



OTTAWA

# PC NEWS

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April 2008

## ARTICLE

### Upgrade Envy—Part 7 *by Peter Hawkins*

**W**ell...I have postponed telling you about OCZ Gold, the ultimate memory chips, and just how effective they can be at improving your system response times. You have all come into contact with their ads if you frequent on-line computer parts sales. And if you, like I, are afflicted with Upgrade Envy, then you will have several available and close at hand. I'm talking about ncix.com, or newegg.com or several local shops like , oh I don't know, maybe orleanscomputers.com (Oops! that's my friendly local computer shop, you know, the one that rescued me after my FFLCS - in this context, those initials stand for FORMER friendly local computer shop - so badly let me down.) And I guess that's really a plug for them, too, and they do deserve it, given the fact that they have consistently helped (read "rescued") me when I have encountered seemingly difficult opportunities!

This however is not explaining the OCZ Gold very well. A writer friend once told me that the proper way to tell a story is to start at the beginning, work through the details as they occur, and when you reach the end, just stop. As you must have

realized by now (part seven?) I don't always work that way. But I will try.

This particular story began with the purchase of 3 different computer combinations in the late summer of 2004. My son Matthew - the person who engendered the resumption of my drastic case of UE - told me to buy myself a new computer and that he would contribute \$1,000 towards its purchase. What a lovely gift. And I did what I always did...see what the local big box store had on offer, and of course, what were the return privileges. It seems that every week they had a slightly different offer. One week it was a bigger hard drive. The next week it was a smaller hard drive, but a DVD drive too. The next week it was a smaller drive, but a 17 inch LCD monitor. How could I say no to that! Well, the truth was that I couldn't! I tried them all and had a ball. But I settled for the last one, because the LCD monitor was really, really nice. The drawback was that it only came with 256 Megs of ram memory. Not a problem. Just ask the sales assistant for another 256 Meg stick, and persuade them to put it in without the usual \$45 charge. They agreed.

And I must say that computer ran quite well, until the fateful day when UE struck again. What I came to understand as I investigated what I had purchased was that I had 256 Megs of pc2700 memory and 256 Megs of pc2100 memory. Darn! (Or something much more drastic - the kind of words that would have gotten my mouth washed out with soap had I been younger.) Did you know that when you have different types of memory, your motherboard will default to the slowest? Well it does. Bummer. My response was to buy (on eBay of course) a matched pair of 512Meg OCZ Gold RAM memory chips. The reason for them being identical was an interesting little wriggle on the motherboard - a matched pair allows an increase of 10% to your memory. In other words it was like getting another 102.4 Megs of memory. That really

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Next Meeting: **WEDNESDAY, April 9<sup>th</sup>, 2008**

## April Raffle

**A**t the April general meeting the raffle will have a game theme. Thanks to the generosity of Microsoft Mindshare, we have two prizes - **Halo 2 for Vista** and **Flight Simulator 10 Deluxe Edition**.

We will be drawing two separate tickets and the first winner will have their choice.

For more information about these games, see <http://www.microsoft.com/games/halo2/> and <http://www.microsoft.com/games/flightsimulatorx/>

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

## March Prize Winners

**A**t the March 12th meeting we had a rather unusual raffle draw. **Eldon Gaw** had 4 of his 10 raffle tickets dawn at the meeting!

Eldon was gracious enough to return two of his copies of the McAfee Internet Security Suite for redraw after we had talked him into accepting the second copy.

Other raffle draw winners of the McAfee Internet Security Suite included **Gary Byron**, **Gerald Larocque** and **Mark Merriman**.

The door prize was another copy of the McAfee Internet Security Suite and it was won by **Richard Aylesworth**.

Many thanks to McAfee Canada for the prizes.

## Coming Up...

**April 9<sup>th</sup>, 2008**

**Topic:** "Come out and see tomorrow's technology today"

**Speakers:** John Shore, Retail Specialist and Rob Blackburn, Account Manager, Eurocom Computers, Ottawa  
<http://eurocom.com>

Eurocom is an Ottawa-based and world-leading developer of desktop replacement technology, highly customized, high-performance, upgradeable notebooks and LCD PCs. Whether your interest is entry-level notebooks, ultra-lightweight notebooks with long battery life, "All-in-One" portable PCs, powerful desktop replacements, or high-end mobile workstations, Eurocom has an innovative solution.

### Presentation Outline

- Who is Eurocom?
- Why Eurocom?
- D900C Product Overview - 17" WUXGA/WSXGA+ Display, Quad Core CPUs, Xtreme CPUs, 8800M GTX, Quadro FX 1600, SLI Mode, 4 GB DDR2 800 RAM, FSB 1333
- M570RU Product Overview - 17" WUXGA/WSXGA/WXGA, Penryn CPUs, 8800M GTX
- M720R Product Overview- 12" WXGA Display, X3100, Core2Duo T7700.
- Eurocom's Upgradeability
- New Technology- Organic Displays, D900C 8 GB DDR2 800 RAM, 9000 Series GPUs, Hybrid HDs, eSATA, Solid State Drives, HDMI, DVI, Trusted Protection Module, Wireless "N" Networks.
- Eurocom Trade Up Program
- EOL Factory Outlet
- Your Questions

## 2008 CALENDAR

Meetings	Date	Time and Venue
OPCUG General Meeting	Wednesday, April 9 <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, April 9 <sup>th</sup>	Immediately following the OPCUG General Meeting.
IT-Pro SIG	Wednesday, April 9 <sup>th</sup>	Immediately following the OPCUG General Meeting.
Linux SIG	Wednesday, April 9 <sup>th</sup>	Immediately following the OPCUG General Meeting.
PIG SIG (Wing SIG West)	Wednesday, April 9 <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, April 9 <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).

## MAY MEETING

### Members' Presentations, May 14<sup>th</sup>

**D**o you have a favourite program you'd like to tell us about? Freeware, shareware, or commercial. Useful utilities or relatively unknown treasures! At our May meeting, several of our members will be doing just that in a series of short (10-15 minute) demos or slideshows. At present, we have room for a few more, so this is your big chance to share your experience with others. To jump in, contact me with your name and topic, but not all at once, please.

Bob Gowan (bob.gowan@opcug.ca)



#### Upgrade Envy—Part 7 *(Continued from page 1)*

appealed to my frugal Scottish heritage. Ordered...paid for immediately...watched the mailbox daily for a week...arrived, and very nearly instantly inserted on the motherboard. This time, I'm proud to say, I did it all by myself. No complications, no little broken parts, just a straightforward insert. Heck...I might have to think about becoming a techie!

There is one other little thing I'd like to discuss before I get to the chip modding. But first, a confession might be in order. The ASRock motherboard is a transition board. It is a bridge between what you've got now, and where you'd like to be but can't quite afford it yet. That means pluses and minuses, as you have seen. In this specific case, there are 2 memory slots for DDR memory and 2 memory slots for DDR2 memory. And the downside is that you can only use 2 slots at a time, and you can't mix types. So ignoring my rule about telling a story from beginning to end, I must jump ahead to the present when memory prices have fallen drastically. I bought 2 one Gig memory sticks for almost a pittance! If you define a pittance as \$29.95 per stick, plus taxes. (For those without a calculator handy, the total came to \$67.69.) And yes, I know, my total has now risen again. In fact, I think it would be best for all concerned, especially me, if I no longer apprised you of the increasing expenditures I have

been making. I could well have spent the same on beer and smokes and at the end would have had nothing. At least this way I have something to show for the "fun" I am having. Further, my Spousal Unit is out of the country, trekking in distant lands for the next 6 to 8 weeks, and not paying any attention to these small scribblings of mine. Could we all just keep it that way, please?

Well, since it appears I have embarked on the path of honesty and full (almost) disclosure, there is another little confession I have to make. Whilst on eBay, a small Raptor drive caught my attention. The seller was in Montreal, so no customs, easy shipping, yada, yada, yada. End result was a new-to-me drive that spun at 10,000 rpm. For a reference purposes, that means that the outside edge of the platen was travelling around 150 kilometers per hour. Now if I had my windows on the edge of that little gem, it ought to load fast enough to satisfy my cravings for speed.

Unfortunately, dear reader, your time is up. Please make an appointment for the next issue wherein you will find discussed the results of said Raptor.



## ARTICLE

# Computer Movies

by Don Chiasson

I am computer enthusiast, a crypto (cryptography) enthusiast, and have an interest in cracking systems. I am also a movie fan. As a result, I enjoy watching what I call computer movies, and own quite a few.

My choices are subjective. I generally did not include most spy movies, science fiction, the Terminator series, Star Trek, robot pictures (Runaway, Silent Running, Blade runner, I Robot, etc.), Electric Dreams, Demon Seed, The Computer Wore Tennis Shoes, Johnny Mnemonic, Jurassic Park, Jumpin' Jack Flash, and others. As I said, hacking (in the broad term), computers, and crypto. The majority in my list are fiction, the exceptions being Pirates of Silicon Valley, Takedown, and Revolution.

In this list, there are two significant splits. Before the 1983 movie Wargames, computers were mainframes (or minicomputers) with banks of flashing lights, noisy line printers, spinning tape drives, and noisy card readers. The year 1995 is when the Internet really happened and browsers came into use. This changed the graphical appearance from lines of text or inane graphics (e.g. Hackers) to good visual graphics.

Here is the incomplete list. It is in chronological order, as I just can't really rate them, though I indicate a few I particularly enjoyed or were unique. I'd appreciate hearing about any that I have missed.

1957 **Desk Set**. The research department of a television network is getting a new computer EMERAC and everyone fears being fired believing their jobs will become obsolete. Story revolves around senior network researcher (Catherine Hepburn), the computer expert (Spencer Tracy) and the computer. Fun 50's romantic comedy

1967 **Billion Dollar Brain**. A former British spy stumbles into in a plot to overthrow Communism with the help of a supercomputer. Based on a Len Deighton novel. The producer is Harry Saltzman, one of the producers of the Bond series; the titles are done by Maurice Binder who did the classic Bond titles looking down the gun barrel. The computer consoles used in the movie to depict the Brain complex are actual Honeywell 200 mainframe consoles.

1968 **2001: A Space Odyssey**. What happens when a computer goes crazy.

1970 **Colossus: The Forbin Project**. One I have not seen, though it received reasonable reviews.

1975 **Three Days of the Condor**. Robert Redford, an employee of the CIA does data analysis. He uses a DEC PDP8e,

a minicomputer with 4k 12 bit words of core memory. Data is stored on four inch diameter DECTapes, 3/4 inch wide tapes that hold about 256k bytes of data. A dual drive unit cost \$5100, \$60 installation, and \$32 per month maintenance.

1977 **Demon Seed**: A super computer succeeds getting its creator's wife (Julie Christie) pregnant in order to recreate itself in a hybrid baby. Sounds bizarre, but some good reviews. I have not seen it.

1982 **Tron**. Essentially the first movie with computer generated scenes: light cycles, tanks, solar sailer, MCP (Master Control Program), and others. Extremely primitive by today's standards, it was a start. The halo effects of the characters were hand coloured, frame by frame. At the box office, Tron was a bomb but has turned into a bit of a cult film. Some people really get into this movie, <http://www.tronguy.net>

1983 **Superman III**. Richard Pryor plays a hacker

1983 **Wargames**. This is perhaps the first movie where the computer is a personal computer rather than a mainframe. The term wardialing – where you have a computer dial many numbers to find computer modems - came from this movie

1985 **Real Genius**. Not so much computers as hacks in the MIT sense.

1985 **Weird Science**. Yes, you too can make a woman with your PC

1992 **Sneakers**. A mathematician discovers how to break codes. Uses all the right jargon. Top stars include Robert Redford, Sidney Poitier, and Dan Ackroyd.

1995 **Goldeneye**. The first Bond movie with Pierce Brosnan as James Bond. Good villains; a couple of hackers. Fine chase scene with a Russian tank.

1995 **The Net**. Hacker Sandra Bullock has her ID stolen.

1995 **Hackers**. High school Hackers strive to be Elite. Amusing characters. Made just before the Internet burst on the scene, and with fast communications being a 28.8 K baud modem. This has a huge effect on how computers are used, and makes you realize how things have changed. Graphics are quite unbelievable. This was Angelina Jolie's first Hollywood movie. The next year she married co-star Johnny Lee Miller. .

1998 **Pi**. A paranoid mathematician searches for a key number that will unlock the universal patterns found in nature. Low budget flick in black and white. Watch out for the rabbis! Real cult film. Check out the cool web site at <http://www.pithemovie.com/>.

1998 **Mercury Rising**. Nine year old autistic savant breaks top NSA code. He can't be allowed to live.

1998 **Enemy of the State**. Will Smith and Gene Hackman.

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## Computer Movies

(Continued from page 4)

Good action, with the villain at NSA. Photo surveillance satellites aren't as good as the movie makes them out to be, nor do they give continuous monitoring.

1999 **Pirates of Silicon Valley**. Made for TV but possibly available on video somewhere. Based on the book "Fire in the Valley", focusing on Bill Gates and Paul Allen of Microsoft plus Steve Jobs and Steve Wozniak of Apple. It is good, but there are errors, e.g. I don't think Bill Gates spent a night in jail for speeding. The Homebrew Computer club met at Stanford, not Berkeley.

1999 **The Thirteenth Floor**. If you kill a virtual reality character, is it murder? What if you are a virtual reality character?

1999 **The Matrix** (and perhaps sequels).

1999 **Office Space**. Humorous take of geeks in downsizing company who decide to plant a virus inside the company computer system that will pull money into their own account.

2000 **Takedown**. Based on the true story of the capture of computer hacker Kevin Mitnick. Note that much of what he did and how he broke into systems was "social engineering" rather than hacking at the keyboard. Wikipedia has an article about Mitnick.

2001 **Revolution OS**. Good documentary about the origins of open source software, with the emphasis on Linux. Interviews with many of the movement founders including Linus Torvalds and Richard Stallman.

2001 **Swordfish**. Does anybody here honestly believe Halle Berry would go out with Travolta? There is reference to a PDP-10 running ITS. Indeed, the PDP-10 was a real computer. ITS – the Incompatible Timesharing System – was a real operating system, and the name was a joke because MIT had an experimental system called CTSS, Compatible Time Sharing System. Note one of the hackers is named Axel Torvalds, same last name as Linus, creator of Linux.

2001 **Antitrust**. Top Stanford CS student takes job with big software company NURV despite his predisposition to open source software. NURV goes to great lengths to get what it needs. Some reviews have commented that the Gary Winston (played by Tim Robbins), head of NURV is modelled on Bill Gates, but in one scene Winston comments that his mansion has tech stuff that even Gates does not have. This means he isn't Bill Gates. Nice way to avoid lawsuits.

2001 **Enigma**. About code breaking at Bletchley Park during WW II. The plot part involving the blonde is fiction, but the overall movie seems to present an accurate picture of what life and codebreaking were like at the time. Good reconstruction of the "Bombe" special computers used to crack the Enigma codes. In the title credits, the movie is listed as a Jagged Production. That's Mick Jagger of the Rolling Stones-- the film's producer -- who is sitting at a dinner table at the dance. Apparently Jagger owns an original four rotor Enigma coding machine. The movie character Thomas Jericho is

loosely based on real-life mathematician and code-breaker Alan Turing (though Turing was gay).

2006 **The Net 2.0**.

2006 **Firewall**. Harrison Ford plays the director of IT security at a large bank; robbers hold his family hostage to force him to use the computers to transfer large amounts of money. He does clever things with parts from a fax machine and an iPod.

2007 **Live Free or Die Hard**. Bruce Willis is again the tough cop John McClane. Playing the hacker is Justin Long, best known for his part in the popular Apple vs. PC ads on TV. Enjoyable flick as long as you ignore many violations of the laws of physics.

2007 **Bourne Ultimatum**. This and the previous Bourne movies make major use of computers to track people. Popular action series.

Much of the detail information above came from <http://www.imdb.com> which is a good source for information, but not necessarily good movie reviews. Googling can find more information on computers in the movies. For example:

- Top ten movie servers:  
<http://www.vibrant.com/blog/servers-in-the-movies-our-top-ten>
- Top 20 movie hackers  
<http://www.drivl.com/posts/view/461>
- Things code doesn't do in real life,  
<http://www.drivl.com/posts/view/494>
- Usability in the Movies -- Top 10 Bloopers  
<http://www.useit.com/alertbox/film-ui-bloopers.html>

Finally, don't get cerebral about the errors and anomalies in any of these movies. Remember, it's just a movie. Sit back, enjoy, and ignore the things that are not right.



## PRODUCT REVIEW

# Exploring Linux—Part 9 by Alan German

I now have a fully-functional, production machine running Ubuntu Linux and so, in this latest in the series of articles looking at various aspects of Linux, it's time to turn our attention to maintenance issues and, in particular, to backup systems. Those who have read some of my previous reviews of Windows-based utilities will know of my fondness for file synchronization programs. So, my initial foray into backup mechanisms for Linux has followed this path. We will take a look at one open-source file synchronization utility that will provide us with a simple backup system, and learn a little about script files in the process.

I have a spare 256 MB compact flash memory card from an old digital camera kicking around. And, I am currently working on a project that involves receiving lots of word processing files by E-mail, compiling these into a single document, sending this out for review, and receiving feedback from multiple reviewers. It's important to maintain a backup of all of the files associated with this project in order that nothing gets lost in the shuffle. So, my initial goal is to mirror my working document directory onto the compact flash memory card. This needs to be done in a simple fashion that will allow me to easily and quickly make backups of the file structure as it is modified.

Linux has a great little utility – `rsync` – that will do precisely what I require. To quote from the program's documentation (`man rsync`): “Rsync copies files either to or from a remote host, or locally on the current host.” Rather than using the powerful communication capabilities of the program, we will merely transfer files between two disks on the local computer, in which case `rsync` serves as an enhanced copy command.

`Rsync` is a command-line program, so we will need to run it in a terminal window (Applications – Accessories – Terminal). The primary format of the command used is:

```
rsync options source destination
```

There is an almost mind-numbing array of optional commands (see `rsync`'s manual for full details), but we will use just three of them: `a` (archive), `v` (verbose) and `delete`. Our source directory will be specified as `/mnt/windows_data/carsp/cmrrsc_18/` while the flash memory card is seen by the filesystem as `/media/disk`. Thus, the command string to be entered in terminal's window is:

```
rsync -av --delete /mnt/windows_data/carsp/cmrrsc_18/ /media/disk/cmrrsc_18
```

Archive mode retains file attributes, such as ownership and permissions, when the files are transferred. Switching on verbose mode means that a complete list of the names of the files that are transferred as a result of the command is displayed. The `delete` option (note the double leading dashes required here) causes any files that are present on the destination drive but not on the source to be erased. The result is that any new or modified files are transferred from the source to the destination, any existing files on both systems remain unchanged, and any old files on the destination that have been deleted from the source are deleted on the destination. Thus, running this command produces a “mirror” of the files currently located in the source directory to appear on the destination drive.

There are a couple of important “tricks” to note in the specifications for the source and destination drives. Firstly, there is a trailing slash on the `cmrrsc_18` sub-folder specified as being the source. This tells `rsync` to copy all of the files (and sub-folders) from this folder on the source to the specified destination. But, most importantly, it says: don't create a `cmrrsc_18` folder on the destination. If we were to omit the trailing slash, a folder within a folder (i.e. `.../cmrrsc_18/cmrrsc_18`) would be created on the destination drive, which is not what we want. The other trick with the command is that, on the first time around, the `cmrrsc_18` folder is created on the destination drive if it doesn't already exist. With subsequent implementations of the command, the files (and folders) in the destination folder are modified to precisely match those in the source folder.

If the above seems to be a complex explanation of the nuances of the command structure, try a few simple tests. Use two temporary directories, `temp` (source) and `temp2` (destination), with just a couple of small text or image files in `temp`, and see what happens when you include the trailing slash, or leave it out. Try also adding, editing and deleting files in the source. Run the command and check that all your changes are indeed mirrored in the destination folder.

Given the directory path that I wish to be specified, the command line is rather long. And, perhaps I don't want to be bothered re-typing such a long command every time I wish to run the backup process. We should recall that previously-used commands are stored in a buffer, and can be accessed by scrolling through the command history (using the up-arrow). So, that's one way to reuse the command line. Another is to store the command in a special kind of file and run the command by typing the name of the file. Does anyone remember batch files in DOS? Welcome to the Linux world of shell scripting!

In particular, we are going to create a script file (`.sh`) that we will run in `bash` (the Bourne Again Shell). While a simple script will accomplish our desired task, it's worth noting that `bash` scripting is a very powerful programming technique. Because of this, many books and on-line

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## Exploring Linux (Continued from page 6)

tutorials are available to show you how to make effective use of the system.

But, for our present purposes, we need only limited knowledge of bash scripts. In fact, our script consists of just three lines of code which we type into gedit (Applications – Accessories – Text editor) and save as the file *mirror\_cmrc18.sh* in our home folder.

```
#!/bin/bash
echo "Mirror cmrc_18 to compact flash mem-
ory card"
rsync -av --delete /mnt/windows_data/carsp/
cmrc_18/ /media/disk/cmrc_18
```

The first line indicates that the file is a shell script and identifies the location of bash as being in the */bin* folder. (You can check this location on your system by issuing the command “which bash”.)

The second line (quite wordy by Unix programming “standards”) serves to document the purpose of the script by displaying a message on the display screen prior to activation of *rsync*.

The third line is merely the command line that we would have typed manually in a terminal window to run our selected backup process.

Note that the file name chosen for the script (*mirror\_cmrc18.sh*) is also rather long. Perhaps a shorter name would be more desirable. It would certainly be easier to type. But, in this case, it does tell us (well, it tells me!) what the script will do.

Now we have our script, we need to know how to run it. Firstly, in a terminal window, we navigate to the home folder and issue the command *chmod +x mirror\_cmrc18* to give ourselves permission to execute the file. Alternatively, pull up the Nautilus file manager (Places), right click on the file *mirror\_cmrc18.sh*, select Properties – Permissions, and check the box marked Execute – Allow executing file as a program. Note that if you try to run the script file without taking this step, bash will return the error message: Permission denied.

Now, we simply run the script file with the command *./mirror\_cmrc18.sh*. Note the use of a dot and a slash (*./*) in front of the script file's name. The dot indicates that we wish to

use the current directory, and the slash is a separator between the directory name and the filename. The requirement for this seemingly obscure format is a security feature in Linux. The current directory is not automatically on the path and so we must specify that the script file is to be run from the current directory by prefacing the file name with “*./*”. Note also that it is necessary to include the *.sh* file extension in the command.

But, that's it. The *rsync* program runs, transfers files between the two disks, and lists the files processed. Our files are safe. We have backup!

Now, let's make our bash script just a little more sophisticated by checking that the memory card is available before we try to run *rsync*. A few extra commands inserted into the script file will do the trick:

```
#!/bin/bash
echo "Mirror cmrc_18 to compact flash memory card"
# Check that the memory card is available
if [ -d /media/disk/cmrc_18 ]; then
    rsync -av --delete /mnt/windows_data/carsp/cmrc_18/ /media/disk/cmrc_18
else
    echo "Insert memory card and try again"
fi
```

The third line commences with the *#* symbol that defines this line as a comment. The workhorse statements are the “if-then-else” sequence in the last five lines. These either run *rsync*, or provide a warning message and exit gracefully. The command *-d /media/disk/cmrc-18* checks if the directory is present on the removable drive. If it is, we can proceed to back up our files. If not, we need to insert the flash memory card.

So, if you yearn for the days of DOS batch files, bash scripts in Linux can bring back a whole world of enjoyment (and/or frustration!) As noted previously, bash scripting is a very powerful tool. Check out the wide variety of available commands, and the multitude of programming techniques, that can be used for all sorts of different purposes. Lots of on-line assistance is available to you, including pre-built scripts that you can readily customize for your specific applications.

### Bottom Line

**rsync** (Open Source)

Andrew Tridgell and Paul Mackerras

<http://en.wikipedia.org/wiki/Rsync>

Introduction to Bash Scripting

[http://www.linuxconfig.org/Bash\\_scripting\\_Tutorial](http://www.linuxconfig.org/Bash_scripting_Tutorial)

# 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) <b>(Mr.) Jocelyn Doire</b> (e-mail distribution)	<a href="mailto:brigitte.lord@opcug.ca">brigitte.lord@opcug.ca</a> <a href="mailto:jocelyn.doire@opcug.ca">jocelyn.doire@opcug.ca</a>	
Public Relations	<b>Morris Turpin</b>	<a href="mailto:PR@opcug.ca">PR@opcug.ca</a>	613-729-6955
Facilities	<b>Bob Walker</b>		613-489-2084
Webmaster	<b>Brigitte Lord</b>	<a href="mailto:opcug-webmaster@opcug.ca">opcug-webmaster@opcug.ca</a>	
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## Financial Review 2007

I have reviewed the 2007 accounts and I believe that the figures reported in the Income Statement and Balance Sheet accurately reflect all of the revenues and expenses incurred during calendar year 2007.

*Andrew MacLeod*

## Reduce, Re-use, 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. Stuff left over at the end of the meeting will be sent to... the recycle bin.

