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ARTICLE

Is Adobe Acrobat Worth It? *by Brigitte Lord*

Since 2003, the Board of Directors of the OPCUG has provided me with Adobe Acrobat Standard to convert *Ottawa PC News* into PDF format. This copy was generously donated to the OPCUG for this function by Adobe. I have used version 6 for a few years now, but have started getting warnings that it might not be able to properly show PDFs created with newer versions of Acrobat (Adobe is now distributing version 9 of Acrobat). I could download the free **reader** and that would take care of the problem at my end, but what about PDFs **created** by my older version of Acrobat? How long will they continue to show well in newer versions of the reader?

Before I go any further, I should familiarize you with Acrobat. Most people are familiar with the Adobe **Reader**. As a stand alone product it is offered by Adobe as a free download and, as such, serves only to read PDF (Portable Document Format) documents, not create or edit them in any way. In **Acrobat**, the reader is combined with an editing program and both work seamlessly as one. Acrobat also includes a virtual printer (or writer) that can be accessed from the *Print* function of many programs (it appears in the drop-down list of available printers). This is the part of Acrobat that converts a Word or Excel (etc.) document to PDF. The PDF document can then be opened in the reader/editor where hyperlinks

can be added, typos fixed, and security features added.

Acrobat is a large and expensive program. In an effort to offset an upgrade expense to the OPCUG, I decided to try some free PDF converters. There are many free programs out there, but, as I found out, the free ones are merely writers (or printers) that only do the basic function of converting various document types to PDF. They do not have an integrated program that would allow the user to edit the document. Hence, internet or PDF hyperlinks cannot be created nor can minor typos be corrected (note that even if you created hyperlinks in the original document, these do not carry through to PDF).

My next step was to find an inexpensive alternative to Acrobat that had all or most of its functionality (I downloaded all commercial products as a free trial). For less than the price of an Acrobat upgrade of \$99 (all prices in US\$), these cost a fraction of a full version of Acrobat Standard (\$299). I first downloaded *nova PDF Standard* (\$39.95) that stated it could automatically detect and create internet hyperlinks. It did this well, but, like Acrobat 6, was not good at detecting hyperlinks that spanned more than one line of text. This meant that hyperlinks were truncated and would not bring the reader to the proper URL. Fixing the truncated URL was impossible because *nova PDF Standard* does not

have a built-in PDF editing program. And it goes to follow that I could not create PDF hyperlinks that would bring the reader to another page in the document. From the extensive features checklist on their website, the professional version of *nova PDF* (for \$10 more) did not seem to have this function either, just more security features.

My next download was *CutePDF Professional* (\$49.95). This one seemed promising. It boasted all kinds of features including editing and hyperlink powers. I installed the program only to find out I must download the virtual printer separately. Not impressed and not willing to download the printer, I opened an existing PDF file and set out to create hyperlinks. After consulting

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PIZZA at 6:30 pm, Wednesday, June 9th, 2010

June Raffle

Thanks to the generosity of Corel, we have a copy of **CorelDRAW® Graphics Suite X5** for the June raffle.

This suite features the award winning CorelDRAW vector illustration program. But it does not end there. The suite also includes Corel Photo-Paint for editing photos, Corel PowerTrace for converting bitmaps to vector drawings, Corel Capture for versatile screen captures, Corel Connect content organizer, Swish mini-Max 2 for web graphics animation, and PhotoZoom Pro 2 for enlarging digital images.

Also included are 10,000 clipart and digital images, 1,000 professional, high-res digital photos, 1,000 fonts, 350 templates, and 2 hours of training videos.

After seeing Evelyn demo the powerful things you can do with this suite, you are going to want to make sure you are in the draw for this prize, valued at \$500. Buy your tickets early to avoid the stampede!

As always, tickets are \$1 for one, \$2 for three or \$5 for ten.

May Prize Winner

Thanks to the generosity of Corel, we raffled off a copy of Paint Shop Pro Photo X2 Ultimate Edition at our May 2010 general meeting. Congratulations to our lucky winner... **Frank Rogers**.



2010 CALENDAR

| Meetings | Date | Time and Venue |
|--------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OPCUG General Meeting | Wednesday, June 9 th | 7:30 p.m. Auditorium of the Canada Museum of Science and Technology , 1867 St. Laurent Blvd. http://www.sciencetech.technomuses.ca/english/index.cfm |
| Beginners' SIG | Wednesday, June 9 th | Immediately following the OPCUG General Meeting. |
| Linux / Open Source SIG | Wednesday, June 9 th | Immediately following the OPCUG General Meeting. |
| Beer BOF (Wing SIG East) | Wednesday, June 9 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).

PIZZA NIGHT

Coming Up...

June 9th, 2010

PIZZA at 6:30 pm

For the third straight year, the OPCUG is pleased to host a Pizza night to thank its members for their continued support. Please come early to ensure you have a choice of several popular varieties of Pizzas. We will also supply several varieties of soft drinks, plus water and dessert.



The food will arrive, at 6:30 pm, under the big tent in the front yard of the Canada Science and Technology Museum. Guests are welcome.

At 7:30 the regular meeting will take place with speaker Evelyn Watts of Corel Corporation. The topic is **CorelDRAW® Graphics Suite X5**.

This will be our last meeting before the fall. We'll see you in September after the summer hiatus. Consult the OPCUG website (<http://opcug.ca>) for details.

MEETING at 7:30 pm

Speaker: Evelyn Watts (Corel Corporation, <http://www.corel.com>)

Evelyn Watts is a product specialist with Corel. She has extensive experience with software training, public speaking and spends much of her time on the road, visiting user groups, customers and delivering specialized training. She is known for her engaging presentation style and fun sense of humour. Evelyn has just recently returned from this year's APCUG conference in Las Vegas where Corel continued its support of the user group community as an annual sponsor.

Topic: CorelDRAW® Graphics Suite X5: Graphic design software for striking visual communication

Put the power of CorelDRAW® Graphics Suite X5 behind your ideas and make a bold impact across any media. This versatile graphic design software has it all—vector illustration, page layout, photo editing, tracing, Web graphics and animation in one tightly integrated suite. Designed for professional and aspiring designers alike, it offers a quick, intuitive workflow, high-value digital content, market-leading file compatibility and graphic design tools that let you do more than you thought possible!

The Solid State Drive (SSD) *by Andrew Petrovic*

Vers 1.7 - March 2010

PART 2 (of 2)

In the first instalment we looked at the basics of SSDs and I showed that there is not too much involved in adding one to your system. In this second part, I'll delve a little deeper into the more technical aspects involved.

Writing data and the Trim operation

You are going to hear and read about Trim quite a lot when dealing with SSDs. I will attempt to explain what it is and how it works.

Trim only affects write operations to the SSD and not read operations and its purpose is simply to stop the slowdown of data writes that occur after time. These slowdowns can become quite significant, although perhaps not as much as the SSD manufacturers would have you believe. When we first connect and start using a SSD with any computer, it will read and write data at an expected rate, according to the manufacturer's specifications. When writing data, if we were to write to the same area of the drive over and over again, we would soon wear out the physical cells that store the data in that part of the drive. A process called 'wear levelling' is supposed to even out the data writes, in that it distributes data evenly around all areas of the drive, so prolonging the life of the drive.

Data is written to a SSD in 'bits'. There are one or two bits to a 'cell'. These cells are grouped into 'pages', which are normally 4 KB in size and a page is the smallest unit that can be written to. These pages are then grouped into

'blocks'. There are typically 128 pages to a block and the size of the block is therefore 512 KB. Now remember - I'll repeat it - that the page was the smallest unit that could be written to, yet note that the block is the smallest unit that can be erased from the drive.

Now consider what happens as time goes on and the drive gets full, or at least pages and blocks are getting mostly populated with data. We cannot just pump data into the drive and expect it to land in a fresh new never-used block area because there is old data in there that was previously discarded. Remember in Windows, for example, that when files are deleted, they are not physically deleted, but just marked as deleted by the operating system. The file is still around somewhere in these disk pages and blocks. The way that data is written to one of these areas that has old data in it, is for the SSD disk controller to copy the entire block into a memory cache; update the block in memory; erase the block on the drive; then write the block back to the drive. This would happen even if one single bit of the 512 KB block needs modifying.

The reason for this is that cells need erasing before new data can be applied to them, simply to make sure that there are no residual particles of data left from previous actions. It's the erasing of this old data that slows down the write process.

This is where Trim comes into play. The SSD must tell the operating system that it supports Trim and if so then whenever the operating system needs to delete files from the drive, the data is

marked as deleted and the operating system continues on, but the command is passed on to delete that actual marked data whenever it next has the opportunity to do so, with the expectation that the next time data needs to be written to the SSD, the areas where it needs to write to are then already free and don't require erasing again beforehand, thereby improving the write speed and keeping it at that high level of efficiency. Trim is also used as part of the operations involved with the disk formatting commands.

To enable the Trim option, you must be using Windows 7 or Windows Server 2008 R2. There are some versions of Linux that may, or perhaps already do, use it as well. Also the drive itself must support Trim. Some do, many don't, but there may be firmware updates now or in the future for those that don't.

Note that currently Trim will not work if the SSDs are in any kind of RAID configuration. It also depends upon the RAID controller as to whether Windows will even realise it is dealing with SSDs.

If you cannot use Trim for any reason, such as if your OS will not support it, or your SSD does not have the feature, then there are alternatives that you can use, although none will perform as well as Trim. Check your SSD user guide and manufacturer's web site for their recommendations. They may supply an appropriate tool for you to use.

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SSD (Continued from page 4)

A commonly available utility that works almost as well as Trim and runs in Windows and Linux is called Wiper. It is a manually run tool, so doesn't have the automatic operation benefit that Trim has.

Two quick tests to perform to make sure Trim is enabled. From a Windows elevated command prompt [note 1], run this command: `fsutil behavior query disabledeletenotify`

[note 1] An elevated command prompt is just a command prompt (DOS window, if you prefer) with administrative rights. Find the 'Command Prompt' menu entry in the Accessories menu, right-click it and select 'Run as administrator'.

If the response is:

`DisableDeleteNotify = 0`

then Windows will pass the Trim command to the SSD controller. Any other result means it will not.

To see if the SSD is capable of Trim, use the *CrystalDiskInfo* utility mentioned in Part 1 (May newsletter).

One final word on Trim. If your SSD does not support it, there is no real advantage to disabling the function in Windows. Leave it in its default enabled state.

What can go wrong and other settings

In an operating system such as Windows 7, there is supposed to be some recognition of the fact that a SSD has been connected to the computer, as the primary drive. Windows should detect the rotational speed of the drive, which being solid-state has no rotational speed at all, so has a null value. Windows 7 is highly geared towards SSDs, as previously mentioned.

When this SSD has been detected, Windows should make certain arrangements for its own settings, such as disabling

defragmentation, prefetching, etc. which are not used with SSDs.

Unfortunately, many times Windows simply will not recognise the fact that such a drive is installed and will treat it as a standard (but very fast) drive. This means that certain changes that the operating system should have done have not actually been done and we need to manually check these ourselves to put them into the correct state. These settings were designed for hard disk drives and some can actually be a hindrance on SSDs.

Most of the following assumes Windows 7 is your OS. If it is not, much of this is still applicable.

Two indications to check to see if Windows 7 has *not* recognized the drive as SSD are, firstly, that the Windows Experience Index reports a value of 5.9 for the primary drive – the largest value likely for a hard disk drive. Secondly, that when you open the Disk Defragmenter schedule utility it lists the drive as ready to defragment. It should not be on this list (see the next paragraph). Let's see what needs to be looked at:

Defragmentation. The SSD should not be in the automatic scheduling list of drives. It is not necessary to defragment a SSD because of the different way it randomly accesses data at high speed. If the SSD is the only drive, then disable the defragment service, otherwise just remove the SSD from the defragmenter scheduling.

Access here: *All Programs > Accessories > System Tools > Disk Defragmenter*

The settings for the following two items, superfetch and prefetching, can be experimented with, just in case disabling any of them might actually slow down boot times or data retrieval.

Superfetch. This should be disabled, unless for some reason the drive operates very slowly.

Access here: *[Services] > Superfetch*

The easiest way to get to services is to open the Control Panel and in the Search Control Panel field (upper right) type Services then press Enter. Now select 'View local services'.

Application and Boot prefetching. Both should be disabled. This is a single registry setting, so back up the registry first! Access here: *KEY_LOCAL_MACHINE > SYSTEM > CurrentControlSet > Control > Session Manager > Memory Management > PrefetchParameters > EnablePrefetcher = 0*

I would strongly suggest that if you are unfamiliar with registry edits then leave this setting for now, as errors in this area can cause serious trouble!

ReadyBoost. This should be disabled on the SSD. Look in the drive properties and the ReadyBoost tab should not even be present. Also, because SSDs are so fast in their operations, you should not need any additional ReadyBoost USB key(s) either.

File and folder compression. Not generally recommended, but it wouldn't hurt too much when applied to 'slow moving' data and if space is really tight. Access the setting in the drive properties.

Indexing. Keep enabled. It works the same way as for hard drives and may cause issues or inconveniences if disabled. Disabling it may give a performance advantage though, as SSDs are so fast during data searches. Experiment. If you want to try without indexing and if the SSD is the only drive on the system, then disable indexing globally by changing the 'Windows Search' service; otherwise go into the SSD properties and disable indexing just on that drive.

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SSD (Continued from page 5)

Write caching. Some newer SSDs may have cache memory; older ones will not have it. Follow the manufacturer's recommendation here, otherwise enable it as it may help a little with performance. As with any drive type, if you enable write caching, you may lose data if the power goes out and you still have data in the cache that didn't make it yet to the disk drive.

Access here: *Control Panel > Hardware and Sound > Device Manager > Disk drives > [access SSD properties] > Policies [tab]*

Pagefile. Many people say the pagefile should not be on the SSD because it takes up space and is subject to many writes when updating. The space issue may be valid and for that reason you could move it to a regular hard disk drive, but wherever it is, it will not likely undergo so many write operations as to cause concern about decreasing the drive lifetime. It is not advisable to delete the pagefile and operate Windows without it, regardless of the physical RAM size. If you run out of memory and there is no pagefile, your application or even Windows itself will likely crash. Also some older programs require the use of a page file and will not run without one being present. My recommendation is that if you have enough space, keep the pagefile on the SSD. Access here: *Control Panel > System and Security > System > Advanced system settings > Performance:Settings > Advanced [tab] > Virtual memory:Change*

Hibernation file. Same story as with the pagefile above. To enable or disable this, use the `powercfg` command line tool with the `-H` option. Run `powercfg /?` for details. This is not a particularly straightforward command to understand, so don't worry

about not changing it. It won't hurt to leave it.

System restore. If you perform good and regular backups, you can turn off system restore to gain better performance and save some disk space.

Access here: *Control Panel > System and Security > System > System protection > [drive]:Configure > Restore Settings*

Power settings. For laptops, choose the power settings as you would with any other drive type. For desktops use the high performance settings and opt to never turn off the drives.

Access here: *Control Panel > System and Security > Power Options > Change plan settings (for your power plan)*

Final note

SSDs appeared on the market by generation level. The first generation ones, usually called G1, are mostly surpassed by the second generation G2 drives now. G1 does not allow for Trim operations. Manufacturers are now about to release third generation drives, which should combine better performance with lower costs.

What we can also look forward to are SATA 3 interfaces, which run at 6 Gbps, so double the SATA 2 speeds. Your motherboard must have SATA 3 ports for the full speed, but the drives should be backward-compatible with SATA 2 systems.

Have fun with your SSD and don't be afraid to experiment!

**Adobe Acrobat** (Continued from page 1)

the help file, I finally found the (buried) link tool and discovered that this was a separate download as well. And many other features required the separate download of the PS2PDF converter. All components should have been included in the download, especially in a "Professional" product.

There is another product out there called *Nitro PDF Professional* (\$99) that claims to be the "original Acrobat alternative". If I can believe all of its claims, maybe, some brave day, I'll download a free trial and let you know.

I realize that many free and inexpensive PDF converters are for casual users that can't justify the expense of Acrobat. But for a serious or professional user, a no-nonsense, full-feature product such as Acrobat is needed and well worth it.



OPCUG Free Software Guide—Part 16

Compiled by Alan German
and Bill Bradwin

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. If you try one of the listed items, you are encouraged to share your experience, good or bad, by providing a brief review of the program for a future issue of the newsletter.

Debut

Debut Video Capture Software will let you easily capture video on your computer. Anything you can see on your monitor can be recorded to your hard drive. The program supports a variety of file formats, including avi, wmv, mpg, mp4, and mov. You can add text captions and time stamps to the recording, change colour settings and video effects, and adjust the resolution, picture size, and frame rate.

Web Site: <http://www.nchsoftware.com/capture/>



AeroSnap

Do you have Windows 7 envy because your friends can drag windows to each side of the screen and have them snap into place, side by side, filling the screen? If so, you need AeroSnap, a utility from Germany that will let you do the same thing in XP or Vista.

Current Release: Version 0.61

Web Site: <http://www.aerosnap.de.vu/>

FreeMind

A mind map is a diagram used to represent words, ideas, and tasks and is used to generate, visualize, structure, and classify ideas, to aid in study, organization, problem solving, decision making, and writing. FreeMind is the premier mind-mapping software available as freeware.

Current Release: Version 0.9.0 (Candidate release)

Web Site: <http://freemind.sourceforge.net/wiki/>

Media Player Classic Home Cinema

According to the developers, this is the world's fastest media player. It comes in both 32 and 64 bit versions. It looks just like Windows Media Player, but is extremely light-weight, and yet has many additional features. There are lots of built-in video and audio codecs. The program supports video subtitles. It also allows for playback and recording of television if a supported TV tuner is installed.

Current Release: Version 1.3.1249.0

Web Site: <http://mpc-hc.sourceforge.net/>



SafeHouse Explorer

This free program uses passwords and maximum-strength, 256-bit, advanced encryption to completely hide and defend your sensitive files, including photos, videos, spreadsheets, databases. SafeHouse Explorer can protect files residing on any drive, including external USB drives, network servers, CD/DVD's, and even iPod's.

Current Release: Version 3.01

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

FileHippo.com Update Checker

Update Checker will scan your computer for installed software, check the versions and then send this information to FileHippo.com to see if there are any newer releases. These are then neatly displayed in your browser for you to download. (Note that not all programs are supported.)

Current Release: Version 1.036

Web Site: <http://www.filehippo.com/updatechecker/>



HDDScan

This freeware hard drive diagnostic utility (RAID and USB drives are also supported) can test for bad blocks and sectors, show S.M.A.R.T. attributes, and change some HDD parameters. HDDScan can be useful for performing a regular "fitness test" for your drive. It supports hard disk temperature monitoring and read/write benchmarking.

Current Release: Version 3.2

Web Site: <http://hddscan.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 Museum of Science and Technology, 1867 St. Laurent Blvd, Ottawa. Meetings are 7:30–9:00 p.m. and Special Interest Groups (SIGs) go until 10 p.m.

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|-----------------------------------------------------|--------------------------------------------------------------------------|--------------|
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Reduce, Reuse, Recycle

Bring your old computer books, software, hardware, and paraphernalia you want to GIVE AWAY to the General Meetings, and leave them at the table near the auditorium's entrance. Please limit magazines to publication dates of less than two years old.

You may TAKE AWAY any items of use to you.

Any items left over at the end of the meeting have to be taken back home by those who brought them in.

