

BITS AND BYTES

The Newsletter of the Midland Computer Club

March 2008

GENERAL CLUB MEETING 7:00 P.M.

Meets 4th Wednesday of the month at the Midland Community Center
2001 George St., Midland, MI
<http://mcc.apcug.org/>

This month's date: March 26th

THIS MONTH'S TOPIC: System Utilities to help your sick PC by Joe Lykowski

PROGRAM COORDINATORS

Contact :

Larry Piper larryP56@chartermi.net
Co-Chairman-Joe Lykowski joseph@lylowski.com

The President's Corner

I was recently reading an e-mail from Bob Lewis (no relationship), president of IT Catalysts, Inc. (www.itcatalysts.com), who publishes a weekly newsletter called *Keep the Joint Running*. He was talking about spam and it's definition. Although the newsletter is several years old, I think his comments are still appropriate in today's world and in the light of the CAN-SPAM Act (some people call it the I-CAN-SPAM Act). Bob's definition of spam includes three characteristics: It's e-mail that's (1) unsolicited; (2) sent for commercial purposes; and (3) transmitted to a large distribution list. He then proceeded to explain why e-mail based on those characteristics wasn't appropriate. First, "unsolicited" would basically invalidate all e-mail unless it was preceded by a phone call or snail mail. How often does a child or grandchild send you an e-mail without your knowing it's coming? How about your college buddy whom you haven't spoken to in a couple years? Secondly, if it's based on "sent for commercial purposes," then no vendor would ever be able to communicate with their clients via e-mail. Lastly if you based it on a "large distribution list," then most of the e-mail I receive wouldn't be valid.



As Bob pointed out, the only way to effectively define spam is to use a Boolean AND in between the three characteristics. But even then there are exceptions to the rule. How many of us have had an interest triggered by an e-mail that would use the AND between those three characteristics? By and large, most of what we may call spam, we have voluntarily signed up for and didn't realize it. How closely do you read the agreements that are frequently attached to web sites when you sign up for something?

What most of us really want to do is cut down the amount of the type of mail we don't want. This probably includes drugs, gambling, porn, financial advice, etc. but then I know of some members who want some of those categories.

What you missed!

At the **February** meeting, Howard Lewis demonstrated a program called BartPE (www.nu2.nu/pebuilder/) to create a "pre-environment" CD. With this CD, you can start up a computer from the CD actually running a trimmed-down version of Windows XP supporting the NTFS disks used by Windows XP and Windows Vista. This then functions as a "boot diskette" that we used to generate to bail us out of problems using Win9x. This allows you to run your computer without accessing a corrupted operating system on your hard disk.

March will have Joe Lykowski giving a presentation on various **system utilities** which may be necessary to figure out what is wrong with your PC. Many of these utilities can be included on the "pre-environment" CD discussed at the February meeting and run without starting up the operating system on your hard drive which may

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2008 MCC OFFICERS

POSITION

President Howard Lewis
 Vice Pres. Bill Tower
 Treasurer Bob Miller
 Membership Gary Ensing
 Editor Jan Ensing

EMAIL:

lewis3ha@chartermi.net
 stressed@tir.com
 barloshelties@sbcglobal.net
 gensing@juno.com
 btiger6@juno.com

<http://mcc.apcug.org/>

Special Interest Groups:

CLUB PROGRAM COORDINATORS

Chairman Larry Piper larryP56@chartermi.net
 Co-Chairman Joe Lykowski joseph@lylowski.com

BOARD MEMBER

Mary Branson molly688@chartermi.net
 Robert Hughes MIDltunez@yahoo.com

INTERNET SIG

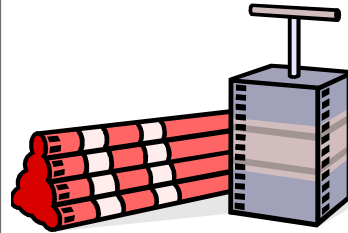
Terry Brown t_bbrown@yahoo.com

PUBLICITY

Kathy Bohl kbohl30265@aol.com

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One way of accomplishing this would be to prohibit the sale of e-mail addresses, but I'm sure there is probably some flaw in that logic too. There are probably other ideas, but when generating these, we have to step back and look at some of the drawbacks to those ideas before they become law.



What is your solution? Mine includes an active use of the delete key on my keyboard! Let me know your thoughts.

— Howard Lewis

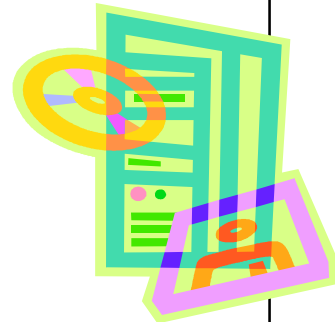
(The above comments are the opinion of the author and do not necessarily reflect the views of the Midland Computer Club.)

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be corrupted. You will definitely want to learn about some of the tools that are used to figure out what is wrong with your computer.

In **April**, Larry Piper will demonstrate **how to set up your own personal website** using the space that you may have available through your ISP (specifically Charter).

The **May** meeting will have Terry Brown discussing **genealogy research on the web.**



Board Meeting

The next board meeting will be 7 p.m., April 8th, 2008, at Chapel Lane Presbyterian Church, 5501 Jefferson Ave., Midland.

Membership Enrollment form

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you may also pay for membership at a regular club meeting

Useful, useless and strange (in no particular order) Web Sites:

http://productnames.blogspot.com/	If you ever wondered about the origin of the name allen wrenches, Pez candies, YouTube, etc., try going to this site. The site documents a number of products (such as Cold Stone Creamery and Bic Pens) and adds even more on a regular basis.
http://www.youtube.com/watch?v=3w8FJpf-sJ8 http://www.youtube.com/watch?v=2EtSePEb9d4	You may remember the car that used to turn into a boat once you got in the water. This video shows that car after restoration and in use. The second link uses a more current model car.

Tips, Tricks & Techniques

Moving Between Open Windows In Microsoft Windows Vista

There are three basic ways to switch between various open windows in Microsoft Windows Vista:

If you know which windows you want to open, click on the button on the **Task Bar** (usually at the bottom of your screen. That particular application will now become the active window.


Hold down the **Alt** key and press **Tab**. This will bring up a bar showing all of the various open windows and a view of their contents. By continuing to hold down the **Alt** key and pressing **Tab** repeatedly, you can move from one open window to another. When you get to the window you want, simply release the **Alt** key and that window will be displayed as the active window.

Hold down the **Windows** key and press **Tab**. This will display all of the open windows in a Rolodex type view. Now by holding down the **Windows** key and repeatedly pressing the **Tab** key, you can move between the various windows. When the window you want to make active is on top, release the **Alt** key and that window will become the active window.

Changing Sentence Case in Microsoft Word 2007

To change the capitalization of a group of words in Microsoft Word 2007, the process is significantly easier than in previous versions of Word. To change the case of a selected group of words:

Highlight the text desired).

Under the Home tab and in the Font group, click on the Change Case icon ().
Next select "Sentence case," "lowercase," "UPPERCASE," "Capitalize Each Word," or "tOGGLE cASE."
The case structure of the selected words will now change to the capitalization selected.

Cleaning Up Your Desktop (Windows XP)

Some people store all sorts of things on their desktops. This is great for the short term, but eventually the desktop will become cluttered with all sorts of things that you don't use. The Desktop Cleanup Wizard is a great tool to help you in

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quickly cleaning some of the old things off of your desktop. To clean up your desktop:

Right-click an empty area on the desktop and select **Properties**,

Next select the **Desktop** tab.

Click the **Customize Desktop** button and then click on the **Clean Desktop Now** button to run the wizard.

Click **Next**. The *Desktop Cleanup Wizard* scans for all shortcuts located on the desktop and ignores all other kinds of files and folders. Next the *Desktop Cleanup Wizard* will present a list of all the shortcuts that it found.

Look through the list and uncheck any items you want to remain on the desktop.

Click **Next**, and then click **Finish**.

Click **OK** twice to return to your desktop.

All the shortcuts you have checked have been moved to a folder on the desktop called *Unused Desktop Shortcuts*. From here you can quickly refer to them if necessary and drag them back to your desktop as needed.

Viewing Yesterday's Sites in Internet Explorer 7 History

By default Internet Explorer keeps track of the websites you have visited in the previous three weeks. If you know that you visited a particular site recently, but don't remember its address, you can use the *History Explorer Bar* to help you find it. To view the *History Explorer Bar*, click on **View/Explorer Bar** and select **History**. This will bring up the *History* bar on the left side of the screen. You can sort the order in which sites are presented through the drop-down box at the top of the *History* bar (i.e., **By Date**). You can then click on the date of interest to view all of the web sites visited on that day. By clicking on one of the sites an expanded list of all of the pages visited on that site is now displayed. Next click on the link for the page of interest and it will then be displayed.

Easy Media Creator 10 Suite

Roxio

Review by Howard Lewis

Easy Media Creator (EMC) has a long history, dating back more than 15 years. It was originally called Easy CD Creator and was developed in Italy. Over the years, it moved to the US and was purchased by Adaptec which spun off Roxio and then sold the division to Sonic Solutions. Just as computers have evolved over the years, so has the software. It will now perform almost any task that you would wish to perform with those silver 5" platters we call CDs or DVDs (except for authoring using the newer High Definition ones — Blu-ray or HD DVD).

Easy Media Creator will now do much more than the simple task of burning CDs or DVDs. It will now do audio, photos, video, data backup, copy disks, and connect to various media devices (digital cameras, camcorders, etc.). Fortunately with the wide scope of actions it can perform, the software has a front-end which helps the novice user decide which module in the software needs to be run. You can create slideshows from your pictures or movies using your pictures or video. Sound can be added to create beautiful movies of your most treasured moments in life. With EMC 10, you can catalog all of your pictures, videos and sound files, and add tags to speed up looking for various genres of audio and video or looking for specific groups of photos. With two build-in graphics editors, you can move from "CineMagic" for your novice graphic editing to VideoWave for the more advanced user interested in tweaking the results of a movie creation.

Installation of the software was a seamless operation; although the installation time seemed to be a little excessive. (I've since learned that I had a configuration problem with my DVD drive, which may have slowed that process down.) But since installation is normally a one-time event, I don't see this as a major concern. EMC 10 comes on one DVD and the final install footprint was almost 1.2 gigabytes on my Windows Vista machine. Easy Media Creator runs on all of the various flavors of Windows XP and Windows Vista with system requirements being the same as the minimal operating system. If your burning needs don't include the need to edit hdef discs, I would heartily recommend Easy Media Creator 10.

The New, The Best, and The Worst

February 2008

Collected by Pim Borman, Webmaster, SW Indiana PC Users Group, Inc.

<http://swipcug.apcug.org/>

swipcug(at)gmail.com

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**Do You Ubuntu (yet)?
A Linux Update**

In February of 2002 I wrote here:

"It has been said that Windows XP is less buggy than its Windows 95, 98, and Me predecessors; damnation by faint praise. XP is also more expensive, can only be used on a single computer, and presents many incompatibilities with existing hardware and software. It hogs resources. That led me to wonder how Linux is coming along."

Replace "XP" with "Vista" and history repeats itself. Furthermore, add that online security has dramatically worsened and that the security of Windows Vista is at best only marginally improved.

At the time I got a copy of the Red Hat Linux 7.2 distribution (list price \$60), included in a 1000+ pages "*Linux Bible*" and proceeded to evaluate it. I found that the limited software included in the distribution was nice and useful, but trying to install additional programs from the Internet was a nightmare.

Six years later desktop Linux has matured beyond recognition. Lindows, later renamed Linspire, was the first distribution making it a one-click operation to download and install software from a large online library. Originally the cost of acquiring Linspire and a one-year subscription to the library was \$100, but more recently the service has been available for free. I am still using an older version of Linspire daily, mostly for Web browsing, accessing email, and playing Freecell, Yukon or MahJongg.

In 2004 Marc Shuttleworth, a South African by birth, started a free new Linux distribution called Ubuntu ("humanity towards others"). In 1999 he sold Internet security software he had developed to Verisign for about \$575 million. He spent \$20 million of that on an 8-day trip by Soyuz to the Space Station and had plenty left over for a free software project. By now Ubuntu has become the most advanced and popular desktop Linux distribution, with the help of numerous volunteer contributors.

Ubuntu undergoes continuous upgrades as new and improved software is being developed and tested. Twice a year, in April and October, a new version is released. The latest version is numbered 7.10, for October of 2007, and is nicknamed "Gutsy Gibbon." (The next issue in April, version 8.4, will be named "Hardy Hero." You get the drift). I installed Ubuntu side-by-side with Windows XP on my desktop computer, equipped with an AMD Athlon64 X2 4800+ dual core processor, 1 GB of RAM and an nVidia GeForce 7600 graphics card. I put it in a separate Linux partition on my hard drive previously used for Linspire. Before committing to the installation I ran Ubuntu off the CD to verify that it was compatible with my hardware.

Once installed, Ubuntu was ready to go. It automatically set up my connection to the Internet with **Firefox**, and with my permission downloaded a large number of updates and additions released since October. The **OpenOffice.org** suite of programs, comparable to MS Office, was ready to go. I already had been using the Windows version of OpenOffice Writer so there was no learning curve whatsoever. **The Gimp**, an advanced graphics program similar to Adobe Photoshop Elements and with comparable features, came preinstalled. I also found **drivers** for my HP 812C printer and my Epson Perfection 3490 Photo Scanner. With all the necessary tools at hand I had no difficulty producing the January newsletter, including typing the articles, downloading articles from other user groups, and designing the layout and the new masthead. I printed the newsletter ready for Xeroxing and used OpenOffice Writer to save a separate version (omitting treasury data) to pdf format for distribution on the Internet.

Ubuntu provides many additional Linux programs:

Thunderbird, well-known program.

Pidgin, an Messenger graphical multi-protocol instant messaging client, capable of using AIM/ICQ, Yahoo!, MSN, IRC, Jabber, Napster, Zephyr, Gadu-Gadu, Bonjour, Groupwise, Sametime, SILC, and SIMPLE all at once.

GRAMPS, genealogy program capable of GEDCOM files that are used in such programs as FamilyTree Maker for

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Windows. It can produce reports in various formats, such as text, HTML and PDF.

Gnucash can track finances in multiple accounts, keeping running and reconciled balances. It has a graphical user interface, double entry, a hierarchy of accounts, expense accounts (categories), and can import Quicken QIF files and OFX files.

Multiple **sound** and **video** programs for burning and reading CDs and DVDs, ripping and creating audio CDs, recording sound clips, playing movies, etc.

Popular games, including **aisleriot** (anagram of solitaire), a large collection of card games, including Freecell. Also **blackjack**, **glchess**, **gnome-sudoku**, **gnometris** (Tetris), **gnomine** (minesweeper), **mahjongg**, and many others.

Additional programs can be installed with the **Add/Remove** function. Some powerful Linux programs that are not (yet) specifically adapted for Ubuntu can be retrieved with the **Synaptic** package manager, an easy-to-use graphical program to download applications from the Internet. I used it to download and install **Scribus**, an advanced desktop page layout manager capable of producing commercial grade output in PDF and Postscript.

Difficult to use for a non-professional, but it worked just fine.

Installation

It is easy to install Ubuntu and Windows on the same computer in separate partitions. Previously that required manually repartitioning your computer with a program such as Partition Manager, but the latest Ubuntu version, Gutsy Gibbon, includes its own Linux-based partition manager, **GParted**, and automatically uses it to scan your computer for available space and to reconfigure that space (with your approval) to install itself. During boot-up the computer displays a menu of startup options, including Windows or Ubuntu.

I evaluated the ease of installation on an old Dell Inspiron 3800 laptop computer, with a 600 MHz Celeron CPU, 320 MB RAM and 880MB free disk space. Installation alongside the existing Windows Me went flawlessly. The computer didn't have a network card, but Ubuntu recognized the PCMCIA wireless network card and connected to the Internet after I provided the router parameters.

"Sounds Great, But Why Bother?"

For the same reasons people move out of the city to the suburbs: **security and cost**-of-living. To enjoy the best of both worlds, install Ubuntu side-by-side with a basic Windows program. No need for expensive MS Office or Adobe programs. Use Ubuntu for safe online access, and keep Windows for those few occasions were Linux does not (yet) provide the means. As time goes by, it will probably be possible to abandon Windows altogether. Give it a try!

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Photoshop Lightroom: a Review

by Tom Ekvall, newsletter editor and "Creative Imaging" columnist, Northeast Wisconsin PCUG
<http://webpages.charter.net/newpcug/>
Tekval(at)new.rr.com

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Do you like to shoot plenty of pictures with your digital camera?

If you are like me, storing and organizing them is always a chore so that you can find the right picture when you need it.

Enter Adobe Photoshop Lightroom – the new kid on the block for handling your digital workflow. Designed specifically for professional photographers, Lightroom is equally fantastic and impressive for any photo enthusiast.

Lightroom is not designed to replace Adobe Photoshop or Photoshop Elements. However, It is the perfect complement to the programs, and for some who do not care for doing layers, may become the only product they need for digital imaging tasks.

While Photoshop is designed as a general-purposed tool to handle a variety of creative digital imaging tasks, Lightroom has only one focus—providing photographers with an effective, streamlined way to manage their photos, proc-

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ess them, and deliver a final product whether a print or web gallery.

The product incorporates many features I enjoy in Photoshop CS3, such as the state of the art black and white adjustment techniques and being able to edit JPEG and TIFF files in a non-destructive manner.

In fact, everything you do in Lightroom is handled in a non-destructive manner, so that .jpg images do not diminish in quality over time as editing changes are made. I like the way Lightroom lays out the photo editing tools on the workspace so that everything is at hand. Edits can be undone in the future and new changes made without having to create separate files for each change. Information is stored in a separate file associated with the image. The information is there in a Managed Photos folder whether you import the images into Lightroom's library or leave them in the original location.

Lightroom in fact is a cataloger of your photos, with the user having the choice where to store the images. It will even recognize pictures on removable drives or external hard drives as part of the catalog, something most browsers will not do. I chose to store my pictures in their original location for now.

When you start up Lightroom, you will notice a sleek, black interface with photos in the workspace depicted as slides.

The concept behind Lightroom is to provide a simplified workflow setup from shoot to finish with five modules identified on the top right hand section of the screen: Library, Develop, Slideshow, Print, and Web. Each module has a set of panels with pre-set information on the right hand side, task information on the left hand side, photo displays in the center and a filmstrip on the bottom of photos being reviewed. The filmstrip shows all in a particular folder, not just those opened up.

The **Library** is where photos are imported and cataloged with the ability to add keyword information, rate the photo on importance, and even mark it for rejection before a final deletion. It also includes Quick Develop controls that let you make simple edits with push button controls rather than sliders. Photos can be viewed in tandem to facilitate selecting, comparing, and ranking (stars and colors) photos for later processing.

The **Develop** module is where you do the non-destructive processing of photos including those in the .raw format. Whether you are in the library looking at a set of photos or in the Develop module, a histogram of the picture selected is always visible. This helps in evaluating which picture to keep or edit for printing.

The **Slideshow** provides a way to review photos or show them to someone else in an interesting format with the film strip of all the photos still showing on the bottom part of the screen.

The **Print** module provides all the choices for printing while the **Web** provides a tool for enabling the pictures to be viewed on the web either in html or in flash formats.

I love the way Lightroom is laid out on the screen as you can see from the accompanying image. Everything is so simple to use and user-friendly.

I also love the Color Adjustment sliders that adjust both the primary and secondary color ranges (all eight colors) with regard to the hue, saturation and luminance (HSL) characteristics of the image as well as the tonal controls including a new Tone Curve feature. Both allow you to make adjustments directly in the targeted photo.

Lightroom can probably handle most of my image-editing needs. However, there is still definitely a place for Photoshop CS3 for those things which Lightroom cannot do.

What Lightroom cannot do is apply layers, masks, and selective editing to a photo nor will it allow you to do compositing and montages. It is not a "fix it" program when extensive retouching is necessary, nor does it have filters and brushes to create artistic effects, something I love to do. Lightroom also does not work with video, which is no big deal to me.

Lightroom does provide for exporting the photo to Photoshop, Photoshop Elements or other image editing programs so that further work can be done to the photo.

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Lightroom sells through Adobe (www.adobe.com) for \$299. A 30-day fully functional tryout version is available for downloading from their web site.

Final thought. This is definitely a must-have program for those who want to manage their photos and process them in a non-destructive manner. To me what sets this apart from other organizers/digital asset management programs is the quality and depth of the photo-editing tools. It is obvious the program draws upon the experience of Adobe staff in developing image-editing products such as Photoshop, Bridge, and Camera Raw.

The system requirements include Microsoft Vista or Windows XP, 768 MB of RAM (1 GB recommended) and a Pentium 4 processor. I installed the software on an Acer laptop running Vista with Pentium 4 dual-core processors (1.60 GHz speed), and 2 GB of RAM. No installation problems. There are a number of books out on the market to help you learn more about the software. The one I use is Photoshop Lightroom for Digital Photographers Only by Ron Sheppard. I like it for its simplicity in presenting information in an easy-to-understand format. There are a number of other great books out there.

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64 Bit Computing--Pros and Cons

by Brian K. Lewis, Ph.D, Member of the Sarasota Personal Computer Users Group, Inc., Florida

www.spcug.org

bwsail at yahoo.com

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In July 2005 I wrote an article for the Monitor on using the 64 bit version of Windows XP. My conclusions at that time were that most users should wait the arrival of Microsoft's next operating system before leaping into 64 bit computing. So Vista's 64 bit version (Vista x64) has now been here for about a year, should you be considering a change from your 32 bit processor to a 64 bit processor? I'll lay out some of the pros and cons of this so you can make a decision.

First, let's consider why 64 bit processing is in the future of computing. To do this we need to consider some very basic information on how computers function. As most of you are well aware, computers process information as either a 0 or a 1. Or in the really old days of computing, these were switches that were either "on" or "off". Each value constitutes one one binary "bit" or instruction. A central processor with a 32 bit instruction set can process 32 bits per clock cycle. Thus if you have a CPU that runs with a 2 GHz (2 billion cycles per second) clock cycle, it is processing 64 billion bits per cycle. That's the theory, in practice there are limitations which may reduce the actual processing speed. Anyway, a 64 bit processor could handle twice the number of bits per second as a 32 bit processor. Again, because of other limitations, the actual processing speed advantage is less.

There is another major advantage to 64 bit computing and that is the size of the address space or the amount of memory that can be used. For a 32 bit processor, working memory is limited to 2 raised to the 32nd power (2^{32}) or 4 GB of memory. A 64 bit processor can address 16 Exabytes of Ram. That's, 2 to the 64th power (2^{64}) or 16 Million Gigabytes! At the present there are no machines that support this much RAM. For one thing the cost of that much memory would be excessive. So manufacturers are generally limiting motherboards and chipsets to 128 GB of RAM or less as Vista x64 can only address up to 128 GB of RAM. The maximum RAM is usually greater than the 4 GB limitation of the motherboards designed for 32 bit processors.

So the question becomes, why do computers need any amount of memory even close to any of these figures? The answer relates to how people use their computers. A lot of users, and I'm one of them, open more than one application at a time. This can have a definite effect on the speed of operation of the computer. When you open an application in either Windows XP or Vista, the operating system sets aside a 4 GB memory space for the application, drivers and other required information. So each application that is open has its own 4 GB memory space. It is a rare personal computer that has 4GB or more of RAM. In fact, Windows XP can not address more than 4 GB of RAM and it uses almost one GB for its own components. So how is this handled?

The solution to the requirement for very large RAM space for each application is called "Virtual Memory". The computer stores much of the required information for an application on the hard drive. It then moves data back and forth between RAM and the hard drive as it is needed. A paging table is used to track the locations of data on the hard drive and in RAM. So, even when you open only a single application, a large part of it will be stored on the hard drive or in "virtual memory". When information on the hard drive is needed, the paging table remaps it to RAM memory and also moves data from memory to the hard drive. Because read/write access to the hard drive is much slower than read/write access to RAM, the overall processing time is much slower. If you are simply doing word processing or writing e-mail, then the speed difference is not really noticeable. If you were doing calculations using a large spreadsheet while setting up a Power Point presentation with complex graphics, then you would probably notice a slight slow down in the overall operation of your system.

So the primary advantage of 64 bit computing is the tremendous increase in address space. This advantage is also present when running 32 bit software on a true 64 bit machine. Running 32 bit software on Vista x64 is referred to as running on the Windows on Windows64 or WoW64. By utilizing the added address space of x64, the time required for loading, unloading and switching processes can be greatly reduced or eliminated. This can also eliminate the frequent hard drive cycling that is referred to as

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"thrashing", which can occur in a 32 bit system.

If you decide to move to a 64 bit system, just be sure to add plenty of RAM. Certainly you should have a minimum of 8 GB. The motherboard should also have a system bus designed to work with a 64 bit processor. Otherwise the bus can become a major bottleneck. In fact, you really should not try to upgrade a 32 bit machine by installing Vista x64. To really be successful, you should buy a machine which is designed from the ground up to run Vista x64. Also, the upgrade version of Vista x64 will only upgrade the 64 bit version of Windows XP.

That brings us to the "cons" about Vista x64 and 64 bit computing in general. 64 bit processors have been available for four or five years for desktop computers. However, when we relate this to machines with Windows operating systems, the big problem is slowness of the adoption of 64 bit hardware and software by manufacturers. One example is the lack of device drivers for peripheral hardware. So just what do you need drivers for? The one that affects most people is the printer driver. Operating systems don't always include a printer driver because of the great variety of makes and models. Although I know that many HP printer drivers are delivered along with the 32 bit Windows OS. However, this is not true for the 64 bit version. If a 64 bit driver is available for your printer you may have to download and install it yourself.

With Windows Vista, you not only must have a 64 bit driver, it must be a "signed" driver or Vista will reject it. A signed driver contains a digital signature or a certificate in the program code which meets Microsoft's requirements and is from a company that has a license (Publishers Identity Certificate) from Microsoft. You may have already encountered an "unsigned driver" message when you tried to install software or drivers. In Windows XP and 32 bit Vista you were able to continue the installation in spite of the lack of the signed driver. In Vista x64 this is not possible. Vista will discontinue the installation after advising you of the lack of the signed certificate. This procedure was implemented to try to stop "rootkit" malware from installing itself in the heart of the operating system – the kernel. Rootkits are able to hide within the computer by altering register keys and processes. By blocking the installation of unsigned device drivers Microsoft is hoping to reduce the rootkit problem.

A driver is also needed for your graphics cards. Both ATI and NVidia released 64 bit drivers for their newest cards in December, 2007. There is considerable doubt that they will produce 64 bit drivers for any of their older cards. Another reason why you have to consider new hardware when you are thinking of transitioning to a 64 bit OS. Other hardware that needs 64 bit drivers include scanners, sound cards, modems, serial ATA (SATA) / RAID and just about any other hardware peripheral. So you may need to update all of your hardware in order to get 64 bit drivers. Also, since the graphics drivers have only appeared almost a year after Vista's debut, other hardware manufacturers may still be working on drivers. You definitely need to do your homework if you are considering the purchase of an x64 system.

Software is another area that is slow to take advantage of the extra processing capacity of Vista x64. Although, as I mentioned earlier, x64 can run 32 bit software it is done in an emulation mode. The 32 bit application can not take advantage of the wider data path that is available in x64. Although there is some advantage due to the added memory in an x64 machine, the software is not using the hardware to full advantage. Just as happened when computers shifted from 16 bit processors to 32 bit processors, there was considerable delay before manufacturers moved solidly into the 32 bit realm.

So what applications are currently most likely to have 64 bit applications that can use the full capacity of x64?

Applications for creating digital content in computer-aided design and digital video editing.

Applications that require mathematical precision and floating-point performance.

Applications that involve large, high-performance databases.

Vision acquisition and analysis applications with large amounts of data moving directly into memory at rapid rates.

I suspect it will still be several years before 64 bit computing will be the mainstream for personal computers. So, unless your requirements are similar to the above list, I would suggest you stick with 32 bit systems for a while longer.

Dr. Lewis is a former university and medical school professor of physiology. He has been working with personal computers for over thirty years, developing software and assembling systems. He can be reached at bwsail at yahoo.com.

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Moving on to Vista – Part 3

by Neil Stahfest Software Librarian, Tacoma Area PC User Group, WA

ncstahfest(at)msn.com

www.tapcug.org

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Your PC's desktop is the largest, most user defined area on your PC's screen. It contains all your own shortcuts, folder

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icons and your personal desktop picture. The desktop is really just a personal file folder on drive C. That means that any work you do on the desktop is saved for you on Drive C and not lost when you turn the computer off. Of course any documents, pictures, etc. that are “saved” on your desktop can be moved or copied to other folders on your hard drive.

After a while some of, make that most of us, find our desktop becomes loaded with program icons and shortcut icons. Program shortcut icons are a convenient way to get to programs that you use a lot. Unfortunately, when you install new programs most of them add a desktop shortcut and soon you have a desktop full of shortcuts, making it hard to find a shortcut when you want it. Here are a couple of solutions to this clutter.

The left end of the taskbar contains a “Quick Launch Toolbar+. By default, Windows Vista places one or two program icons here (i.e. Internet Explorer). You can drag a limited number of additional shortcut icons for your favorite programs to this area and save space on your desktop. A “feature” of the Quick Launch Toolbar is that you only have to point at the program icons there and left-click once to start the program. This might seem a little confusing at first if you are used to double clicking on a program icon to start it, but you'll probably get used to it pretty fast.

Program shortcuts on your desktop point to programs that are also listed in your Start menu. The most frequently used programs can be seen when you click on the Start button. On the Start menu, click on “All Programs” to see all the other programs installed on your computer. You may need to use the scroll bar to see all of them and you will probably find more programs than you have shortcuts on your desktop. So, once you confirm that a program shortcut points to a program listed on the Start menu, you can safely delete infrequently used desktop shortcuts.

A third approach to reducing desktop clutter is to consolidate shortcuts. If you have multiple programs that do similar tasks (i.e. A photo catalog and picture manipulation program), create a desktop folder named “Photos”. Then drag your shortcuts into the “Photos” folder and you're done.

Vista comes with a new set of desktop pictures. Access to alternative desktop pictures is similar, but slightly different, from what you may be used to with Windows XP. Right-click on a empty area of the desktop and click on “Personalize”. On the “Personalization” menu select “Desktop Background”. An array of available pictures will appear. Scroll through the pictures, select one. Make a selection from “How should the picture be positioned” and click OK.

That's fine if all you want to use are the pictures that came with Vista. What if you want to use something different? Just follow the steps list above but when you get to the “Desktop Background”, instead of selecting one of the available pictures, next to where it says “Picture Location” click once on “Windows wallpapers”. You'll see a list of other areas that contain pictures and colors. Want to use a photograph that you saved to your computer instead? Click the browse button. On the left side of the “Browse” screen, click on “Pictures”. From the Picture folders on the right side of the Browse screen, make your selection, use the “How should the picture be positioned” if needed, and press the Open button to finish.

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Moving on to Vista – Part 4

by Neil Stahfest, Librarian, Tacoma Area PC User Group, Washington

www.tapcug.org

[ncstahfest\(at\)msn.com](mailto:ncstahfest(at)msn.com)

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Windows Vista is a resource hog. A year ago, when I reviewed Vista for TAPCUG, my advice was to not upgrade an existing computer and buy Vista, wait and get it with a new computer. Today I stand by that advice. There are no new major programs that require Vista to run. If you're content with the way your existing computer(s) run with Windows XP there is no real reason to upgrade.

When you do buy a new computer there are several features you should look for for it to run Vista well. The first is RAM (random access memory). I don't think any manufacturer is selling a new computer with Vista with less than 1 megabyte of RAM but if you really want Vista to work well with large applications (Microsoft Office, video editing software, many games) try to get 2 gigabytes of RAM. You wont be sorry. There is no point in installing more than 4 gigabytes of RAM. Windows cannot access memory above 4 gigabytes.

The other issue is a video card. Vista wants at least 128 megabytes of memory for video. For best results, the memory

should be installed on the video card. Some computers steal the video requirements from your computer's RAM. It works but the card will run slower. 256 megabytes of video card memory is even better.

Many people don't partition their hard disks, I do. I suppose it goes back to the days when larger hard drives started to appear and our computer operating system couldn't recognize and use the larger space. Of course all that has changed now, Windows can almost any hard drive size most of us will install. When I had to partition my hard drive, to fully utilize it, I discovered other benefits. Its easier to make a backup copy of a smaller hard drive. If I create a partition for just my photographs, and I only need to make a new backup of my pictures, I can just backup the partition containing the pictures and not everything else. A faster and easier process. I can also install another operating system Windows XP or maybe Linux) on my computer by creating a separate partition and run it using a simple process called dual booting.

So I wanted to partition the hard drive that came with my laptop to use some of the excess space to store a backup copy of drive C. I bought a new copy of Partition Magic. I've used this program many times to partition drives on other computers. Unfortunately I discovered that Vista doesn't like Partition Magic. A trip to Symantec's home page showed that they have no updates for Vista. As I was wondering how I would solve this dilemma, I discovered that Vista has a new built-in Disk Management utility and one of its functions will partition hard drives.

To use the you first have to get to the Disk Management window. From the start button, go to the control panel. Click on System and Maintenance and scroll down to "Create and format hard disk partitions", at the very bottom of the window. You will see what appears to be a table of every disk and partition installed on your computer. Among other things you'll see the capacity of each disk and the free space available. Select the hard drive that you want to partition and right-click on it. You need to free up empty space on the hard drive so on the drop down menu. Select "Shrink Volume" and specify the amount of space you want to free up in the Shrink Dialog box. The free space will appear in the Disk Management window as a black bar and labeled as "Unallocated".

Now you are ready to create your new partition. Right-click on the "unallocated space". From the menu select "New Partition". Then you just follow the wizard that appears to select the size and type of partition you want to create and format it. It may sound complicated but if you follow the steps listed above its easy.

Windows assigns drives (hard drives, DVD drives, etc) in alphabetical sequence so if drive letters C, D and E were already used your new partition will be labeled drive F. Typically, when you buy a computer from a company such as Hewlett Packard, drive C will be your hard drive, drive D will be a partition labeled "Recovery Drive" (used to restore your computer to "factory condition" in the event of a catastrophic crash) and drive E will be a CD/DVD drive. Its a cosmetic thing but I like to group all my hard drives and partitions together. You can use the Disk Management window to relabel your drives. Just select one of the drives, right-click on it and select "Change drive letter and paths". When you left-click on "Change drive letter and paths" press the "Change" button and pick a new letter to label the drive. I usually start by re-labeling the Recovery Drive drive "R" to make the letter "D" available for a new hard drive or partition. Then I re-label the CD/DVD drive drive Z. When this is done, all the letters from D through Q are available for hard drives, hard drive partitions and flash drives.

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Botnet—The Evil Network

by Grant Fuller, a member of Big Blue & Cousins, Canada
www.bbc.org
[newsletter\(at\)bbc.org](mailto:newsletter(at)bbc.org)

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This one might even be too much for Webman. There is a community of evil geeks who own a number of computers that are used exclusively for delivering viruses.

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Usually backdoor Trojans, the virus is designed to infect the average computer users machine when launched periodically from the evil geeks' "Zombie" machines. The virus does not necessarily cause problems on the targeted computers but it uses these average users' machines to deliver spam. With this chain reaction method, huge quantities of spam can be spread with very little chance of tracing it to the source. ISP's have admitted they spend more of their resources on combating these "Botnets" than the old-fashioned crackers and hackers.

"If you suspect you are being used as a pigeon for a botnet operator, it is worthwhile downloading a good, tested anti-virus application that has a tracking firewall. The usual symptom that suggests there is a botnet present is a dramatic slowdown in performance."

Aside from cluttering up the internet with spam, the botnet can deliver "denial of service" attacks. This is a serious financial concern for companies trying to establish themselves on the internet as well as institutions that provide important community services.

The usual routine is, the spammer, who wants to get a message out to the world, pays the botnet operator, who then sends the file to his zombies which in turn launches the spam to the innocent distributors. Sometimes, banks of computers in offices and institutions are commandeered by the botnet operator for this criminal activity.

In preparing this article, I could not find proof as to how the original virus is delivered to the unsuspecting so I am assuming it is the usual method. Either the user clicks on a deceptive button while surfing the net and triggers a download, or an email attachment is opened unwittingly. The culprits often use a harvesting program that goes to the ISP server and gathers all their email addresses. Some mass mail programs actually send email to the addresses on the server at the same time they are collecting the addresses for future use.

Botnet applications are cleverly designed so they often escape detection by anti-virus software. However, some firewalls such as ZoneAlarm will track incoming and outgoing calls so if the user is patient enough to investigate each of the unidentified communiqés going on between the hard drive and the internet, the botnet may be found.

If you suspect you are being used as a pigeon for a botnet operator, it is worthwhile downloading a good, tested anti-virus application that has a tracking firewall. The usual symptom that suggests there is a botnet present is a dramatic slow down in performance. As always, it is a good idea to search the internet for the latest information on topics like this because the war between good and evil is forever evolving.

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