



OTTAWA

PC NEWS

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November 2013

ARTICLE

“Cloning” a hard drive to a smaller SSD *by Alan German*

In a recent article (“Drive Speed Bragging Rights” - *October issue 1310.pdf*), I indicated how to swap a conventional hard disk for a solid state drive (SSD). However, the physical hardware is only part of the story. A shiny new SSD is useless without software – an operating system, applications, and/or some data. While installing an OS and applications from scratch, and copying the requisite data files from a backup source, are simple tasks – time consuming, but quite straightforward – moving the contents of an established hard disk to an SSD is not necessarily achieved without effort. This proves to be especially true if you wish to perform the necessary operations with free software.

One of the tasks described in the earlier article was switching out a 160 GB hard drive on an old laptop computer for a 120 GB solid state drive. My hard disk contained two established operating systems (Windows and Linux), both fully patched over several years; various

applications, similarly updated and customized; and a data partition with files serving both operating systems. Clearly, my preference was to retain all of these, and merely move everything to the SSD in order to take advantage of the higher speed offered by the solid state device.

The process should have been easy – just make a disk image of the hard drive, and restore it to the SSD. However, free disk imaging programs (especially Windows-based products) typically don't allow this. The imaging software knows the physical size of the original disk and simply refuses to restore the image, or even individual partitions from the image, to a smaller drive. Instead, the program offers to let you purchase a “pro” version that provides such capability as an additional feature. Now, there really isn't a good reason for this since, in principle, there is no problem in copying a number of disk partitions from a hard drive, with lots of unused space, to a smaller drive onto

which the said partitions will fit. So, it's really just a case of finding the (free) software that will do the job.

In the past, I have used Partimage to backup individual disk partitions; however, this is an old program and doesn't support the ext4 file system. Since my installation of Ubuntu was using ext4, Partimage was a non-starter for the purpose of transferring the Linux partition. However, Clonezilla is a similar disk imaging program, which does support ext4, and so I opted to give this software a try.

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REMINDER

Parking is available at the museum for a flat fee of \$3 after 5pm. Limited street parking is available for free. Details at <http://opcug.ca/public/regmtg.htm>

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Next Meeting: **WEDNESDAY, November 13th, 2013**

November Raffle

Courtesy of Chris Taylor, we have a **Microsoft Arc wireless keyboard**.

In Microsoft's words, "At just over a foot long and less than an inch thick, the Microsoft Arc Keyboard is the perfect companion while you're playing your Xbox 360, chatting online at the kitchen table, or working at your office desk."

Details available at <http://www.microsoft.com/hardware/en-ca/p/arc-keyboard>

Tickets are, as always, a good deal at \$1 for one, a great deal at \$2 for three or the unbelievable bargain of \$5 for ten!

October Prize Winners

Bob Herres was the lucky winner of our raffle at the October General Meeting of the OPCUG.

He is now the proud owner of a copy of MS Office 365 Home Premium courtesy of OPCUG president Chris Taylor.

Thanks Chris and enjoy it Bob!

Coming Up...

►Wednesday, November 13th :

For our November 13 meeting we will talk about hardware, presented by our OPCUG members and previous presenters, including:

- Alan German: Installation of Solid State hard drive.
- Doug Drouillard: 1) Over the air HDTV.
2) Laptops - what's inside, and why one needs to be careful in buying one.
- Peter Roberts: Travelling with a Tablet: How to stay "connected" whilst on an overseas vacation without the weight of a laptop and worries about keeping it secure. Do you really need to have all of your personal data with you whilst on vacation? Tablet specific accessories to make things more user friendly.
- Jocelyn Doire: Connectors on the Motherboard

You are all invited to join the list of presenters. If there are some computer hardware subjects you would like to cover, please contact Jocelyn Doire (jocelyn.doire@opcug.ca), it's not difficult and all our members can benefit from it.

Wednesday, December 11th,

Silent Auction for the Ottawa Food Bank

For our December meeting we are going to have a silent auction, where all the items for sale will be displayed with a bidding sheet, on which you can write your name and your bid, as many times as you want, and the highest bidders will win the items. All the proceeds of the silent auction will be donated to the Ottawa Food Bank. So, if you have good stuff that you would like to donate, please send us an email with a description of what you want to donate to

SilentAuction@opcug.ca.

Also, we will have a box to collect your non-perishable food donations for the food bank. For those who prefer to give money, we'll have a box for that, too. Donations over \$10 are tax deductible. With its food industry partnerships and bulk purchasing power, the Ottawa Food Bank turns every \$1 donated into \$5 worth of food.

So, in December if you feel like helping others, you will have plenty of choices.

Date: December 11, 2013

Email: SilentAuction@opcug.ca.

Webpage: <http://opcug.ca/public/history/Auction/2013/SilentAuction.html>

Info: <http://ottawafoodbank.ca/wp-content/uploads/2011/11/Food-Bank-Fact-Sheet.pdf>

2013 CALENDAR

Meetings	Date	Time and Venue
OPCUG General Meeting	Wednesday, November 13 th	7:30 p.m. Auditorium of the Canada Science and Technology Museum , 1867 St. Laurent Blvd. http://www.sciencetech.technomuses.ca/english/index.cfm
Beginners' SIG	Wednesday, November 13 th	Immediately following the OPCUG General Meeting.
Linux SIG	Wednesday, November 13 th	Immediately following the OPCUG General Meeting.
Beer BOF (Wing SIG East)	Wednesday, November 13 th	10:00 p.m. (after all other SIGs) at Liam Maguire's, St. Laurent Blvd. at Innes Rd.

Please note that unless otherwise noted, SIGs meet at 9:00 p.m. (immediately following the OPCUG General Meeting).

CLUB LIFE

Nominations for Board in 2014

Once a year, the OPCUG holds elections for the 9-member Board of Directors. We are once again coming up to this annual event.

We encourage all members to consider running for a board position or getting involved in some other manner in the operations of the OPCUG. This year, we know that not all current Board members will be running again.

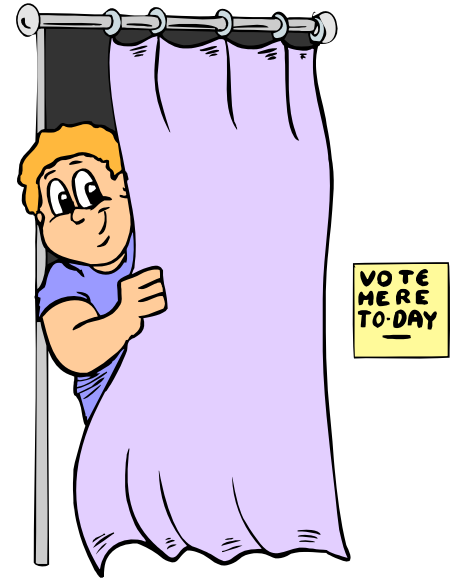
If you want more information about what is involved, please talk to any current or past Board member. Names are listed in the Newsletter and on the web site.

Nominations can be submitted to Bob Herres, Election Chair, in person at the November and December club meetings or by sending an email to nominations@opcug.ca.

Nominations must be received by midnight, December 31, 2013.

Please get involved. Please help the OPCUG continue in its role of Users Helping Users!

*Bob Herres
Election Chair 2014*



Free Membership

Since 2008, members of OPCUG have been making presentations on various computer-related topics at branches of the Ottawa Public Library (see <http://www.opcug.ca/public/OPL.htm> for up-coming presentations).

Part of these presentations has always been a brief description of OPCUG and its activities, including details of future meetings, and the availability of the newsletter and The Pub. In recent months, as an additional bonus, we have made a free, three-month, trial membership in the club available to those members of the public who have attended our library sessions.

The club's Board of Directors would now like to extend such trial memberships to family members and friends of existing club members. So, if you know of anyone with an interest in personal computers, we would like you to extend an invitation to these individuals to accept a three-month trial membership in OPCUG – absolutely free of charge!

*Please have your friend or relative
contact us at: free-trial@opcug.ca*

The limitations on this offer are that individuals receiving free membership must not be a current member of OPCUG, nor have previously been an OPCUG member. (Such people know very well the benefits of membership in our club and have no need of a free trial.) In addition, individuals who take advantage of our free trial membership will be able to subscribe to and receive copies of the electronic newsletter but, in order to control our costs, such members will not be eligible to receive hard copies of the newsletter by postal mail.

At the end of the free-trial period, each individual will be sent a renewal notice indicating that full membership is available for the next twelve-months for the usual, princely sum of \$25.00. If people wish to join OPCUG on this basis, that's just fine - we will be happy to see them as new, full members, and provide them with all of the services that go with OPCUG membership. Should they choose not to join – that's fine too. But, we hope that they found the trial membership worth the money!

PRODUCT REVIEW

Greenshot by Chris Taylor



Greenshot

When writing articles for the newsletter, I often include screenshots which illustrate a particular operation or configuration on the computer.

Windows includes a function for taking screen captures, but it is pretty rudimentary. You can press the *Print Screen* button on your keyboard to capture the full desktop, or *Alt-Print Screen* to capture just the active window. You can then paste the screenshot into any application that can handle a graphic.

Over ten years ago I went looking for a free program that would be a bit more capable. I came across Print-key and it did a nice job. Unfortunately, they switched to a commercial model and new versions are no longer free.

A couple of years ago, my search for a replacement found Greenshot; a free and open source program. This review is based on release candidate 2 for version 1.1.

Greenshot is available in many languages and has been downloaded more than 2 million times. Currently, there are over 100,000 downloads per month, so it seems many others find the program useful as well. The program is tiny; the installer is 1.2MB and the installation takes under 3MB. The .NET Framework v2 or greater is required. The installer will check and install it if required.

Greenshot loads as an icon in the system tray when you start Windows, so it is always available. You interact with it by clicking on the tray icon or through user-definable hot-keys.

To capture any rectangular area on the screen, select *Capture region* from the menu or press the hotkey (default: Print Screen) and cross hairs will appear on screen. Move the cross hairs to a corner of the region you want to capture, click and hold the mouse button, and drag out a box defining the area you want to cap-

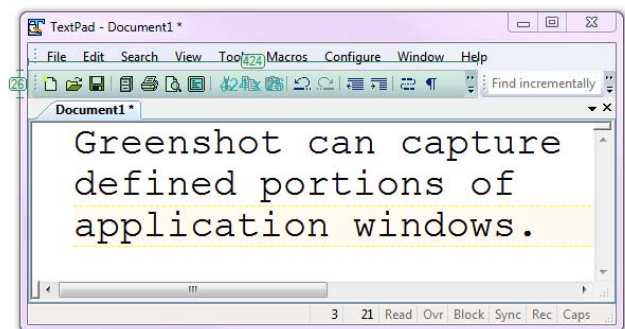
ture. As you drag, the capture area appears as a teal-shaded box, making it easy to see what will be captured. As well, two other visual cues help. First, there are numbers that appear above and to the left of the teal box showing the dimensions of the box in pixels. Second, there is a circle offset from the box which shows a highly magnified image of the area currently under the cross hairs. These two cues allow you to be very precise in capturing exactly what you want.



To the OPCUG Member's site.

Capture area

Another common capture method is window mode. It allows you to easily take a snap of a single application window or a sub-window such as a toolbar or an edit field. Once activated, as you move the mouse around, the teal box will show what will be captured when you click the mouse button.



Window mode capturing a toolbar

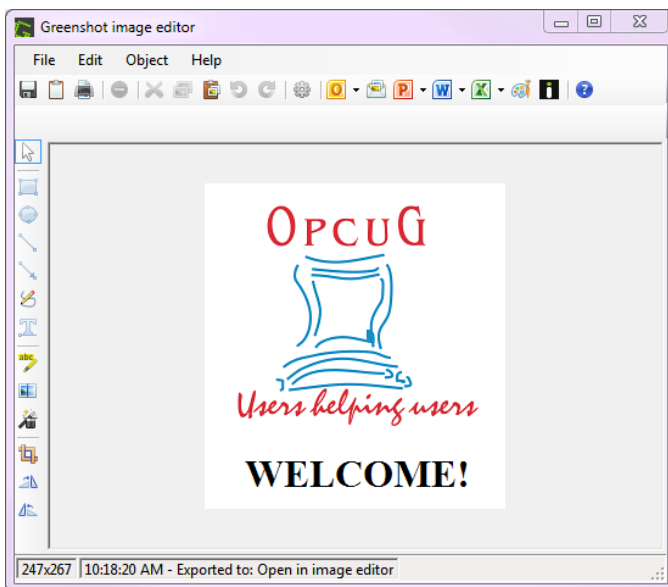
(Continued on page 5)

Greenshot (Continued from page 4)

If you ever wanted to do a screen capture of a web page but the web page is too large to be seen in its entirety, you will appreciate the option *Capture Internet Explorer*. It will grab an entire web page as a single image, even portions that you would normally have to scroll to see.

Once a screen capture is completed, you can: send it to the printer; save it to a file (supported graphic formats are BMP, GIF, JPG, PNG, and TIFF); copy it to the Windows clipboard; send it to a program such as Microsoft Office programs, Mozilla Thunderbird, or Microsoft Paint; or open it in the Greenshot Image Editor. If you send to the printer, there are options to expand or shrink the image to fit the page, rotate the image and add elements such as the date and time.

The Greenshot Image Editor is very slick. If you open your screenshot there, you can manipulate the image in many ways such as cropping, rotating, or adding highlights, rectangles, ovals, lines, arrows, and text. You have control over fill colour, and line thickness/colour. You can even choose the colour by pointing anywhere on screen, allowing you to easily match colours. There is also a button to create a drop shadow on any element you add.



Greenshot Image Editor

If parts of your image contain sensitive information, such as a password or bank account number, there is an *obfuscate* tool which can pixelate or blur parts of the image. You can control the degree of obfuscation.

Greenshot added a new feature in release candidate 2 that I find very useful. If you use the Image Editor to add elements to the screen capture, you can now save the image as a *.greenshot file. Then, you can reload it later into the Greenshot Image Editor and all your customizations remain fully editable.

Greenshot has quite a few program options; You can delay a screen capture to allow you time to do arrange things such as opening a menu to capture it as part of the image; capture the mouse pointer as part of the image; play a camera sound when the screen capture is taken; hide the magnifier; and more.

Besides the full installer package, there is a *portable* version available, so if you want to do something like run it from a flash drive, this is doable.

Greenshot is a small, powerful, flexible screen capture program. If you have an occasional need to grab a screen image to insert into an email or document, Greenshot can expand greatly on Windows' native capabilities. For those who document computer programs or operations, Greenshot is a program you really must try.

Bottom Line

Program: Greenshot v1.1

System requirements: Windows XP/Vista/7/8, .NET Framework 2.0 or better

Price: Free and open source (GPLv2)

Web site: <http://getgreenshot.org>

“Cloning”... *(Continued from page 1)*

Documentation available on the web indicated that the task at hand was indeed possible using a combination of Clonezilla and Gparted (the Gnome Partition Editor). I used bootable versions of both these programs, with the full process involving the following steps.

(1) The first trick is to use Gparted to resize the partitions on the hard drive, shrinking each partition so as to reduce the amount of unused space it contains. Obviously, the partitions must be sized such that the total space required for all the partitions is less than the capacity of the SSD.

(2) One then runs Clonezilla and makes a copy of the individual hard disk partitions - using the saveparts option - storing these temporarily on an external USB drive. Note that it is necessary to save the partitions (saveparts) rather than making an image of the entire disk (savedisk).

(3) With the SSD installed in the target machine, the second trick is to use the partition manager once more to create the desired partition structure on the SSD. I took the opportunity to mark /dev/sda1 (the boot partition on the original hard disk) as the boot partition (Gparted – Partition – Manage Flags) on the SSD, hoping that this would allow the machine to boot at the end of the exercise (more on this later).

(4) Clonezilla is then used to restore the saved partitions (using restoreparts) onto the SSD.

(5) If necessary, Gparted can be run once more to resize the SSD partitions as desired in order to completely fill the available disk space.

While the process, as noted above, is relatively simple, Clonezilla isn't for the faint of heart. I have never seen so many error messages streaming by when Linux software is loading. However, despite the multiple apparent failures – “...critical target error”, “Failed to load file”, “File doesn't exist”, “Cannot open file for reading” – the program does actually load and run!

The DOS-like menu system, with its many options, is similarly daunting, but the detailed instructions, complete with screenshots, from <http://geekyprojects.com/storage/how-to-clone-hard-drive-to-smaller-drive/> provide an excellent how-to guide.

The final thing to note is that Clonezilla does not copy any linux -swap partitions so that any required swap partition must be specifically created (using Gparted) on the smaller drive.

Once the transfer process was complete, the machine did indeed boot into the grub menu, and the Linux-boot option proved to be functional. Alas, the same could not be said for the dual-boot option into Windows. This “other” operating system seemed to take umbrage to its partitions being moved around and simply refused to boot.

The solution to the latter problem proved to be a two-stage process. Firstly, a Windows Recovery Disk (bootable CD) was used to “Fix startup options”. This did indeed “fix” the boot options. The machine would now boot into Windows – but only into Windows! – the grub menu had disappeared.

So, onto the second stage of the recovery operation where a bootable Rescatux disk was then used to restore the grub menu (Rescatux – Grub (+) – Restore GRUB). Now, finally, all the boot options were functional from the SSD.

The good news, after this somewhat convoluted series of operations, is that my five-year-old laptop now boots into Ubuntu in 28 seconds (previously 44 s) and into the Windows desktop in 43 seconds (previously 1 m 25 s). Loading programs and data files is similarly more speedy. So, for my purposes, the process turned out to be a very worthwhile exercise – and easy – when you know how!



OPCUG Free Software Guide – Part 44 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.

Bootmed

Your Windows machine has crashed and the OS is irrecoverable? No worries. Linux rides to the rescue. Bootmed is a (bootable) live-CD that provides a whole host of tools – and a tutorial – to help recover your system

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



SyncBackFree

Backup files in their native format. Create a customized profile for your backup job and run it on a user-defined schedule. SyncBack will synchronize directories, can use external drives and FTP servers, and runs on Windows 8, Windows 7, Vista, and XP.

Current Release: Version 6

Web Site: <http://www.2brightsparks.com/SyncBack>

Digital Janitor

Are your file folders a mess? You need a digital janitor. Set a few rules (e.g. all .doc files are to be stored in C:\Documents) and this utility will sort and move your files into the appropriate locations at the press of a button. The program can even sort MP3 files by artist and album!

Current Release: Version 5.3

Web Site: <http://davidvitelaru.com/software/digital-janitor/>

Media Player Classic - Home Cinema

MPC-HC is an extremely lightweight, open-source, media player for Windows. It supports all common video and audio file formats available for playback. With its wide array of options and custom toolbars, MPC-HC will fit almost any needs.

Current Release: Version 1.6.7

Web Site: <http://mpc-hc.org/>

Fotor

With Fotor's state-of-the-art photo processing engine, it's easy to process high quality photos quickly. Adjust exposure, brightness, contrast, white balance, and saturation, sharpen/blur, add a vignette, or crop, straighten, rotate and much more.

Current Release: Version 1.0.0

Web Site: <http://www.fotor.com/desktop/>



SearchMyFiles

Easily search for files by wildcard, date/time, file attributes, file content (text or binary), file size – or combinations of these. This utility allows powerful searches that cannot be done with Windows search.

Current Release: Version 2.35

Web Site: http://www.nirsoft.net/utills/search_my_files.html

Web of Trust

WOT is a free add-on for the Firefox, Chrome, Internet Explorer, Opera, and Safari browsers. A “traffic light” next to web site links shows you which sites people trust - green for good, red for bad, and yellow as a warning.

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



Arena

This powerful freeware chess tool will let you play games but will also provide detailed analysis of the thinking process of chess engines. Advanced chess players will find a challenge, while novices can readily learn the basics of the game from the instructional material provided.

Current Release: Version 3.0

Web Site: <http://playwitharena.com/>

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, at the Canada Science and Technology Museum, 1867 St. Laurent Blvd, Ottawa. Meetings are 7:30–9:00 p.m. and Special Interest Groups (SIGs) go until 10 p.m.

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

“Announcements” is a low volume list that the Board of Directors uses to get in touch with the membership. Subscribers can expect at least one message per month – the meeting reminder that goes out a few days in advance of the general meeting. Other than that, the only time it is used is when the Board feels there is some important news that should be brought to the attention of all members.