protect Home (2023)

<https://www.acronis.com/en-us/> or <https://ugr7.com/>

Integrated suite of backup, anti-virus, and ransomware protection.

Excellent for backing up entire hard drives or partitions.

Makes both "clones" and "images."

Can "mount" a backup image as a logical drive.

Can make bootable "Rescue Media" for both backup and restore.

It can also back up individual files and folders.

Single PC essential subscription lists at \$50 / year, family pack of 3 about \$80 / year

There are premium offerings, including cloud storage.

User Group Relations (Gene Barlow) prices are 50% lower. <https://ugr7.com/>

## Backup Tools and Procedures (cont.)

### CASPER by Future Systems Software

<https://www.fssdev.com/products/casper/>

Makes "images".

Features bootable images.

The single system price is about \$60; a family pack of 5 for \$80.

Has a 30-day free trial.

### Macrium Reflect 8 Home

<https://www.macrium.com/products/home>

The free version has been discontinued but continues to work on Windows 10 and 11.; you can subscribe to the "Home" edition for an annual fee of \$49.99 or buy a one-year license for \$70 (no support after the first year). They offer a 30-day free trial.

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.

### EaseUS ToDo Backup FREE

<https://www.easeus.com/backup-software/tb-free.html>

See feature comparison,

Makes "images". You can "boot" from an image.

You can upgrade to a full-featured "Home" edition for \$39.99 annually, one year free upgrade, or a "Lifetime Upgrades" edition for \$79.95.

I tried using EaseUS ToDo Backup to back up my C: drive to a USB 3 external 7200 RPM hard drive. It required 52 min to back up 300 GB of data. The resultant image size was 184.5

GB. A substantial number of MP4 files on the C: drive had already been compressed.

WINDOWS 11 BACKUP  
(WINDOWS 7) FREE  
(BUILT-IN TO WINDOWS 10  
AND 11)

This backup tool is reached via:  
Control Panel > All Control  
Panel Items > Backup and  
Restore (Windows 7)

You can use it to back up key library folders or "Create a system image." Once there, you can add additional drives or partitions to the basic C: drive partition set.

I set it up and let it run to make an image of my C: drive (300 GB of data). It ran for 92 minutes. The final image file size was 300 GB; there was NO compression.

Macrium Reflect Free Edition has been my favorite of the above offerings. It's fast, easy to use, and does everything I need for whole disk backup. And the price was right! However, I'm presently evaluating free and paid alternatives. Here's a link to a good article listing some free backup software tools:

<https://www.techradar.com/best/best-free-backup-software>. I'm disenchanted with the built-in Windows 7 backup. It's too slow, and the images aren't compressed. I'm also disenchanted that Acronis and Macrium will use an annual subscription model. EaseUS ToDo Backup Free edition looks promising as a replacement for the Macrium Reflect 8 Free edition.

### FILE BACKUP TOOLS

Full disk backups are great, but users don't typically run them daily because they take time, and the backup drive

has to be retrieved and connected to the computer. This creates a risk that data files that change may not be accurately reflected in the backup. Consider your saved email and contacts, financial and accounting files, and 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). It 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 specific 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, hard drive, or 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

## Backup Tools and Procedures (cont.)

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 you've had a Microsoft ID for a long time). If you're subscribed to Microsoft 365 (the Office suite), you get 1 TB per license user, up to 6 TB in total.

Syncs from a OneDrive folder on your PC or device to your OneDrive cloud storage.

### **Apple iCloud – FREE**

[www.apple.com/icloud](http://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 primary computer for communication, news, and entertainment, taking photos and video clips, and recording sound. What are the options for backing up mobile devices?

es?

### **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 WiFi router when this happens, 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 Windows File Manager or MacOS 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, including iPhone, iPad, Mac, and 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 extra space to cover backups from all your 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 provides an easy way to fully back up all the data on your Apple mobile device into a file on your desktop computer.

Having the iCloud backup enabled on your mobile device is a good idea. This takes care of frequently changing files. Use the iTunes full backup occasionally to ensure 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 with relative ease, restore all your saved data files, and be back in business.

*By Tom Burt, Vice President  
Sun City Summerlin Computer  
Club*

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## HEIC File Type – Should I care about this file type?

By Phil Sorrentino

HEIC is the name of the file format that Apple uses for images taken with an iPhone or iPad. Even if you don't have Apple equipment, you may have received a picture with the .heic file type from someone with an iPhone. I got one just a few weeks ago. (Though I have read that when a photo is sent or exported from an iOS device to a non-iOS device, the image is typically converted from an HEIC file to a JPEG file.)

HEIC stands for High Efficiency Image Container. Advanced, modern compression methods allow photos to be created in smaller file sizes while retaining a higher image quality than JPEG. Since Apple's release of iOS 11 in 2017, the iPhone has, by default, produced images in the HEIC format, so it's been around for quite a while. HEIC, also known as HEIF, is a more efficient format than JPEG because it creates smaller files, in some cases up to half the size, even though the quality of the images is about the same. (Similarly, High-Efficiency Video Coding (HEVC) is the default video file type for video files for some Apple products.) In switching from JPEG to HEIC, Apple has lowered the space needed to store the image files so they can keep up with the increasing quality and resolution of their smartphone cameras. This has led other manufacturers, including Microsoft and Canon, to embrace the HEIF format. The Moving Picture Experts Group (MPEG) is the developer of the original HEIF and HEVC technologies and JPEG.

An HEIC file contains one or more images saved in the High-Efficiency Image Format (HEIF) and metadata describing each image. HEIC files are most commonly saved with the .hemic extension but may also use the .heif extension. This newer standard offers 25% to 50% better data compression at the same quality level. HEIC allows you to store multiple images in one file. If your phone has burst mode functionality, you can capture multiple high-quality action shots of a moving subject with a single click. Then, with multiple images in a file, you can convert HEIC files into GIFs to make moving animations from your stored sequences of images. (The GIF file type is an animation created from a sequence of still images.)

A brief technical review shows two main types of digital image files: raster and vector. JPG, JPEG, and JPE are all file extensions that refer to the same file format: JPEG is probably the most common name. Each refers to the Joint Photographic Experts Group "Raster Image" file type. Raster Image file types are images produced when scanning or photographing an object. The image is compiled using a matrix of pixels, or tiny dots containing unique color and tonal information, organized into rows and columns, or a grid, that creates the image. Other common Image file types are bmp, png, tiff, and raw (raw being the largest of all the file types). Wikipedia provides a comparison between JPEG and HEIF.



Comparison of JPEG, JPEG 2000, JPEG XR and HEIF files at similar file sizes

Can you tell the difference?

## HEIC File Type – Should I care about this file type?(cont.)

And just for completeness, Vector images are made up of points, lines, curves, and shapes based on mathematical formulas. When you scale up a vector image file, there is no loss of quality, so it can be sized to however large or small you need it. When you scale up a raster image, it can become pixilated, blocky, and possibly unrecognizable.

Remember that iOS is Apple's mobile device OS (iPhone and iPad), and MacOS is the Apple computer OS. When Apple added HEIF support to iOS, they also added HEIF support to MacOS. Then, in 2018, Google followed suit by adding HEIF support to Android (smartphones and tablets), and Microsoft added HEIF support to Windows. To open HEIC files in Microsoft applications, however, users may have to manually install the Microsoft HEIF Image Extensions and HEVC Video Extensions packages from the Microsoft Store, though that was not my experience.

If you have an .heic image on a Windows 10 system that you want to view, locate the file with File Explorer and then double-click the image; if it opens, great. If it doesn't open, right-click the image and select "Open With > Photos." If the Photos app prompts you to download the HEIF Image Extension, click the "Download and Install it now" link to get it free from the Microsoft Store. But if your Windows 10 is up to date, the .heic file will probably open with Photos. Although the Extension software for Images (HEIC Image Viewer, Converter) is free, there is a one-time cost of \$0.99 for the Video Extension software (HECV Video Extensions). (Note that photos here refer to Microsoft Photos, not Google Photos.) If you have Windows 11, you might not notice that the .heic image is any different than any other picture on your system, most likely because .heic support is included in the Windows 11 Photos App. You will not notice a difference if you don't have the Show "File name extensions" option checked" because then the file type part of the file name (the part after the ".") is not shown, and you won't see the type of file you are viewing.

HEIC and JPEG have advantages and disadvantages depending on their intended use. The OS developer's and a computer user's point of view may differ. HEIC files take up less space than JPEG files and still produce the same –if not better- quality images. However, HEIC is currently limited to specific platforms and software due to its lack of compatibility and acceptance. In these instances, you may first have to use a converter to convert the HEIC files to JPEG. In the long run, you may not need to care much about the HEIC format, but it will not be a mystery if you find one on your system.

*By Phil Sorrentino, Secretary & Newsletter Contributor*

*Sun City Center Computer Club*

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## Zoom Sessions

Neal is hosting a weekly evening Zoom; (Each Friday) @ 7:30 PM Central Time

<https://us02web.zoom.us/j/3975898877?pwd=RjF5ZTM3R25qNXhHRjdWRVAzQ1M2Zz09>

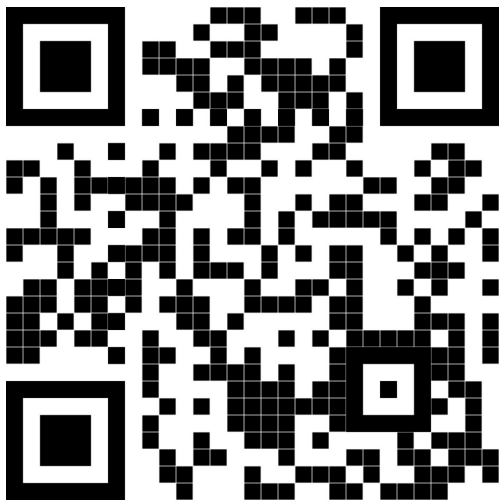
Meeting ID: 397 589 8877 Passcode: 4ukxAh

Phone users:

Dial by your location +1 312 626 6799 US (Chicago)

Meeting ID: 397 589 8877 Passcode: 936460

*You're welcome to check in and visit, or ask a question, maybe even get an answer.*



Scanning this QR code should take you to our web page.

There will be a Question & Answer. Bring any questions you have about your computer or problems you may be having.

It will be conducted by:

**Neal Shipley**

The next meeting of the Sauk Computer User Group will be

October 12, 2024

Question & Answer : 1 PM

Presentation: 2 PM

Business Meeting : 3 PM

Place: **Whiteside Senior Center**

**1207 West 9th Street**

**Sterling, Illinois 61081**

**MARGE SADOWSKI WILL BE DOING THE PRESENTATION ON - S.M.A.A.R.T. - SENIORS MADE AWARE AND RIGHTLY TREATED**