SEMCO

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SouthEastern Michigan

Computer Organization, Inc.

DATA BUS

BALLOT AND MEMBERSHIP DIRECTORY ENCLOSED
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IN THIS ISSUE

The SouthEastern Michigan Computer Organization, Inc. (SEMCO) is a non-profit, 501(c)(3), group dedicated to providing information, education and a forum to computer users (professional and amateur) and other interested individuals. Membership in SEMCO is open to all individuals 18 years or older. Persons under 18 years may become members through the sponsorship of a parent or guardian. Dues of $30/year include monthly DATA BUS and free personal ads.

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NOTICE OF ANNUAL MEETING AND ELECTION

The annual meeting of the members of the SouthEastern Michigan Computer Organization, Inc., will be held Sunday, January 9, 2011 at 1:30 pm at Engineering Society of Detroit, 20700 Civic Center Drive, Suite 450, Southfield, Michigan., The election of Officers and Members-at-Large of the Board of Directors of the Corporation will take place at the annual meeting.

DEALS COLUMN
from the DealsGuy
Greater Orlando Computer UG
by Bob "The Cheapskate" Click

NOTE:

We have been informed that Bob Click, author of the "Deals Column" has suffered a stroke and will be unable to continue the column for several months; although he is expected to make a full recovery.

SEMCO sends its best wishes to Mr. Click.

More Portable Utilities For Your Flash Drive By Ira Wilsker

I continue to make extensive use of the 8GB flash drive that I carry on my keychain along with my car keys. Just yesterday I was called to a relative's house to rescue a family computer that had been devastated by malware, such that the computer was nearly useless. Using the utilities on my flash drive, I was able to remove some stubborn malware, clean the hard drive, remove useless items from the startup, defragment the hard drive, and return the computer to good health. My relative had complained that the computer had previously been so sluggish that it took several minutes to boot, then another three minutes just for Internet Explorer to load, and that it took so long for web pages to load that he gave up using it. In less than an hour, using those portable utilities, the computer ran like new; my relative was pleasantly surprised when the computer booted up in a few seconds. I asked him to time how long it took for Internet Explorer to load after the fix, and he was shocked to see IE load in about two seconds! Without my flash drive loaded with portable utilities, this would have been a much more difficult and time consuming job.

Yesterday's desperate call for help from a relative was not an uncommon occurrence; just Wednesday, four days ago, another relative called in a panic saying that she had clicked on an apparent legitimate website, and her computer had been instantly hijacked by a type of malware referred to as a rogue antivirus program "Security Suite 2011." This scumware would not allow

her to do anything on her computer until she "activated" the extortion-ware by paying a Russian cyber criminal $40 to clean her computer of the hundreds of (false positive) viruses and trojans that it found. Of course the program was a scam which actively loaded other malware on her computer, and took control of it for nefarious purposes, such as sending out spam e-mails. This malware took over her computer even though she had a top-selling name brand security program on her computer. Within an hour, I had sequentially run three antimalware programs from my flash drive, and her computer was cleaned of malware. These two calls for urgent assistance are in-line with the norm, as I get about three such calls in a typical week. It would have been very difficult for me to quickly clean these computers if it had not been for the portable versions of popular free software that I always carry with me on my flash drive.

My 8GB flash drive attached to my keychain has been getting a lot of use lately, mostly on other people's computers. I have been steadily adding and updating software to it, enhancing its potential. One of the recent additions to my flash drive, which I used to remove the malware on the two computers discussed above, is the Sunbelt Software "Vipre Rescue" program, a free portable malware scanner and cleaner available for download from live.sunbeltsoftware. com. Vipre Rescue is an 81MB executable file which can be downloaded to a flash drive, and then run to clean the target computer. It is the latest updated version that is available for download from the Sunbelt website. When run, the executable will install the software to a selected location, and then run itself

in a DOS (command prompt) window. By default, Vipre Rescue will perform a deep scan, looking for all malware, including the otherwise difficult to detect rootkits that can often slip by more conventional security software. While the default is for Vipre to run a deep scan, which may take a substantial amount of time to thoroughly disinfect a computer, the user can manually select other options from a command line such as "VIPRERescueScanner.exe /quick" which will perform a less thorough but faster quick scan. Using the command line "VIPRERescueScanner. exe /restore" will undo any repairs and restore any quarantined items. Other command line switches allow the user to specify paths to be scanned, and display the logs of prior scans. While I prefer the default deep scan, which is very good at detecting deeply hidden malware, I often select the quick scan from the command line, knowingly sacrificing some potential detection for increased speed. Since I routinely perform multiple scans with different products, I feel reasonably confident that I will detect and neutralize any malware on the computer.

Some of the most frequently used utilities on my flash drive are the freeware portable versions of software published by Piriform, including CCleaner (one of my all-time favorites), Recuva, Speccy, and Defraggler. CCleaner (piriform. com/ccleaner/download/portable), in its different versions and builds, is likely the world's most widely used hard drive cleaning software, with over 500 million copies downloaded! The portable version is intended to be installed to a flash drive, where it can be used to clean unnecessary and obsolete files from a hard drive; it is precisely

this portable version that I used to clean the hard drives of the above computers. CCleaner will do much more than just clean the hard drive; it will also clean the registry of obsolete data, uninstall unwanted programs, clean the programs in the startup that load at boot (a critical function in enhancing performance), create or restore a system restore file, and securely wipe deleted files. All of these functions are appropriate to improve computer performance.

I frequently use the portable version of Recuva <http://piriform.com/recuva/features/portable-version> to undelete files that had been accidently deleted, or to recover files from discs that had been accidently formatted. Recuva can also be used to recover deleted e-mails, music files, videos, images, word processing files, and other files that had been deleted, provided that these files had not been overwritten or wiped. While Recuva offers a wizard to guide an inexperienced user in the process to recover files, I choose to directly recover them. Recuva can recover files from hard drives, flash drives and other flash media, digital cameras, MP3 players, and other devices.

The portable version of Defraggler <http://piriform.com/defraggler/download/portable> can defragment entire hard drives, or just selected files. When a drive is fragmented, pieces of files are written to widely separated places on the hard drive, which reduces the ability of the hard drive to quickly locate and utilize those files, making the hard drive work hard and slow. Defraggler can defragment the hard drive bringing these separated file pieces together into one orderly file; it is precisely this function that I used on the Internet Explorer installed on the computer mentioned above, which led to an almost instant loading of IE after it was defragmented.

Many people are not aware of Speccy <http://piriform.com/speccy/download/portable>, but I use it regularly from my flash drive to determine the specifics of the hardware and software in a computer. With this information I can find updated drivers on the component manufacturer's website, where the latest drivers can be downloaded for installation. Comprehensive information is presented on the operating system, motherboard, RAM, graphics card, hard drive, and other components installed in the computer. This information is often necessary to properly configure, repair, or update components.

These utilities referenced above accompany the additional utilities on my flash drive, including those that I have written about in the past. These additional utilities include the portable versions of SuperAntispyware <http://superantispyware.com/portablescanner.html>, LiberKey <http://liberkey.com> which is a graphical front end for over 300 other included portable utilities, Emsisoft Emergency Kit <http://www.emsisoft.com/en/software/eek> a powerful antimalware program, and IObit Toolbox <http://iobit.com/toolbox.html>. With all of these utilities instantly available to me from the convenience of my flash drive, I am reasonably confidant that I can resolve a good number of problems on most PCs that I encounter.

With the price of USB flash drives as low as they are today, there is no valid reason why users should not have these utilities available to them just in case they are needed.

WEBSITES:

<http://live.sunbeltsoftware.com>.
<http://www.piriform.com/ccleaner/download/portable>.
<http://www.piriform.com/recuva/features/portable-version>.
<http://www.piriform.com/defraggler/download/portable>.
<http://www.piriform.com/speccy/download/portable>.
<http://www.emsisoft.com/en/software/eek>.
<http://iobit.com/toolbox.html>.
<http://www.superantispyware.com/portablescanner.html>.
<http://www.liberkey.com>.

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**Millions of Historic Photos Online
By Ira Wilsker**

I have always been interested in history, especially military history. Sadly, I find that most of today's college students are blissfully ignorant about history, unless it was in a fictional Oliver Stone movie, or shown on Comedy Central. Many students are oblivious to the fact that almost all major Hollywood productions are works of fiction, and that those based on historical incidents are liberally modified with "poetic license" to make them more exciting or visually pleasing, at the cost of historical accuracy. As a kid, I was always amazed how during the Saturday western matinees, the legendary Colt Peacemaker revolver could fire dozens of times without reloading, something that Samuel Colt never dreamed of, and a function that would make Dr. Richard J. Gatling proud.

While reading the text of history books, a vicarious experience is often created where the reader can only imagine what the event really looked like. In the mid 19th century, photography was in its infancy and considered a magical property. The oldest known photograph still in existence was taken in France in 1826 by Nicéphore Niépce, using a process known as heliography (sun writing), which took eight hours of exposure to record the image. During the following 25 years, photographic technology improved to the point that countless Union and Confederate soldiers were forever immortalized, and worldwide distribution of battle scenes and the aftermath of war became commonplace. The widespread international travels of early photographers has today provided us with contemporary images of days long past. If today's children and college students would just spend a fraction of their online time viewing accurate historical images, rather than keeping up with their friends on Facebook or Tweeting, then maybe they would have a greater appreciation of where we came from and how we got here. Fortunately for us today, the Internet makes enormous libraries of authentic images available to all, and many of these images are so profound that just maybe they can fracture the status quo, and develop insight of the past.

The Crimean War (1853-1856) is broadly considered the first major international conflict that was photographed, the most notable Crimean battlefield photographs were taken by

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Roger Fenton during the spring of 1855. The best known of his photographs show the infamous "Valley of Death" made famous by the "Charge of the Light Brigade." The Library of Congress purchased 263 of the 360 known Fenton Crimean images, and has them available for viewing online at <http://www.loc.gov/pictures/collection/ftncnw>. In one famous Fenton photograph at the Library of Congress <http://lcweb2.loc.gov/service/pnp/cph/3g00000/3g09000/3g09200/3g09217v.jpg>, the image taken in early 1855 shows the road traversed by the Light Brigade, which is strewn with thousands of spent cannon balls. The sheer volume of cannon balls on the road bears mute testimony to the horrors and carnage through which the "Gallant 600" British cavalry charged Russian forces during the Battle of Balaclava on October 25, 1854. Fenton did not show the traumatic damage that cannon balls do when they strike human flesh; those images would become common just a few years later in the United States.

Fast forward just a few years, and the people and the carnage of the War Between the States were widely photographed by many photographers. Countless photographers took individual portraits of soldiers on both sides, often proudly displaying their personal weapons; thousands of these portraits still exist today in homes, private collections, and museums. Many of these images are available for viewing online. Other photographers, the best known of which is Mathew Brady, took thousands of battlefield photographs, many of which show the grotesque carnage of the freshly killed of both sides, and the horrible wounds of those who did not immediately succumb to their injuries.

Mathew Brady alone took over 10,000 such photos, many of which still exist today, many of those are available for viewing online. To many, the images taken by Mathew Brady and Alexander Gardner of the mutilated human bodies and bloated horse carcasses from the Battle of Antietam, which were widely presented in shows and printed in the newspapers (often as woodcuts), demonstrated the acute brutality of war. One of my favorite online collections of Civil War photographs is "Original Photographs of the Civil War" online at <http://www.mikelynaugh.com/VirtualCivilWar/New/Originals2/index.html>. This collection shows landscapes, battle scenes, executions, casualties, embalming, officer portraits, enlisted men's portraits, and other scenes, all of which clearly show a microcosm of the Civil War. Other comprehensive online Civil War collections are available for viewing at the websites of the Library of Congress and the National Park Service, as well as many local historical societies.

The settlement of the American West was documented by photographers, many using much of the same equipment as used in the Civil War. While there are many websites that display old west photographs, many of the more comprehensive collections are at university websites, including Brigham Young University <http://www.lib.byu.edu/dlib/historic_photos> and Washington State University <http://www.wsulibs.wsu.edu/masc/mascphoto.html>. Some websites, such as Old-Picture.com <http://www.old-picture.com> have detailed collections of old photos, including Indians, early aircraft, photos from states sorted by state, historical series sorted by date,

"American Life" sorted by date, and a variety of other collections.

World Wars I and II were well covered by photographers, with millions of images available online. One of my favorite collections of World War II photos is the Pacific War collection compiled by the Denver Post and online at <http://blogs.denverpost.com/captured/2010/03/18/captured-blog-the-pacific-and-adjacent-theaters>. This collection of several dozen images shows the carnage at Pearl Harbor, the battles of the Pacific, the bodies of soldiers killed in action, dramatic images of men in battle, and exciting images of aircraft and ships in action. Brigham Young University has a very personal collection of WWII photos at <http://www.lib.byu.edu/dlib/wwiiheslop>.

Other city newspapers have compiled extensive collections of images of local interest, many of which have national ramifications. One excellent example of a city newspaper publishing archival photos is the Columbus (Ohio) Dispatch, which has a large collection of city images online at <http://www.dispatch.com/live/content/multimedia/history/index.html>. Many of the Dispatch images are compiled in about two dozen slideshows sorted by category or event. Some of the categories include sports events through the years, Oktoberfest, state fairs through the years, holidays, sensational crimes, and other groups of images. This is an excellent way for the people of today to visually get a functional grasp of history, and how we got to today.

Today's youth, many of whom had never been exposed to the visual realities of history, should view these images. Some of the images simultaneously display both the bravery and cruelty of man (the Crimean Valley of Death images), the hideous cost in lives of war (Antietam photos), proud moments in history (Columbus Dispatch old football photos), abject horror and suffering (Andersonville prison survivors from the Civil War), innocent civilian carnage (a dead family in a car hit by bomb fragments near Pearl Harbor), and other valuable learning experiences that a person may have by viewing the images and thinking about them.

I would like to encourage all students to spend some of their Facebook and Twitter time viewing these images; maybe then they will garner a better appreciation of history.

WEBSITES:

<http://www.mikelynaugh.com/VirtualCivilWar/New/Originals2/index.html>.

<http://blogs.denverpost.com/captured/2010/03/18/captured-blog-the-pacific-and-adjacent-theaters>.

<http://www.lib.byu.edu/dlib/historic_photos/>.

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happy Arin Year

**Microsoft Rolls Out
"SkyDrive" Online Office
Apps and Storage
By Ira Wilsker**

It is obvious that there is some heavy competition between Microsoft and Google in the online document market. About a year ago I wrote about the services offered by Google Docs <http://docs.google.com>, which includes free online document creation and editing, along with online storage and collaboration. Microsoft has also been providing a somewhat similar service, originally with its Office Live Workspace (beta), but now with its enhanced and upgraded SkyDrive service, which is also free <http://explore.live.com/windows-live-skydrive>. While the office components in Google Docs are generally compatible with Microsoft Office, Microsoft's SkyDrive provides a free online version of Office. Since SkyDrive is online, it is accessible from anywhere there is an Internet connection, and works with most browsers; I tried it on Firefox and Internet Explorer, and it worked flawlessly on both browsers. SkyDrive is platform independent, and works equally well on a PC and a MAC, or any other operating system with a compatible browser and Internet access. Documents can be "collaborated" and edited or shared with others, even if the other users do not have Microsoft Office. Microsoft SkyDrive offers 25MB of free storage, an adequate, if not generous, amount of storage space for almost all users. SkyDrive requires registration, which is free; registered users of most other online Microsoft products, such as the other Microsoft Live services, Hotmail or Messenger

can use their existing usernames and passwords on the SkyDrive service.

One of the primary features is the "Office Web Apps for SkyDrive," which includes online versions of Word, Excel, PowerPoint, and OneNote. Clicking on the "Office" link will open up the basic Office App page, where the desired application can be opened. The first window for all of the apps is very simple, where the user is asked to enter the name of the document. I started typing this column on the online Office Word App, and the screen was almost identical to the desktop version of Word. Anyone who can use Word, or another similar word processor, will find the online Word app familiar and easy to use; almost all of the features, commands, controls, and features of the desktop version are available in the free online version of Word. In terms of functionality, I could not find any significant differences between the web and desktop versions of Word. The user can choose to save the file on the SkyDrive servers (the default), print, and share the document. Under the "Share" option, others can be invited to view or edit the document, all under the control of the original user.

As with Word, the online Excel App has the same look and feel as the desktop version of Excel. To open a new workbook, the clean opening screen asks the user for a file name, and then the workbook opens. Once data is entered, there is no "Save" button, as the Excel App continuously saves the workbook as it is produced. The user also has the option to "Save As" and save the workbook under another name. Unless explicitly downloaded to the computer, all of the workbooks are saved to the SkyDrive servers. Workbooks can be

selectively shared with others, while the others can be granted access only to view the workbook, or edit it; this is the heart of online document collaboration.

I frequently do PowerPoint presentations, and the SkyDrive PowerPoint app offers the ability to create, edit, store, and show a PowerPoint presentation from anywhere there is Internet access. When opened, the PowerPoint app has the same look and feel of the desktop version, and uses the same command set. As with Excel, there is no "Save" button, as the presentations are automatically saved as they are created. One interesting feature is that when a PowerPoint presentation is shown ("View — Slide Show") it opens in a browser pop-up window, so the user must allow browser pop-ups from the application in order for the slide show to be viewed. If connected to a projector, the output looks the same as if it was from a desktop version of PowerPoint. As with all of the other Office online apps, the user can choose to share the file with others, and selectively allow others to edit the file. Since Microsoft provides 25MB of free storage, SkyDrive is a practical place to store presentations; if for some reason the presentation must be shown from a computer lacking Office, the SkyDrive file can be shown, as long as there is Internet access.

Microsoft OneNote is hard to explain, but basically both the desktop and SkyDrive App versions are both note-taking utilities. OneNote can easily organize any notes that are taken, and would be useful in a classroom, organizational, or professional environment where notes are taken. OneNote looks like a simplified version of Word, but allows the user to "flag" important points, or quickly search for desired terms or phrases. OneNote can incorporate images, web pages, and video, and can itself be incorporated into Word or PowerPoint. A few of my students use OneNote to share class notes during my lectures, ensuring that each of them has a comprehensive set of notes for test reviews. As with the other Office apps, it can be selectively shared with and edited by others. As with some of the other apps, there is no "Save" button as the information is saved to SkyDrive in real-time.

I have several students who do not have Microsoft Office on their personal computers, but need to be able to access Word, Excel, PowerPoint, and OneNote; SkyDrive is a free alternative to Microsoft Office, provided that the student has Internet access. For the frequent times when several of us must work together (there is that "collaboration" term again) on an Office file, SkyDrive could be the appropriate utility that we could all share, giving us secure and controlled access to our files. For those who have the desktop version of Office 2010, there is a direct and transparent online connection with SkyDrive, allowing files to be saved on SkyDrive directly from the desktop Office. The SkyDrive files can be selectively shared with anyone on Facebook, MySpace, LinkedIn, AOL Mail, Hyves, Gmail, Outlook, other Windows Live users, and anyone else with an e-mail address. For security and privacy reasons, access is limited to only those authorized by the user, and that degree of access is also under the control of the original user.

I found SkyDrive and its Office Apps to be every bit as useful as their desktop counterparts, with the bonus of secure

online storage of files. Some of us have used SkyDrive and its apps to work together on producing Word documents and PowerPoint presentations, without the need to physically swap files between us. SkyDrive and its Office Apps would be very worthwhile for any computer user with Internet access.

WEBSITES:

<http://explore.live.com/windows-live-skydrive>.

<http://docs.google.com>.

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**Solid State Devices (SSD)
By Vinny La Bash**

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Measuring the effect of SSD technology is more than the numbers game we play with conventional Winchester disk drives. What you experience with SSD drives centers on how certain tasks feel. Loading applications, boot up, shut down, and changing levels in your first person 3D shooter game are prime examples. Everything happens incredibly fast.

Examine the current state of SSD technology and you see a rapidly evolving technological landscape. Concerns about performance, longevity, and outright failure that plagued early solid state drives are fading. These issues are being replaced by how well manufacturers are optimizing the components of SSD technology. NAND chips, controllers, and cache memory are made by multiple suppliers. SSD vendors must take these separate components and merge them into a reliable storage device with good performance at a price that potential customers are willing to pay.

SSD manufacturers select a controller based on the controller's cost and capability, match it with one of several different kinds of cache memory, and marry the combination to either MLC or SLC NAND flash memory chips. Single Level Cell (SLC) holds one data bit per cell. Multi Level Cell (MLC) has greater capacity. Currently MLC data chips hold two data bits per cell.

Experience reveals that the future belongs to MLC based devices. Up until now SLC based technology offered faster writes, lower power consumption, and greater longevity. Still, Intel and other chip makers appear confident that MLC technology will become dominant in the marketplace. That confidence is backed up by the design of current MLC devices where performance measured against SLC based devices is becoming nearly indistinguishable. An examination of technology publications shows that reviewers of SSD drives overwhelmingly prefer MLC gear.

Intel has been and continues to be a leader in this area. In the early days of SSD development, controller problems were so prevalent that Intel assigned a team of development engineers to redesign the controllers. A new generation of controllers came about which rehabilitated the technology. That too is about to change. Earlier

this year Intel and Micron announced 25nm NAND flash memory production which means yet another generation of controller technology is imminent.

Why Performance Declines Without TRIM

It is important to understand how SSD devices handle a delete operation. (Otherwise you may have difficulty comprehending TRIM, which will be described later). No storage device, whether it is an SSD or traditional drive, has access to the operating system's file structure. Therefore, it does not know what data the OS has marked for deletion and is available for overwriting. Later on, when the OS wants to perform a write operation, this becomes an overwrite operation from the viewpoint of the storage device.

For conventional disks, this is the same as writing to an empty sector, but because of how an SSD must operate at the hardware level, an overwrite operation involves considerable additional overhead which can effectively cripple write performance.

An SSD stores its data in flash memory cells. These cells are organized and grouped into pages. Typical page capacity is 4 KB. These pages are further consolidated into blocks consisting of (typically) 128 pages or 512 KB of data. Early SSD performance slowed down over time because data can be erased only at the block level. An erase operation is theoretically possible at the page level, but because of the physical construction of an SSD device, erase commands won't work except at the block level. This is inherent in the design, and cannot be changed.

Note: By design, it is impossible to write to a NAND memory cell unless it is empty.

Any data in the block must be transferred into cache memory where it is then erased and rewritten to flash memory as empty pages. The actual operation is more complex, but a data overwrite is essentially a read, modify, erase, and write cycle. The memory and processor embedded in the controller handles the entire procedure and does not go outside the SSD. The process is commonly referred to as write amplification.

Example: You have 8KB of data. In a previous session the OS marked some of the data for deletion, and the OS now wants to overwrite the "deleted" data:
1. The OS sends instructions to the SSD controller to begin the data overwrite.
2. The contents of the entire block are read into cache memory.
3. The memory cache is now updated. Unneeded data is deleted, and the rest undisturbed.
4. The entire block is erased on the SSD.
5. The updated data in the cache memory is now written back to the block.

The longer the SSD has been in use, the greater the performance degradation because of the way data must be stored and modified.

TRIM

Without TRIM, performance declines because the operating system doesn't bother to inform the SSD when data is available for re-write, and the operating system doesn't actually delete the data. The TRIM command addresses the situation by working with the operating system to notify the SSD that data marked for deletion should be immediately erased. In other words, the

TRIM command tells the SSD to delete data at the same time the user initiates the delete function instead of waiting for the OS to decide when to overwrite the "deleted" data.

When the operating system "deletes" a file, if TRIM is enabled, the operating system updates the file system and notifies the SSD via the TRIM command which pages need to be deleted. Then the SSD reads the block into cache memory, updates the cache, erases the block on the SSD, and then writes back only pages containing data which was not marked for deletion by the OS. The delete is slow, but there is no performance hit for write operations because the affected pages are now empty, and write performance is what's important. TRIM improves performance only when you delete files.

The TRIM command acts as an interface between the OS and the SSD that tells the SSD when data should be erased. The SSD then performs the delete operation immediately after the OS marks the data for deletion. Since TRIM ensures that data is actually deleted immediately after the user deletes a file, traditional file recovery programs will not work on solid state devices with TRIM enabled.

Note: Windows 7, Windows Server 2008 R2, and some versions of Linux support TRIM. Windows XP and VISTA do not, repeat, do not support TRIM. However, a few vendors have included utilities that will enable the command with XP or Vista if the SSD supports the command. However, most early SSD devices do not support TRIM. Check with the manufacturer.

Partitioning and Formatting

While the physical structure of solid state devices is considerably different from traditional disk drives, partitioning and formatting operations appear virtually identical from a PC user point of view. What goes on under the covers should be of no concern to most users.

Defrag

In a standard disk drive, information is accessed by a combination of platter rotation and movement of read/write heads. Defragmentation takes all the sections or fragments of a file and positions them in one contiguous location. This minimizes seek time and speeds up disk operations.

Solid state devices have no moving parts. Performance is the same no matter where data is located. Therefore, nothing can be gained by defragging a solid state device. The additional, unnecessary read/write cycles may actually reduce the SSD's life expectancy. Therefore, defragging SSDs is not only useless, but may be harmful. Don't defrag an SSD.

Wear Leveling

Flash memory chips have a finite life cycle. This cycle is defined by approximately 10,000 write operations before the cell is subject to breakdown and no longer reliably records data. Wear Leveling is the process by which no flash memory cell is required to undergo significantly more write operations than any other memory cell on the drive. The process evenly distributes write operations among the available flash memory cells.

Wear Leveling affects the data capacity of solid state drives because some of the disk space must be reserved to carry out the leveling operation. The amount of reserved space varies by manufacturer and is known as over-provisioning. The longevity of an SSD appears to be directly proportional to the efficiency of Wear Leveling. Most

manufacturers reserve around 7% of the SSD. Conservative vendors such as Mushkin reserve up to 13%. This can account for much of the discrepancy between stated total capacity and formatted capacity. The trade off could become an issue to SSD customers who may be unwilling to sacrifice storage space even for potential increased longevity.

Summary and Conclusions

There is no doubt that solid state devices will eventually replace conventional disk drives, but prices of solid state drives will have to decline significantly first. Until that day, expect to see hybrid systems consisting of an SSD boot drive, and traditional drives for bulk storage. Solid state drives have no moving parts. Therefore, they have considerable advantages over traditional drives:

1. They are very fast because seek time is greatly reduced.
2. Less likely to malfunction.
3. Smaller and lighter.
4. Generates very little heat.
5. Completely silent.
6. Consume far less energy.

Vinny LaBash is a member of the Sarasota PC Users Group. Web: <http://www.spcug.org>.

Supercomputer on Jeopardy
On Feb. 14, 15, 16, 2011 the IBM computer "Watson" will compete against two top Jeopardy contestants for a one million dollar purse.

Jeopardy, in Detroit, is on WDIV-TV at 7:30 PM (NBC - Chan 4).

Of Interest Links (OIL)
Fred Acerri

Next generation of algorithms inspired by problem-solving ants
<http://www.physorg.com/news/2010-12-algorithms-problem-solving-ants.html>.

When computers go wrong
<http://www.pcpro.co.uk/features/363580/when-computers-go-wrong>.

Caught up in the Web of Knowledge
<http://www.telegraph.co.uk/science/steve-jones/8186063/Caught-up-in-the-Web-of-Knowledge.html>.

Information overload, the early years
<http://www.boston.com/bostonglobe/ideas/articles/2010/11/28/information_overload_the_early_years/?page=full>.

Peru: 'sensational' Inca find for British team in Andes
<http://www.guardian.co.uk/world/2010/dec/05/inca-ancestor-stones-andes>.

Questions arise over earliest evidence of human tool use
<http://www.earthmagazine.org/earth/article/3c8-7da-b-12>.

Search for scientific abbreviations
<http://www.sciencebase.com/science-blog/searching-for-scientific-abbreviations.html>.

Pictures: Recent SEMCO Meetings: <http://www.tinyurl.com/y8cm99e>
Video: Recent SEMCO Meeting: <http://www.tinyurl.com/363vnbd>

There are two types of lists commonly used in printed material. The first is a bulleted list, and the second is a numbered list. A bulleted list is nothing but a list of individual items with a symbol to the left side of the first line of each item in the list. For example, the following is a bulleted list:

• This is the first item in the list.
• This is the second item in the list. There is more than one line in this item. Notice that the extra lines are aligned with the line above, not with the bullet or the text margin.
• This is the third item in the list.
• This is the fourth item in the list.

In the case of this bulleted list, the symbol used as the "bullet" is a small dot. A numbered list is a little bit different. It consists of a series of items, each with a sequential number in front of it. Numbered lists are used extensively in "how to" writing to describe a sequence of steps to be followed.

This usage points out the primary way you can decide which type of list to use. If you have a sequence of steps, which must be followed in order, then you should use a numbered list. If you have a group of items to which you want special treatment given, but they don't represent a series that must be followed in sequence, then you should use a bulleted list.

Word allows you to quickly and easily create lists. To do so, follow these steps:

1. Type your list, only pressing Enter at the end of each item in the list. If an item runs more than one line, do not press Enter at the end of each line.
2. Select all the items in the list.
3. Click on the Bullets list tool to create the bulleted list or the Numbering tool to create a numbered list. (If you are using Word 2007 or Word 2010, these tools are located on the Home tab of the ribbon, in the Paragraph group. In older versions of Word they are located on the Formatting toolbar.)

Copyright © 2010 by Sharon Parq Associates, Inc. Reprinted by permission. Thousands of free Microsoft Word tips can be found online at <http://word.tips.net>.

SEMCO and Meetup.com

SEMCO is now on Meetup. com. In order to show potential new attendees what a dynamic organization we are we encourage members to "RSVP." Go to <http://www.meetup.com> and type in your interest as "computers" and give your zip code. This should take you to the SEMCO entry. Press the "RSVP" tab and this will take you to the signup page (or login page if you have signed up previously). Signup as a meetup member and indicate whether you intend to come to the meeting (RSVP).

Note: Signing up as a meetup member is free and is not related to joining SEMCO as a paying member.
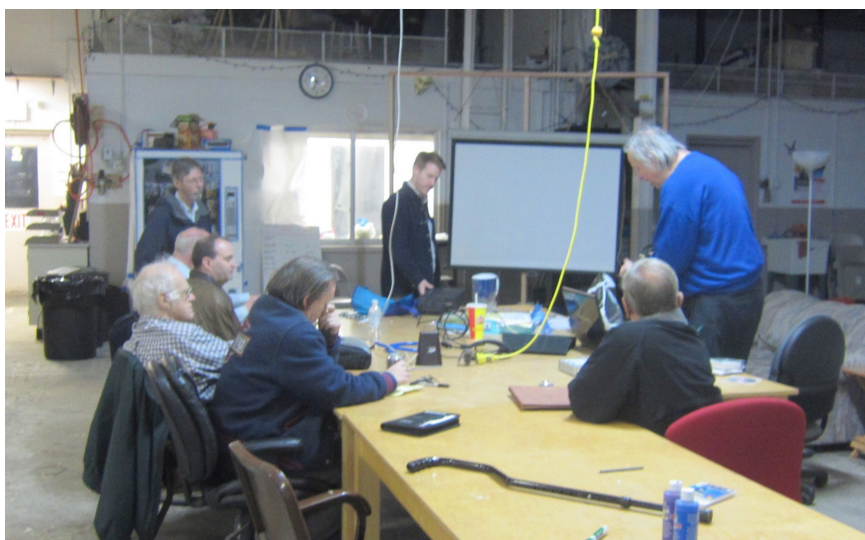
SEMCO Meeting Pictures

(Above): Bill Buchanan discusses "ProShow Gold 4.5" for slide-show creation. (Below) Tom Callow demonstrates the Watcom Bamboo Graphics Tablet.

SEMCO Meeting Pictures

11-23-2010 Meeting of SIG-Linux at i3 Detroit. Mike Rudas talks about self-booting CDs for computer repair.

BOARD MEETING
12/12/2010
Carol Sanzi

Board Members Present
Vice President Richard Jackson, Treasurer Bette Gay, Secretary Carol Sanzi, SIG-IBM Chairman Tom Callow, SIG-Advanced Chairman Franz Breidenich, Publications Committee Chairman Warner Mach, and Member-at-Large Bob Clyne. Also present were Brian Brodsky and Paul Cervero. The board meeting was called to order at 12:10 p.m.

Old Business
Bette Gay reported that the current treasury amount equaled a total of $9,613.98 with $4,869.36 in the checking account and $4,744.62 invested in three Certificates of Deposit. The membership currently is 78. It is time for Leatrice Bagley, Chester Blechinger, Tom Burns, Richard Jackson, William Margolin, and Robert & Dorothy Schultz to renew their memberships.

Richard Jackson feels that the possible benefits from Meetup.com are not being achieved because of the lack of response to the Meetup notifications. He requests that members not only sign up for Meetup, but should RSVP to the monthly meeting notifications.

New Business
Richard Jackson moved that membership directory should be published in the January newsletter. Bob Clyne seconded the motion and it was carried.

Bob Clyne moved to have a volunteer party at the home of Beth Fordyce as she has agreed to host it again this year. Warner Mach seconded the motion and it was carried. Carol Sanzi will coordinate the details.

Gary DeNise is scheduled to have open-heart surgery. We wish him a full recovery.

There is an immediate need for a refreshments volunteer who is willing to bring the equipment to and from the meetings. Richard will make a plea at the general meeting.

Tom Callow moved to adjourn at 12:48 p.m. Richard Jackson seconded the motion and it was carried.

GENERAL MEETING
12/12/2010
Carol Sanzi

Richard Jackson asked for a volunteer to take on the duties of refreshment chairman. The person would be required to take the equipment to and from the SEMCO meetings and store it between meetings. There were no volunteers.

Richard Jackson requested the members to sign up at meetup.com. Then respond to the meeting notifications.

Nominations for 2011
Brian Brodsky nominated Mike Bader for President. Bob Clyne seconded the nomination.

There were no other nominations for President

Brian Brodsky nominated Richard Jackson for Vice-President. Mickey Gilhool seconded the nomination.

There were no other nominations for Vice-President.

Warner Mach nominated Bette Gay for Treasurer. Bob Clyne seconded the nomination.

There were no other nominations for Treasurer

Bob Clyne nominated Carol Sanzi for secretary. Brian Brodsky seconded the nomination.

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SPECIAL INTEREST GROUPS (SIGS)

SIG-IBM
Tom Callow

January 9: 1:45 p.m. 8 THINGS: The First 8 things you should do with your new computer: SIG-IBM Chairman Tom Callow will discuss 8 things you should do to that new computer you got for Christmas to get it ready for a long and trouble-free life.

SIG-IBM INTERMEDIATE

January 9: 3:45 p.m. Free Flash Drive Utilities: Warner Mach will discuss the free utilities that are available from various sites—utilities that can be downloaded to a flash drive and run from the flash drive. Display and diagnose PC information! Fix problems! Optimize Performance!

SIG-ADVANCED
Franz Breidenich

January 18 (Tues): 5:30 p.m.: At the Madison Heights Library located at 240 West 13 Mile Rd. one block West of John R. The parking lot entrance is off Brush St. The lot and entrance to the library is located in the back of the library. Topic: General discussion.

SIG-LINUX
Michael Rudas
Mike Bader

January 25 (Tues): 6:45 p.m.: At Motor City Free Geek, 1511 Jarvis St. Suite #10, Ferndale, MI 48220.

Feb. 2011 DATA BUS DEADLINE (7th day after 2nd Sunday in month)
SEMCO Input and Members' Ads—Deadline: Sun., Jan. 16, 11:59 p.m.
Members' personal ads are free. To mail, use Editor <u>address on Page 2</u>; e-mail address: <<u>warnermach@gmail.com</u>>. PLEASE send to arrive sooner than deadline.
Business Ads - Deadline: Second Friday monthly. Contact Editor <u>(address Page 2)</u>**.**

Warner Mach
warnermach@gmail.com
(to post monthly computer group info)

CALENDAR-OF-EVENTS
OTHER GROUPS

COMP (Computer Operators of Marysville & Port Huron

Feb 2, 7 p.m., (1st Wednesday) Jane Wheatly 810-982-1187 or Pam Raisanen E-mail info: <compinfo@greatlakes.net>. Web: <http://www.bwcomp.org>. Topic: Everything You Wanted to Know About HDTV…but were afraid to ask with Ken May of Bill May Appliance.

Focus: Hope IT User Group

1400 Oakman, Detroit, MI. 48238. Web info <http://www.fhitug.org/>. See web site for details. Pre-registration required. Topic: Third Year Celebration.

HUG (Holly User Group)

January 15, 9:00 a.m.; Groveland Twp. Fire Hall, 3085 Grange Hall Rd. & Dixie Hwy., Holly, MI. 48442.

MacGroup-Detroit

Jan. 16, 3:00 p.m., Birmingham Temple, 28611 West 12 Mile Rd., Farmington Hills. Info: Terry White, <terry@macgroup.org> or 248-569-4933. <http://www. macgroup.org>. Topic: The New Mac App Store.

MacTechnics, (MAC User Group)

Jan 15, (3rd Saturday); See web site for meeting time and location. <http://www. mactechnics.org>). JoAnn Olson at 248-478-4300. Topic: Apple - iLife '11 with Dave Ginbey.

MDLUG (Metro Detroit Linux User Group)

Jan. 8, 12:30–2:30 p.m., (2nd Saturday); MDLUG meetings will be at The Gaudior Academy located at 27100 Avondale Avenue in Inkster. Web: <http://www.mdlug.org>. Topic: TBA.

Motor City Free Geek

Every Saturday 12:00-4 p.m. 1511 Jarvis St. Suite #10, Ferndale, MI 48220. <http://www.motorcityfreegeek.net>. E-mail: <MotorCityFreeGeek@gmail. com>. Recycling & Open Source.

MUG (Michigan User Group)

Jan. 11, 6:00 p.m., (2nd Tuesday): Engineering Society of Detroit. 20700 Civic Center Drive, Suite 450, Southfield, MI 48076. <http://www.mug.org>.Topic: TBA.

Oak Park Computer Club

Every Fri., 10:15 a.m. at Oak Park Library, Oak Park Blvd. west of Coolidge.

Royal Oak Computer Club

Every Wed., 12:30 to 2:30 PM at Mahany/Meininger Senior Community Center, 3500 Marais Ave., Royal Oak, 48073. Near Crooks & 13 Mile. Guest speakers & regular monthly speakers. <http://tinyurl.com/royaloakcc>.

SHCC (Sterling Heights Computer Club)

Feb. 1, 7:30 p.m.(1st Tues); Macomb Community College South Campus, Bldg. K, 14500 E. 12 Mile Rd. Don VanSyckel <Don@VanSyckel.net>, 586-731-9232; Web: <http://www.SterlingHeightsComputerClub.org>. Topic (tentative): "Graphics, More than Just Downloads From Your Camera."

There were no other nominations for secretary.

Brian Brodsky nominated Bob Clyne for Board Member-at-Large. Richard Jackson seconded the nomination.

Bob Clyne nominated Brian Brodsky for Board Member-at-Large. Tom Callow seconded the nomination.

There were no other nominations for Board Member-at-Large.

Nominations were closed.

No other business was conducted at the meeting.

Miscellaneous SIG Business

Bob Clyne reports that at the SIG-Linux meeting of 11/23/2010, Mike Bader was elected to be Co-Chairman along with (current Chairman) Mike Rudas.

At the SIG-IBM meeting of 12/12/2010 Tom Callow agreed to accept the nomination for Chairman.

At the SIG-IBM Intermediate meeting of 12/12/2010 Warner Mach nominated himself for chairman.

DECEMBER REFRESHMENT DONORS
Coordinator: Brian Brodsky
Donors:
Brian Brodsky
Tom Callow
Karl Hering
Warner Mach
Roland Maki
Carol Sanzi

COMPUTER RESOURCE PEOPLE

This is a list of members willing to be resources for other members to call when they have hardware or software questions.

Are you willing to help members learn?

Which software programs are you familiar enough with?

It is not necessary to be an expert, but just have some familiarity with the program and be willing to help someone starting to learn it. Please give this some thought and volunteer at the next group meeting.

Almost Anything: Vander-Schrier	**MS Office for Windows:** Callow
AutoCAD: Comptois	**MS Word:** Clyne
Genealogy: Cook	**Networking:** Callow
IBM PC Hardware Issues: Clyne, Yuhasz	**Novell Netware:** Yuhasz
Operating Systems: Callow, Clyne, Yuhasz	**Quicken:** Clyne
MAC Hardware and OS Issues: Yuhasz	**Geocaching:** Cook
Security: Bader	**Relational Database Programming**: Lis

Bader, Mike—586-573-7330, 9am–8pm...................mdbader@flash.net
Callow, Tom—248-642-5770, 9am–5pm..................tcallow@monaghanpc.com
Clyne, Bob—810-387-3101, 9am–10pm..................clyne@mich.com
Comptois, Jerry—248-651-2504, anytime
Cook, Stephen—313-272-7594, eves........................scook48227@ameritech.net
Lis, Bernie—248-669-0101, 10am-8pm...................BerlLis@comcast.net
Vander-Schrier, Jack—586-739-7720,12–8pm.........jvanders@comcast.net
Yuhasz, Steve..Help@yuhasz.org

SOUTHEASTERN MICHIGAN COMPUTER ORGANIZATION, INC.

SEMCO CALENDAR

Engineering Society of Detroit
20700 Civic Center Dr., Suite 450, 4th Floor
Southfield, MI. 48076
42°29'7" N by 83°14'29 W

January 9–SUNDAY (Meet 2nd Sunday)

SEMCO Board Meeting at 12:00 noon. For Officers and SIG Chairpersons. Other members are invited to attend.

SEMCO General Meeting at 1:30 p.m.

Special Interest Groups (SIGs)

SIG-IBM, 1:45 p.m., 8 THINGS: The First 8 things you should do with your new computer: SIG-IBM Chairman Tom Callow will discuss 8 things you should do to that new computer you got for Christmas to get it ready for a long and trouble-free life.

SOCIAL PERIOD 3:15 p.m., Refreshments! (Reminder: We must continue to maintain a neat environment.)

SIG-IBM Intermediate, 3:45 p.m., Free Flash Drive Utilities: Warner Mach will discuss the free utilities that are available from various sites—utilities that can be downloaded to a flash drive and run from the flash drive. Display and diagnose PC information! Fix problems! Optimize Performance!

SIG-ADVANCED, January 18 (Tues): 5:30 p.m.: At the Madison Heights Library located at 240 West 13 Mile Rd. one block West of John R. The parking lot entrance is off Brush St. The lot and entrance to the library is located in the back of the library. Topic: General discussion.

SIG-LINUX , January 25 (Tues): 6:45 p.m.: At Motor City Free Geek, 1511 Jarvis St. Suite #10, Ferndale, MI 48220.
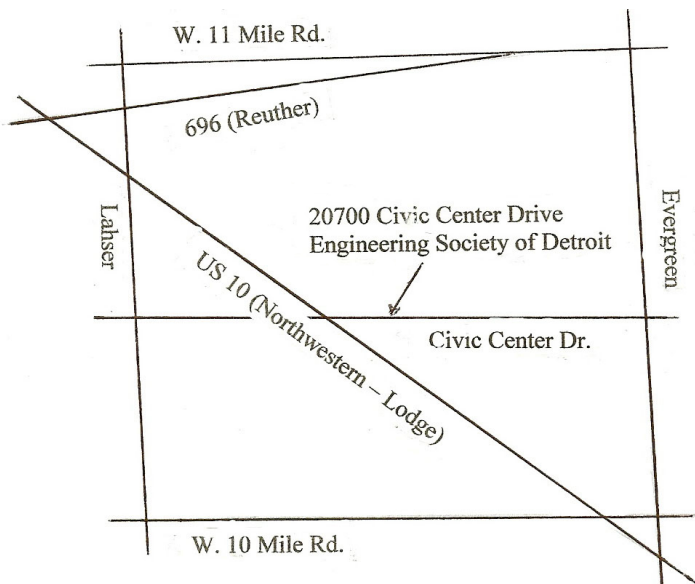
February 13–SEMCO Sunday

http://www.semco.org

PUBLIC INVITED

(Please copy this and the next page to post on your bulletin board)

SEMCO Meetings at [Engineering Society of Detroit](#)
20700 Civic Center Drive, Suite 450, 4th Floor
Southfield MI 48076.
42°29'7" N by 83°14'29 W

From I-696 exit at Evergreen. Take Evergreen south to Civic Center Drive. Civic Center Drive is about halfway between I-696/Eleven Mile Rd. and 10 Mile Rd. Turn west, right if you are coming from the north, onto Civic Center Drive. Follow Civic Center Drive, watching the number signs on the right. When you get to the 20700 sign turn right, north, and follow the drive until you arrive at the southwest corner of the brown building with the Engineering Society of Detroit sign near the top. Turn right, east, and go past the front of the building. When you reach the end of the building, turn left, north and go to the back of the building and turn left, west, again. The parking lot will be on your right. The entrance is in the center of the building. Park in back of building. Enter the rear door. The ESD office is on the fourth floor.

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Computer Organization, Inc.
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SEMCO (future meetings)
January 9
February 13

SEMCO: A Community Organization
Helping People for the 21st Century