



OTTAWA

PC NEWS

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ARTICLE

Avoiding Disaster in Disaster Recovery – Part 1

by Chris Taylor and Alan German

We are both strong advocates of backing up our computers. And, just like us, everyone has lots of important data on their computers – photos, videos, music, financial records, personal letters and emails, business correspondence, and much more, that all should be carefully backed up. The good news is that there are many ways you can make copies of your important data files.

However, complete protection goes beyond just the information we create and collect. It also extends to the installation of the operating system and programs. Of course, it's possible to reinstall these in the event of a disaster such as a hard drive failure, a malware infection, or theft. But, this can be a very time-consuming process. As a result, we are big fans of image backups, which backup everything on the hard drive – your operating system, programs, and data files.

However, image backups bring with them a significant challenge – testing!

If you decide to simply backup important data files by copying them to another location, you can easily test the validity of the copies by simply opening the files. With image backups, things are trickier. A program that creates a disk image produces a single file that contains everything in the backup. This file

is generally in a proprietary format and you need to use the backup program to read the image. However, how do you verify that your files were backed up correctly and – more importantly – that you can recover them in the event of a disaster?

All imaging software includes the ability to create bootable recovery media, either on an optical disc or a flash drive. It is extremely important that you create at least one copy of the recovery media – before you need it! And, it's also important to check that the recovery media can read the backup image files.

In this article, we will look at a number of ways to check that files, folders, partitions, and even the contents of an entire disk can be successfully recovered. So, for our present purposes, we will assume that you have installed your disk imaging software, have run at least one backup, and have created recovery media.

Restore and verify a single folder

In preparation for testing, select a folder under your Documents folder that contains a number of files. Rename the folder (e.g. rename *sample* to *sample2*). The testing will consist of restoring the original folder from the backup disk image and comparing the contents with the

renamed original folder. If the recovery fails for any reason, you can simply rename the folder back to its original name.

The first part of testing is to ensure you can boot your computer from the recovery media. How you do this depends on your specific computer and will vary from one brand to another. In some instances, it requires you to press a key, such as Del, or one of the F (function) keys, when you first start your computer. Typically, this brings up a boot menu and allows you to choose the boot device. In some case, it might require you to delve into the UEFI/BIOS to change the boot order so the computer will first try to boot from either an optical disc or USB device before it goes to the hard drive.

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Next Meeting: **WEDNESDAY, September 13th, 2017**

September Raffle

The September raffle prize is an **Xtreme Audio Pod bluetooth mini round speaker**.

It features:

- Built in mic for hands-free call functionality
- Mini-Compact design with great audio quality
- Auxiliary input for non-Bluetooth enabled devices
- Micro SD Slot for playing MP3 files
- Full audio control through easy to press buttons
- Rechargeable LI-Ion battery

Tickets are \$1 for one, \$2 for three, or \$5 for ten.



Coming Up...

➔ **Wednesday, September 13th, 2017**

Speaker: Chris Taylor, OPCUG President and Microsoft Windows Insider MVP
Topic: Windows 10 – two year out

Last September, Chris presented on Windows 10's first year.

Windows turned two this summer, so Chris is back to talk about the major changes that have occurred in its second year. As well, Chris will look at some of the future changes we can expect to see.

June Prize Winners

Bob Thomas won our raffle prize of a Hype i-FX Virtual Reality Headset at the June 2017 meeting of the OPCUG.

On the same evening **Frank Rubin** and **Jean Brasseur** each took home one of our collectors item "Goup" Mugs as door prizes.

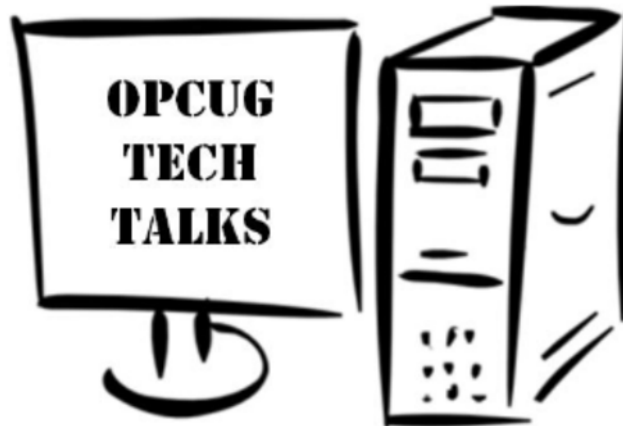
Thanks to member **Bill Palamar** who donated an additional door prize of a Pen/laser pointer combo. **Beth Handley** won that one!

For meeting updates and additional details, visit <http://opcug.ca> and click on the **MEETINGS** button.

2017 CALENDAR

Meetings	Date	Time and Venue
OPCUG General Meeting	Wednesday, September 13 th	7:30 p.m. Bush Theatre of the Canada Aviation and Space Museum , 11 Aviation Parkway. http://casmuseum.techno-science.ca/en/index.php
Q&A Session	Wednesday, September 13 th	Immediately following the OPCUG General Meeting.
Beer BOF (Wing SIG East)	Wednesday, September 13 th	10:00 p.m. (after the Q&A) at Liam Maguire's , St. Laurent Blvd. at Innes Rd.

CLUB LIFE



The Ottawa PC Users Group (OPCUG) will hold a series of four “tech talks” during September through December, 2017. Each session will include a brief presentation of some aspect of personal computing, followed by a workshop where a panel of experienced OPCUG members will attempt to provide answers to questions raised by workshop participants. The intention is that the sessions will be particularly useful to computer users ranging from absolute beginners to those with intermediate skills. This will be your opportunity to find out how to do those things on your computer that have always mystified you!

The Tech Talk sessions will be held from 7:30 to 9:00 pm on the second Tuesday of each month, commencing on September 12, 2017, in the Amphitheatre of the [Heron Road Community Centre](#). The Centre is located at 1480 Heron Road, Ottawa, ON, K1V 6A5 (see map at: <https://goo.gl/maps/UPDAepRqUpG2>).

Register for one or more of these sessions and then send your computer-related questions by electronic mail to techtalks@opcug.ca. We will compile a list of the submissions and discuss the most frequently asked questions in sequence at the workshops. If we don't have a sufficient number of pre-submitted questions for any given workshop, anyone attending will be free to ask a question. So, bring all your questions, but - it's a workshop - so also bring along your experiences; your input on any of the issues being discussed will be most welcome.

The registration fee will be \$5.00 per session, with a special price of \$10.00 for individuals wishing to reserve a place at all four sessions. The capacity of the Amphitheatre is 75 persons. While we will allow cash payments to be made at the door, these will subject to non-reserved places being available for any given session.

Don't be disappointed! Reserve your place for one or more of the sessions by visiting our tech-talk registration web page at:

<https://tinyurl.com/opcugtechtalks>

If you have any questions about the tech-talk series, please contact us at techtalks@opcug.ca

CLUB LIFE

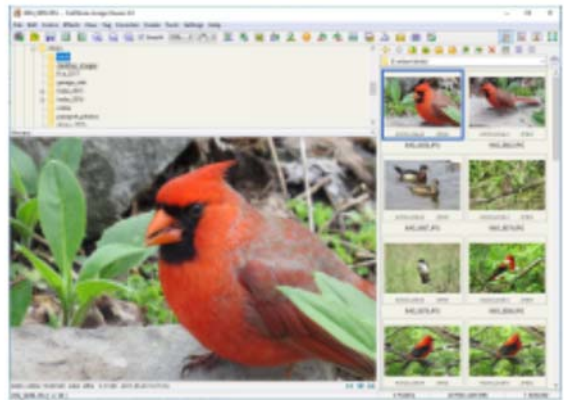
Digital Photography Workshop

This fall, the club will be offering a Digital Photography Workshop with a variety of technical sessions designed to help you take better pictures with your digital camera, and to allow you to efficiently manage all the photographs on your computer. The workshop will be held on Saturday, September 30, 2017 (10:15 am to 4:45 pm) at the Elmvale Acres branch of the Ottawa Public Library.

The first step to taking better photographs is to make use of the specific features that your digital camera provides. Most of us simply set the dial on "Auto" and start shooting. Let us show you a better way! Topics covered will include an understanding of aperture, shutter speed and ISO which can be applied to any camera that has a dial for selecting exposure settings (e.g. "A" or "Av", and "S" or "Tv").

Similarly, how do we get those pictures out of our camera, and where are they actually stored on the computer? We will show you how to manage all your photographs, with simple ways to select and view individual images. Most importantly, we will discuss how to safely back up all of your digital photographs to prevent any possible data loss.

Do you want to share your photographic masterpieces with family and friends? We can show you how to resize a batch of photographs for sending by E-mail, or how to share your pictures via the "Cloud"! Want to print photographs in many different formats - and with special effects - or, perhaps you would like to create a slideshow of pictures from a recent trip. We can demonstrate how to do all of these things - and more!



Finally, give your photos a professional look. Find out how to identify and easily fix basic flaws such as crooked horizons, poor lighting, and "red eye". Learn the importance of cropping and placement of the centre of interest. We can show you to do all of these things using some simple editing procedures, and we will provide some hints on more advanced techniques to take your editing to the next level.

The cost to attend the workshop is just \$40.00. This will include coffee breaks and the chance to win a copy of ON1 Photo RAW 2017. This software is an all-in-one photo organizer, editor, raw processor, and effects application (see: <https://www.on1.com/products/photo-raw/>). The software is valued at US\$120.00 and can be installed on up to five Windows or Mac computers. OPCUG extends its grateful thanks to ON1 for their support of our club by providing this valuable door prize for the workshop.

So, tell all your friends and relatives – who are not yet OPCUG members – about our workshop. For anyone who needs to know more about digital photography and computers, this is a not-to-be-missed event.



Space at the workshop venue is limited and participation will be restricted to the first 35 registrants. Full details about the workshop and the registration process can be found on our web site at: <http://www.opcug.ca/public/workshops/2017>

Avoiding Disaster...

(Continued from page 1)

Put the recovery CD/DVD in the optical drive, or plug in the recovery flash drive, and then shut down the computer. Now, start it up again. Once you have successfully booted the computer from your recovery media, it should load directly to the backup software.

Next, ensure you can access your backup files while booted from the recovery media. Plug in the drive containing your backup images and find the option in your backup software to recover files and folders (as opposed to drives, partitions, or the complete system). Select the image backup, then the folder you renamed above, and choose the option to restore it. Once the restore has completed, remove the recovery media and restart your computer normally.

Once back in your normal operating system, do a comparison of the recovered folder with the renamed one. For example, if I renamed the *sample* folder under my *Documents* folder to *sample2* and then restored the *sample* folder, I would open a command prompt (cmd.exe) window and type the following:

```
cd c:\users\ctaylor\documents
comp sample2 sample | more
```

If all the file comparisons report *Files compare OK*, the recovery worked. At this point, you know you can boot from the recovery media, access your backup images, and files can be read properly and restored.

But you have not fully tested your backup yet. In the event of a disaster, you are likely to want to restore your entire computer. A really complete test would entail restoring the entire computer and ensuring it can boot properly into Windows with all programs and data intact.

However, while the test we just performed – to recover and verify a single folder – is recoverable in the event of a failure, if a restore of your entire system fails, you may end up losing everything!

There are a couple of options at this point. First, you can simply decide that the first test tells you enough. And this may well be the case, especially if you consider that you can always reinstall the operating system and programs manually using the original installation media (e.g. CD's). And, you know from the test that you can restore all your data files.

Secondly, you could try restoring a disk partition or even the entire contents of the hard drive. But, these options are not for the faint of heart. They may mean changing your disk's partition structure, which is not completely without risk. Or, you may have to completely blow away a perfectly functional hard disk in order to see if you can recover a previous disk image. Now, that takes nerve!

Restore and verify a data partition

However, if you have a separate data partition on your hard disk, there is one process you can try that is reasonably safe. You can recover and verify all the files and folders in the partition.

Suppose, for example, that you maintain all of your personal data files (e.g. digital photographs, word processing documents, spreadsheets, etc.) on a dedicated disk partition. Your hard disk will then have one partition that contains the Windows operating system and all of the applications, i.e. *Drive C:*. There will also be a second partition, likely *Drive D:*, on which all of the data files are stored. These two partitions will be in addition to any recovery partitions that have been created (and usually hidden) by the computer manufacturer.

If you maintain a comprehensive backup system, the data partition will be backed up as part of several disk image files that are created regularly (e.g. weekly or monthly) as backups of the full hard disk. The files and folders on the data drive will also be backed up daily in an automatic incremental backup process. In addition, they will be synchronized manually to an external USB drive after each computing session. Finally, if you just maintain a set of *working files* (with other files stored on separate archival media), the current files will be synchronized automatically to an SD card, in real time, through the use of file shadowing software. Consequently, with so many available copies of your data files, there is really no issue with deleting the original data partition and restoring it from the most recent disk image.

So, be brave. Make a full backup of the hard disk with your disk imaging software. You can also synchronize the data partition on the hard disk to the backup copy on the external USB drive. Take a deep breath – and delete the data partition from the hard disk! Now, recover just the data partition from the disk image back to the hard drive. Finally, use the file synchronization program, setting it to match file contents (rather than just match date/time stamps), to ensure that the recovered data files and folders on the hard drive are exactly the same as those of the backup USB drive.

Everything worked just fine, didn't it? So, now we are ready to do a complete check on our backup recovery system. But, this exercise is going to have to wait for Part 2 of the article!



This guide features an annotated list of free computer programs. The software mentioned has not been reviewed (except where noted) nor have any tests necessarily been conducted. Consequently, no guarantees are provided that the individual programs will perform as described. Rather the list of available software is provided for the information of our members who may find one or more of the programs useful.

Bullzip PDF Printer

This utility allows printing to a PDF file from virtually any Microsoft Windows application. Set the print quality for screen display or hard copy printing, and optionally use password protection or document encryption.

Current Release: Version 10.13.0.2368

Web Site: <http://www.bullzip.com/products/pdf/info.php>



Sigcheck

Use this utility to display the digital signature of any file. Show the version number, time-stamp information, and details such as certificate chains. There's also an option to check a file's status against over 40 anti-virus engines with VirusTotal.

Current Release: Version 2.4

Web Site: <http://tinyurl.com/jz3ckvu>

Virtual CloneDrive

Don't have an optical drive? No problem! Mount ISO, BIN, or CCD files onto a virtual drive from your hard-disk or a network drive and then use them in the same manner as if they were in a physical CD, DVD, or Blu-ray drive.

Web Site: <https://www.redfox.bz/en/virtual-clonedrive.html>

Zamzar

Have you ever wanted to convert video files without the need to download software? Upload your video (up to 100MB) and choose your desired format. Zamzar, which supports over 1200 different conversion formats, will do the rest!

Web Site: <http://www.zamzar.com/>

File Name Tag Explorer

Organize your files with tags, then search for files which match all or any selected tags. You don't need to spend any time editing tag information; the program can automatically extract tags from file names.

Web Site: <http://www.easy-to-use-software.com/fnte.html>

TextNow

When you sign up, you are assigned a dedicated phone number with an area code of your choosing. Use this number to send and receive unlimited texts within Canada and the USA directly from your computer! The app works with Windows 10, 8.1 and 8, and is also available for Android, IOS, and BlackBerry

Web Site: <http://tinyurl.com/j5yqt8t>



Folding@home

Help Stanford University scientists studying Alzheimer's, Huntington's, Parkinson's, and many cancers by simply running a piece of software on your computer. Add your unused computing time to a worldwide network outputting 19,000 teraflops of computing power. This is the world's largest distributed supercomputer!

Web Site: <https://folding.stanford.edu/>

McAfee WebAdvisor

McAfee's free utility will protect you from the most common online threats. It checks to see if your firewall and anti-virus are activated, if your password is too weak or easy to guess, and will scan your downloads for known risks.

Web Site: <http://mcafee.com/mcafeewebadvisor>

Rohos Mini Drive

Create a hidden and encrypted partition on a USB flash drive. Keep multiple files secret using a password and strong encryption. The Free Edition has a limit of 8 GB for the size of the virtual disk.

Web Site: <http://www.rohos.com/products/rohos-mini-drive/>



Rohos Mini Drive

HTTPS Everywhere

From the Electronic Frontier Foundation, HTTPS Everywhere is a Firefox, Chrome, and Opera extension that encrypts your communications with many major websites, making your browsing more secure.

Web Site: <https://www.eff.org/https-everywhere>

OPCUG Free Software Guide—Part 74 Compiled by Alan German

This guide features an annotated list of free computer programs. The software mentioned has not been reviewed (except where noted) nor have any tests necessarily been conducted. Consequently, no guarantees are provided that the individual programs will perform as described. Rather the list of available software is provided for the information of our members who may find one or more of the programs useful.

MemTest86

The original, free, stand alone memory testing software for x86 computers. MemTest86 boots from a USB flash drive or CD and tests the RAM in your computer for faults using a series of comprehensive algorithms and test patterns.

Current Release: Version 6.3.0

Web Site: <http://www.memtest86.com/>



WebBrowserPassView

This password recovery tool reveals the passwords stored by your web browser, including Internet Explorer, Firefox, and Chrome. After retrieving your lost passwords, you can save them into a text/html/csv/xml file.

Current Release: Version 1.70

Web Site: <http://tinyurl.com/6xj39ql>

Calibrize

This free software will help calibrate the colors of your monitor in three simple steps. Just download the software and follow the procedure to generate a reliable color profile and adjust the colors of your monitor automatically.

Current Release: Version 2.0

Web Site: <http://www.calibrize.com/>

RichCopy

This free utility from Ken Tamaru of Microsoft is the answer to all your file copying needs. It's a multi-threaded copying tool, allowing many files to be copied in parallel, and slashing the time required to complete the process.

Previously Reviewed: Rich Copy; Alan German; <http://opcug.ca/public/Reviews/RichCopy.htm>

Web Site: <https://technet.microsoft.com/en-us/library/2009.04.utilityspotlight.aspx>

SPAMfighter Standard

Whenever new mail arrives, it will be tested. Items identified as spam will be automatically moved to your spam folder.

Compatible with certain versions of Outlook, Windows Mail, Windows Live Mail, and Thunderbird.

Current Release: Version 7.6.127

Web Site: http://www.spamfighter.com/SPAMfighter/Product_Info.asp



MobaLiveCD

Download the ISO file of a Live-CD, such as a Linux distro that you want to try, and run it directly, under Windows, in MobaLiveCD. There is no to burn the ISO to CD-Rom or a USB drive, and no need to reboot your computer.

Current Release: Version 2.1

Web Site: <http://www.mobatek.net/labs.html>

USBDriveFresher

Unwanted files and folders, such as thumbs.db or .Trash, may appear on your USB drive every time you use it. Now you can keep it clean just as automatically – using rules you set up and approve. USBDriveFresher is free for non-commercial use.

Current Release: Version 1.2

Web Site: <http://affinity-tools.com/product/usbfresher/>

Wushowhide

In Windows 10, updates and drivers are installed automatically. In rare cases, a specific driver or update might temporarily cause issues with your device. Then you will need a way to prevent the problematic driver or update from reinstalling automatically the next time updates are installed. You need Wushowhide!

Web Site: <https://support.microsoft.com/en-ca/kb/3073930>

Neo's SafeKeys

This free program employs many anti-keylogging techniques to keep your information and passwords secure from identity theft.

Current Release: Version 3.1

Web Site: <http://www.aplin.com.au/>

SETI@home

This scientific experiment uses Internet-connected computers in the Search for Extraterrestrial Intelligence (SETI). You can participate by running a free program that downloads and analyzes radio telescope data.

Web Site: <http://setiathome.ssl.berkeley.edu/>



OTTAWA PC NEWS

Ottawa PC News is the newsletter of the Ottawa PC Users' Group (OPCUG), and is published monthly except in July and August. The opinions expressed in this newsletter may not necessarily represent the views of the club or its members.

Member participation is encouraged. If you would like to contribute an article to Ottawa PC News, please submit it to the newsletter editor (contact info below). Deadline for submissions is three Sundays before the next General Meeting.

Group Meetings

OPCUG meets on the second Wednesday in the month, except July and August, in the **Bush Theatre** of the **Canada Aviation and Space Museum**, 11 Aviation Parkway, Ottawa.
<http://casmuseum.techno-science.ca/en/index.php>

Meetings are 7:30–9:00 p.m. followed by a Q&A Session until 10 p.m.

Parking is available at the museum for a flat fee of \$3 after 5pm.

Details at <http://opcug.ca/public/regmtg.htm>

OPCUG Membership Fees: \$25 per year
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Within a couple of minutes you will receive a confirmation message from the listserver.

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