



OTTAWA

# PC NEWS

Volume 26, Number 6

June 2009

## PRODUCT REVIEW

### Image is Everything *by Alan German*

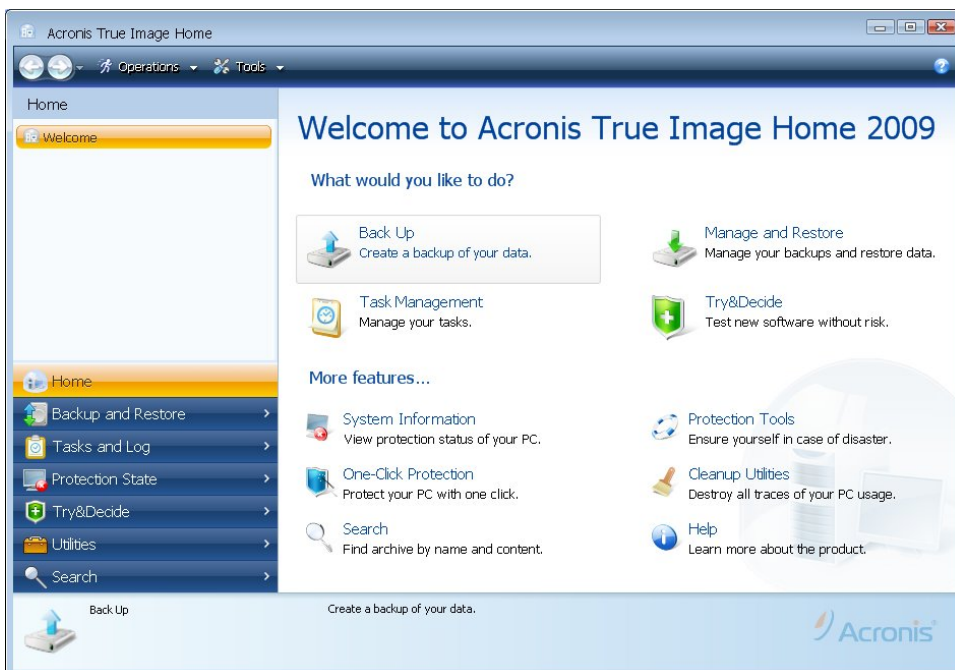
**H**ave you made a complete backup of your system lately? What about the disk partition containing all your data files? Perhaps just a copy of the really important stuff? If, like most computer users, you answered no to any (or all) of the above, perhaps it's time that you considered investing in a disk imaging program. And, if you need such a utility, you need one that will make a true image - like Acronis True Image Home 2009.

Perhaps you don't consider disk backups to be very important. After all, your hard drive has been working just fine for years, hasn't it? But, have you considered that the disk will fail or become corrupt at some point? What then? Are you going to spend hours re-installing your operating system, and its multitude of patches? Will you have to re-install all of your applications individually, and try to recall all of your customized settings? If you have any programs that require activation, are you going to have to spend a lot of time on the phone convincing the help desk that you really have had a disk crash and need to reactivate the software? And, if you lose your important data files in a hard disk crash - guess what - there is no help desk! So, backups are definitely worthwhile. It's much better to put in a little effort up front, so that there is no need to worry if the unthinkable really does happen. And, hard disk imaging, with a program like True Image, makes the backup process really quick and easy.

True Image Home 2009 is the latest release of this venerable software package. It sports a bright new look - and some new features. The main menu has the look-and-feel of a web page, with icons and text providing links to the main program operations. In fact, there are multiple paths to the program's tools since many of the subsequent menu pages are inter-linked. There is also a set of tabs on the left side of the page, and two drop down menus at the top of the page, that allow further navigation options.

All of these choices can be confusing initially, but the program's bread and butter operations of backup and restore are still front and centre. In fact, the first option at the top of the "home page" of the menu system is Backup, closely followed by Manage and Restore. In this version of True Image, the backup option allows you to create a task to backup a complete disk, a partition on a disk, or specific files or folders on the disk. It will also let you save a copy of just the system settings, the account information

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**PIZZA NIGHT, Wednesday JUNE 10th, 2009 at 6:30pm**

# June Raffle

The raffle prize for June is **Corel VideoStudio Pro X2**.

Corel claims that VideoStudioPro X2 is an "easy-to-use video editing and disc authoring software for creating professional-looking videos and slide shows". It includes a time-saving Movie Wizard and other editing tools that make it easy for you to create complete movies. You can share your results in formats from DVD to mobile phones to high-definition home theater systems and upload them directly to YouTube.

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

## May Prize Winners

**Howard Macumber** won the raffle copy of EASEUS Data Recovery Wizard Professional software while **Irene Kwik** and **Allen McNamara** each took home an OPCUG clock/calendar.

Thanks to EASEUS for donating the raffle prize.

# Coming Up...

## ► June 10, 2009

**6:30 pm:** PIZZA (see details next page)

**7:30 pm:** Speaker Roger Wambolt of Corel Corporation.  
The topic is "Video Editing".

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 updates.



## 2009 CALENDAR

Meetings	Date	Time and Venue
OPCUG General Meeting	Wednesday, June 10 <sup>th</sup>	7:30 p.m. Auditorium of the <b>Canada Museum of Science and Technology</b> , 1867 St. Laurent Blvd. <a href="http://www.science-tech.nmstc.ca/english/index.cfm">http://www.science-tech.nmstc.ca/english/index.cfm</a>
Beginners' SIG	Wednesday, June 10 <sup>th</sup>	Immediately following the OPCUG General Meeting.
Linux SIG	Wednesday, June 10 <sup>th</sup>	Immediately following the OPCUG General Meeting.
PIG SIG (Wing SIG West)	Wednesday, June 10 <sup>th</sup>	10:00 p.m. (after all other SIGs) at Chances "R" restaurant, Baseline Rd. at Woodroffe Ave. (College Square Shopping Centre)
Beer BOF (Wing SIG East)	Wednesday, June 10 <sup>th</sup>	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

### or “A NIGHT AT THE RACES”

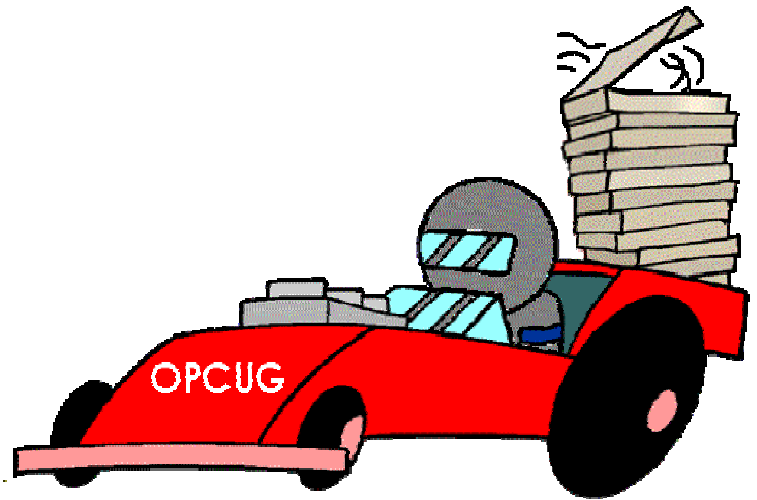
June 10th, 2009 at 6:30 pm

**C**ome and see members of your BOD moonlighting as pizza delivery boys. Things could get frantic if they underestimate the number of pizzas needed, so why don't you ALL come and see the action! Bring some guests! Runs for extra pizza might start looking like the Le Mans car race, so don't forget your binoculars to track them up and down St. Laurent Blvd.

Eating will take place at 6:30 under the big tent in the front yard of the Canada Science and Technology Museum. Guests are welcome. Pizzas will be available in several popular varieties. And we won't forget the pop, water, and desert.

At 7:30 the regular meeting will take place with speaker Roger Wambolt of Corel Corporation. The topic is “Video Editing”.

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.



## MAY PRESENTATION AVAILABLE ONLINE

**A**t the May 13th General Meeting, Chris Taylor gave a presentation titled How the Internet Works, which explained in very simple terms how computers connect to servers on the Internet and communicate with them. In the demos, Chris showed how you could manually send an email using just a command line interface. Chris wrapped things up with a discussion of trouble-shooting techniques you can use when things don't work like they are supposed to. Many in the audience also contributed their ideas.

The presentation file is now available on The PUB.

You will need an account on The PUB if you want to access it. If you don't have an account, take a look at the article Accessing PUB II in the October, 2003 issue of the newsletter - <http://opcug.ca/public/Articles/0310.pdf>

Once you have an account on The PUB, you can browse file area 43 – Text Files – Presentations, or go directly to the file at <http://opcug.ca/file/area43/HowTheInternetWorks.ppt>

## True Image *(Continued from page 1)*

and messages for selected E-mail programs, and the settings for installed applications. The manage and restore option displays a list of backup image files and lets you select one for processing. You can chose to restore the whole disk, a single partition, or specific files and folders available in the image. There are lots of other options. But, while the backup and restore options seem endless, for most users the choices will be simple - backup a whole disk, or perhaps just a data partition - and restore the saved image to its original location.

Selecting the backup option provides a wizard that guides you through the necessary steps to create a backup task. In a simple scenario, you would select the working disk for which an image is to be made. The default on the next screen is to create a new backup archive. Your option here would really be to select a meaningful name for the image. The default is My-Backup.tib which will not be very informative when you have ten similarly-named backup files. My practice is to use something like d\_datadrive\_29jan09.tib where the date specifies when the image of my data partition (drive d:) was made. This file name format makes it very easy to differentiate between multiple backups of the same drive. Pressing the wizard's Next button at this stage will allow you to skip all further options and proceed to a summary page, where your selections are displayed, prior to you authorizing the backup to proceed immediately.

Alternatively, you can go through a sequence of a further six screens to specify more parameters. These include whether the backup should be unscheduled (i.e. run immediately on completion of the wizard) or scheduled in some manner. The scheduling system is extremely flexible. You can set the backup to begin on a given date and time, to run at a variety of regular intervals (e.g. daily), or at the time of a certain event such as at bootup. If using timed backups is your preference, it's very unlikely that you won't be able to set an appropriate schedule.

Having used previous versions of True Image, my preference is to set up a backup process and then run the backup immediately. True Image 2009 terms this an un-

scheduled backup. However, I found a bug in the program with this process. I set up an unscheduled task for a backup of my data drive to my external USB drive, and went straight to the summary page where the "Run task now" box was checked by default. I pressed the Proceed button. The new task appeared in the unscheduled tasks tab of the tasks and events log, but nothing more happened. The backup didn't start. True Image didn't issue an error message. The task just sat there. Similarly, I could highlight the task and press the Start button, but the task still didn't start. As far as I can tell, such unscheduled tasks will never start. But why?

I think the answer is that I am usually logged on as a regular user in Vista, and Microsoft's operating system, in its wisdom, is denying access to the backup operation. If I log in on my administrator's account, the unscheduled backup task runs just fine. But, surely, there should be at least a warning, or an error message, if I tell True Image to do something and the command is unable to complete.

I sent a query on this problem to the technical support desk at Acronis, but only received an automated E-mail response indicating "Please do not submit your request more than once; multiple submissions generate extra paperwork that simply slows down response times." After a month, I ignored the request and sent a follow-up message. It took yet another month before an E-mail from Acronis suggested that I should "Right click on TrueImage.exe and select Run as Administrator". Now this has no effect, since it is always necessary to provide authorization to Vista's User Account Control in order to get True Image to run. Having pointed this out, the second suggestion was a link with which to update the Acronis Scheduler; however, this too was remarkably unsuccessful. So, the final stage was to refer the problem to the "expert team". At the time of writing, another three weeks have gone by and, apparently, the expert team is still pondering the question!

But, without waiting for an official response, it turns out that the unscheduled backup problem isn't a show stopper even for regular users. Fortunately, there

is a fairly simple workaround. The trick is to create a scheduled backup, even if it's only for a few minutes ahead of the current time, by using the Scheduling - Once only tab. This option includes an area where you can enter a username and password to run the backup "with credentials". You just need to complete the password field as your username is entered by default. You can then skip to the summary tab, check the run task now box, press the proceed button and, like magic, the backup will start. It's odd that such a convoluted strategy should be necessary, but it's actually pretty simple to use in practice. And, it works!

So, creating a backup is no problem, or at least not much of a problem. But, there is a major problem when it comes to restoring an image. I can't find any way that a regular Vista user can get an image restored. The setup procedure for a restore task has no options for scheduling, and no options to enter a username and password. The wizard will create the requested restore task but, just as described above, the task won't start! Not at all a useful system for a regular user. So, it looks like you have to be logged on as an administrator in order to run a restore task in True Image 2009.

It's worth noting that this hasn't always been the case with other versions of the product. I routinely run True Image 10 under Vista to create backups of full hard disks and data partitions, and there have been a number of occasions when I have had to restore one of the backup images. These have always run properly for me, even though I have been logged in as a regular user. So, as I indicated earlier, I think this is a bug. I can't find any mention of the problem in the help files, or on the web site, but I find it hard to believe that nobody has reported this earlier.

The other thing to note is that this is a Vista-specific problem. All of the above comments relate to my Vista-based machine. I encounter nothing like the same problems under Windows XP. True Image 2009 runs just fine for an XP administrator. For a regular XP user, attempting to run the program produces the error message "You do not have enough privileges to get full access to all Acronis

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## True Image *(Continued from page 4)*

True Image Home functionality". While this is perfectly true, it turns out that you don't have enough privileges to get access to any Acronis True Image Home functionality. True Image 2009 just won't run for a regular XP user! But, at least it's honest about it. I guess the Vista programmers at Acronis forgot to include this message in their program module.

Anyway, if you are logged onto an administrator's account, restoring any image is child's play. On the main restore screen, you select an image from the available backup files. A restore option in the menu at the top of the window leads to a wizard to guide you through the various restore options. The simplest thing to do is to accept the defaults to restore the associated files in their original location and to retain all of the stored files. You are then taken to a summary page where you can review the selections and tell the program to proceed with the restore operation. The process then runs automatically, and painlessly, with a progress bar showing the degree of completion.

So, for the typical user, who runs their system under an administrator's account, the processes of disk backup and image restore are extremely simple. They are also fairly rapid. True Image is smart enough not to create physical backups of empty sectors. The disk partition that holds my operating system and applications is nominally 160GB, with 43GB in use. The backup image is about 25GB and takes around 27 minutes to create. My data partition is nominally 80GB with about 7GB of disk space in use. Backing up the full data partition produces an image still close to 7GB, but takes only 6 minutes, as does a restore process. And, my tests on small file structures show that all of the restored files and folders are identical to the originals. So, it would appear that you really do get a true image.

But, not everyone wants to use such simple backup strategies. So, for the more sophisticated user, there are more sophisticated options available. In addition to full backups of a disk partition, True Image will also let you create a series of incremental backups. The basic idea is

that you start by making a backup of the complete partition. Subsequently, the first incremental backup captures only the changes that have occurred since the baseline image was made. The second incremental backup captures the changes after the first incremental backup and so forth. Typically, you might create a baseline image at the start of a week, and run only incremental backups at the end of each day.

The series of files could then be used, for example, on Thursday, to regenerate the disk system as of Wednesday, by restoring Wednesday's incremental backup. True Image would automatically start with the baseline image, then add Monday's increments, then Tuesday's, and finally those from Wednesday. The advantage of this system is that the incremental backups are small and are created very quickly. The disadvantage is that you end up with a host of associated files although, as noted, the program takes complete control of managing the restore process. But, don't delete any of the incremental backup files. If you break a link in the chain, it will not be possible to recreate the disk to any point after the last consecutive incremental file.

There is also an option in True Image 2009 to consolidate a set of backup files. Using this tool, you could perform daily incremental backups and then, at the end of the week, compact all of the files into a single weekly backup image. But, in this case, the option may only be marginally useful. If you were to create such a regular backup series, the next base image file would reflect the system at a point one day later than the consolidated image. So, saving the base image files would effectively capture a series of weekly backup images and obviate any need for consolidation.

But, if short-term backups, processing times, and storage space are issues for you, incremental disk backups and consolidation may be a useful alternative to making multiple full backups. A slightly different variant on the incremental backup process is termed differential backup. In this case, each differential backup contains all of the changes made since a baseline image was created. Thus, in our daily backup scenario, Wednesday's differential backup would contain all the changes made on Monday, Tuesday and Wednesday, following the baseline image made on Monday

morning. You would then only need two files, the baseline image and one differential image, to recreate the disk system at any given point in time.

Some of the options for more complicated image restoration are to specify a new location for the files, to select only certain files and folders, and whether or not to overwrite certain file types (e.g. system files). It's also possible to process the files in the stored image in other ways. You can select an "Explore backup" option that displays a directory tree of the image file, and a list of the files in any selected folder, just as if you were browsing through a disk in Windows Explorer. You can also choose to mount the selected image and assign a drive letter, in which case it will appear in Windows Explorer as a logical disk drive. In either of these two cases, files and folders can be copied directly from the image onto your actual hard disk, so this is a very convenient way of retrieving a single file or folder without having to restore the entire image file.

To keep track of all your operations, the "Task Management" tab maintains lists of both scheduled and unscheduled tasks that have been set up, and a log of processes that have occurred by date. Previously run tasks can be easily edited so that, for example, the target file name for a complete backup of a data partition can be changed to include the current date, and the task then rerun to create an updated backup image. A calendar at the top of the page shows the state of any scheduled backups so that, for example, daily backups would be shown as green on days when backups completed successfully, or as red in the case where a backup had failed for some reason. The log entries for any given task provide details on the various stages, and indicate the end result, so this can be a very useful error tracking system.

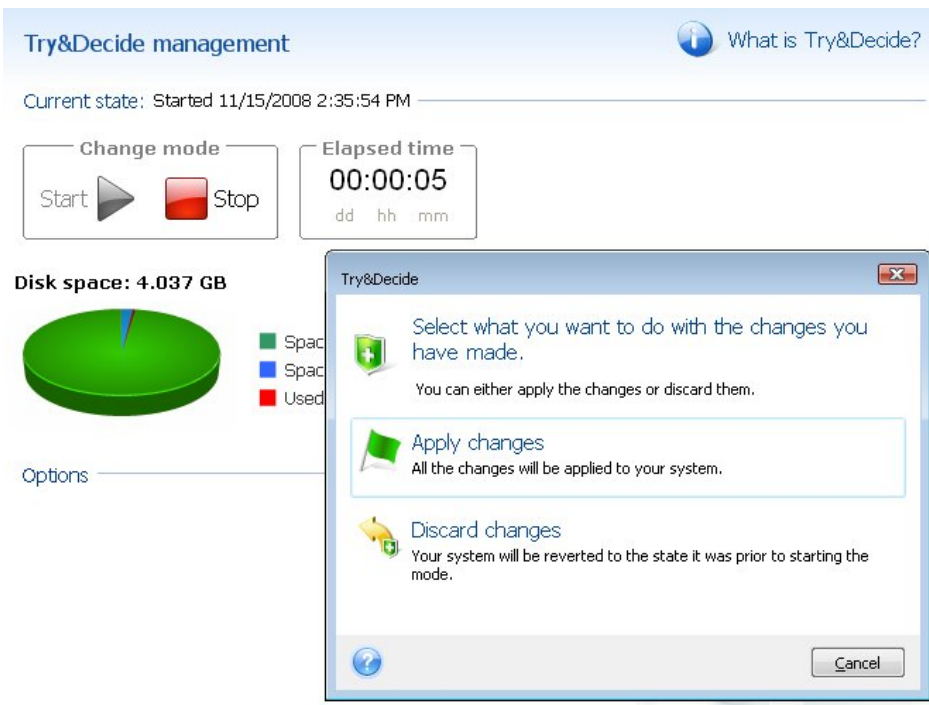
A really interesting feature of the program is "Try&Decide". This lets you assign an area of your hard disk as a "secure zone". In fact, you must create a secure zone in order to use this feature. If you press the green start button before establishing a secure zone, an error message will indicate that the zone was not found. However, once you have estab-

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## True Image *(Continued from page 5)*

lished a secure zone, and started Try&Decide, the computer essentially goes into a virtual operation mode. It appears to run completely normally. You can install software, run applications, and store files. However, when you stop Try&Decide, a dialogue box asks if you wish to apply the changes you have made to your system, or if you would rather discard them. Either way, the computer will be rebooted.

If you have installed new software and opted to keep the changes, the new program will be available after the reboot, just as if it had been installed in regular fashion. On the other hand, if you choose to discard the changes, once the machine restarts, the trial installation and any data files you produced are no longer present since these only existed in the temporary workspace of the secure zone. The documentation that comes with True Image suggests other similar uses for this virtual disk mode including reading E-mail messages without being hit with attached viruses, and even visiting web sites where the content may be suspect.



Just don't let yourself get distracted when testing something new in the Try&Decide mode. If you also do some work with a previously installed program, create or modify some real files, and then decide to discard the changes from your Try&Decide session, both the trial software and your actual work will be lost!

True Image offers a host of other tools, including the ability to validate, update, or remove backup image files, display the system's protection status (current level of backup), and change the size of the secure zone. There is also a one-click protection feature that will easily backup the system partition and master boot record. If you upgrade from a small hard drive to a much bigger disk, there are tools to copy files between the two disks. If you are intending to dispose of the smaller disk, you can securely remove all the files from it before you do so. A variant of this tool is a file shredder that will destroy specific files and folders on a disk. Similarly, using system cleanup, you can securely destroy items in the recycle bin, temporary files, your Internet browsing history, etc. A search tool allows you to easily find backup image files that you may have created on various disk partitions.

There is an extremely comprehensive help system covering every aspect of the program's operations, and a variety of options allow you to customize such things as the

program's appearance (display font) and the default options for both backup and restore. A very important program feature is that you can create a bootable rescue disk with which to start your system and recover a stored backup image in the event of a system disk crash. But, note that the backup image must be on a different physical disk than that which crashed! You have to be able to read your backup image. Keep multiple backups - in multiple locations!

In summary, if you run your computer on an administrator's account, True Image Home 2009 will provide an extremely capable backup and recovery system for both your operating system and data files. The program has many options for backup and restore, and its other disk management processes. In particular, True Image will let you schedule backups on a regular basis, and save the resulting images to external media. So, if you are not too conscientious about making backups, or are concerned about a potential crash of your only hard drive, this package has the tools to ensure regular backup of your important files and storage of the backup files in a safe place. And, as a member of OPCUG, you can purchase the product at a very reasonable price (<http://www.opcug.ca/public/promos.htm#UGR1>). So, what are you waiting for? Run that backup process. Now!

### Bottom Line

True Image Home 2009  
 US \$29 with User Group Discount  
<http://www.opcug.ca/public/promos.htm#UGR1>  
 Acronis, Inc., Burlington, MA  
<http://www.acronis.com/>

*(See SIDEBAR on page 8)*



# OPCUG Free Software Guide—Part 7

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. 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.



## DropBox

Would you like to store files “in the cloud” and be able to access them from anywhere in the world? Do you need to share files and/or photographs with colleagues, family or friends

over the Internet? DropBox Basic will provide you with a 2GB on-line “folder” at no cost, and will even automatically synchronize the files in the folder with those on your PC as the latter are modified.

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

## CPU-Z

CPU-Z is a freeware program that displays details of your CPU, motherboard, memory, Windows' and DirectX versions. The program does not need to be installed; just unzip the files into a directory and run the .EXE file. The program does not write to the registry. To completely remove the program, just delete the files.

Current Release: Version 1.50

Web Site: <http://www.cpuid.com/cpuz.php>

## Malwarebytes' Anti-Malware

The developer states that this package is “a high performance anti-malware application that thoroughly removes even the most advanced malware and spyware.” But, while there is a free version of the software, note that real-time protection is restricted to the paid version, as is the scheduler for updates and scans.

Current Release: 2009 Edition

Web Site: <http://www.malwaree.org>



## Unlocker

Does Windows routinely prevent you deleting a file or a folder, with warnings of access denied, sharing violations, the source or destination being in use, or something equally obscure? Unlocker may just be the solution! Right click on the file or folder and select Unlocker. If it is locked, a window listing of lockers will appear. Select the file or folder, click on “Unlock” and you are done! You can use the program free of charge for any purpose.

Current Release: Version 1.8.7

Web Site: <http://ccollomb.free.fr/unlocker/>

## TeraCopy

Need to copy lots of files – fast? TeraCopy uses dynamically adjusted buffers to reduce seek times and asynchronous copy to speed up file transfer between two physical hard drives.

You can pause and resume file transfers. If an error is detected, the program will try several times and, in the worst case, skips the file, rather than terminating the entire transfer. Using an interactive file list, you can fix the problem and recopy only the problem files.

Current Release: Version 1.22

Web Site: <http://www.codesector.com/teracopy.php>

## FreeCommander

An easy-to-use alternative to Windows Explorer, and you can take FreeCommander anywhere - just copy the installation directory onto a CD-ROM or USB-Stick. The program has a built-in file viewer for hex, binary, text or image files, a handler for ZIP and similar archives, and an FTP client. You can wipe files, rename multiple files, do file splitting, folder comparison and synchronization, and lots of other tasks.

Current Release: Version 2009.02

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

Previous Review: *SIG Bits and Bytes*,  
<http://opcug.ca/public/Articles/0604.txt>



# 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 go until 10 p.m.

<b>Fees:</b>	OPCUG membership:	\$25 per year
<b>Mailing Address:</b>	3 Thatcher St., Nepean, Ontario, K2G 1S6	
<b>Web address:</b>	<a href="http://opcug.ca">http://opcug.ca</a>	
<b>Bulletin board</b> — PUB II (BBS)	<a href="http://opcug.ca/default.htm">http://opcug.ca/default.htm</a>	
President and System Administrator		
<b>Chris Taylor</b>	<a href="mailto:chris.taylor@opcug.ca">chris.taylor@opcug.ca</a>	613-727-5453
Meeting Coordinator		
<b>Bob Gowan</b>	<a href="mailto:bob.gowan@opcug.ca">bob.gowan@opcug.ca</a>	
Treasurer		
<b>Alan German</b>	<a href="mailto:alan.german@opcug.ca">alan.german@opcug.ca</a>	
Secretary		
<b>Gail Eagen</b>	<a href="mailto:gail.eagen@opcug.ca">gail.eagen@opcug.ca</a>	
Membership Chairman		
<b>Mark Cayer</b>	<a href="mailto:mark.cayer@opcug.ca">mark.cayer@opcug.ca</a>	613-823-0354
Newsletter		
<b>Brigitte Lord</b> (editor/layout)	<a href="mailto:brigitte.lord@opcug.ca">brigitte.lord@opcug.ca</a>	
<b>(Mr.) Jocelyn Doire</b> (e-mail distribution)	<a href="mailto:jocelyn.doire@opcug.ca">jocelyn.doire@opcug.ca</a>	
Public Relations		
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Facilities		
<b>Bob Walker</b>		613-489-2084
Webmaster		
<b>Brigitte Lord</b>	<a href="mailto:opcug-webmaster2@opcug.ca">opcug-webmaster2@opcug.ca</a>	
Privacy Director		
<b>Wayne Houston</b>	<a href="mailto:privacy@opcug.ca">privacy@opcug.ca</a>	
Special Events Coordinator		
<b>Don Chiasson</b>		
Beginners' SIG		
<b>Chris Taylor</b>	<a href="mailto:chris.taylor@opcug.ca">chris.taylor@opcug.ca</a>	613-727-5453
Linux / Open-Source Software SIG		
<b>Don Chiasson</b>		

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**True Image** (Continued from page 6)

## Sidebar

OPCUG members should be no strangers to True Image. It's the software that we use to backup The Pub. And, club members can purchase the program at a discount through our good friends at User Group Relations (<http://opcug.ca/public/promos.htm#UGR1>).

Chris Taylor reviewed True Image 8.0 in the September, 2005 newsletter (<http://opcug.ca/public/Articles/0509.PDF>) and, most recently, Chris gave a hands-on demonstration of various features of True Image 12 at the members' night held in May (<http://www.opcug.ca/public/Articles/0807.pdf>).

Chris recommends using two external disks in rotation for image file storage, and keeping one of these disks off site as a further safety precaution against data loss (e.g. fire or theft). He suggests making a full backup of the entire system each month, followed by incremental daily backups. This is the process used to backup The Pub.

Once a month a full image of The Pub is taken, then incremental backups are run on a daily basis. Each month the last complete image set is moved to a new, separate directory, allowing a new full image snapshot to be taken the next day. All images are created across the network onto an external terabyte drive. Six months of backup images are retained, using about 80 GB of space on the external disk. With this method, any specific file, or the complete system to any date in the past six months, can be recovered.

