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Next Meeting
No Meeting this Month

LCG Committee 2012/13
President: Ivan Turmine
Vice President: Janet Headlam
 Secretary: Iris Meek
Treasurer: Dennis Murray
Ass. Treasurer: Laraine Rist
MAC Librarians: Ivan Turmine
PC Librarian: Julie Hjort
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OPEN Co-ordinator: Robert Tierney
Webmaster/Content: Tom Olsen
Auditor: Ron Baker
Liaison Officer: Eleanor Horder
"VICTOR" Co-Ordinator: Robert Tierney
LCG Committee: Glenn Gilpin,
Reinhard von Samorzewski, June
Hazzlewood

OPEN Committee 2012/13
OPEN Co-ordinator: Robert Tierney.
Chairperson OPEN: Laraine Rist.
Vice Chairperson OPEN: Robert Tierney.
Secretary: Heather Loffel.
Assistant Secretary: - open -.
Treasurer: Dennis Murray.
Assistant Treasurer: Laraine Rist.
Publicity Officer: Iris Meek.
Membership Co-ordinator: Karia Wicks.
Beginners Co-ordinator OLearn: Eleanor
Horder.
Tutor Co-ordinator: Eleanor Horder.
Assistant Tutor Co-ordinators: - open -
Newsletter Editor Assistant: Iris Meek.
Maintenance Co-ordinators: Dennis Murray.
Technical Support: - open -
Co-ordinator of "VICTOR": Robert Tierney.
Webmaster/Content: Tom Olsen
OPEN Committee: June Hazzlewood, Judy Hall,
Janet Headlam, Sandra Viney, Bruce Dineen,
Kay Dawson.

OPEN NEWSLETTER – May 2012

COORDINATOR'S REPORT

Hello everyone,

With the weather cooling down I hope you are keeping well and warm as the cold wintery days approach. This month I would like to take the opportunity to highlight our hard worker tutors who continue to keep O.P.E.N running. We have tutors who can spend many hours here and others that are able to only do a couple of hours a week.

Each year the Launceston City Council asks for nominations for volunteers who have contributed 200+ and 500+ hours in the year.

I would like to thank the following people for
 200-499 hours in 2011:

Bruce Dineen, Christopher Will, Eleanor Horder, Heather Loffel, Karia Wicks, Sandra Viney, Tom Olsen.

500-999 hours : Tony Garrett, Laraine Rist

As I said earlier volunteers who contribute a couple of hours or hundreds of hours are all very much appreciated.

The group of 34 tutors put in 6480 hours during 2011 . We lost 4 tutors in 2011 but nearly 600 more hours were clocked last year . It really puts it into perspective when you sit down and crunch the numbers.

Rob.

TUTORS MEETING

The next Tutors Meeting will be held at our club May 2 following the OPEN Meeting

VICTOR TELEPHONE NUMBER

Help line for members **0408174235**

SCAM WATCH

If you receive a strange phone call or SMS, perhaps pretending to be from someone you know; it's possible you've been targeted by a scammer.

Telstra has joined forces with the Australasian Consumer Fraud Taskforce to support this years Fraud Week. If this does happen to you; hang up the phone and delete the text straight away.

www.scamwatch.gov.au/fraudweek2012

On Line Shopping

May 16
10 am—noon
Books and all sorts

Bring along your web site ideas to share.

VENUE TELEPHONE NUMBER
The club telephone is available

during class hours**.**
63434928

Get well wishes to all Tutors and

students who have been on this months sick or incapacitated list.
We wish you a speedy recovery.

You are sorely missed.

ASCCA

The ASCCA Newsletter is available to each of our members through our affiliation with this Australia wide organization which recognizes the contribution to senior Australians made by the numerous computer clubs and volunteers around this country.

The Notice Board includes:

National Seniors Week
from May 14-20, 2012

National Cyber Security Week
June 12-15 2012.
The Department of Broadband, Communications and Digital Economy has just announced a change to the official dates.

Seniors Week Tasmania
October 1—7 2012

14th ASCCA Conference
November 13-14 2012 Sydney.

Joan Craymer, Editor of the ASCCA
Newsletter welcomes input from members who can contact her at :

OCR
Optical Character Recognition.

What we learned:

The program allowed us to scan in typed or printed documents so we could save, then correct any errors before moving to Family History documents etc.

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LEVEL 2 & 3 GRAPHICS

May 16
June 20
July 19

PSP X1
1pm—3pm
With Judy, Eleanor and Margaret
May 23
June 27
Stepping up from PSP 7 and 8

FAMILY HISTORY ON-LINE

Wednesday Mornings
May 23
June 27

Wednesday Afternoons
May 9 & June 11

MAC USERS
Classes every Tuesday with Reinhard, Ivan and Maurice.

Bring your own or use our club computers.

BASIC GRAPHICS SESSIONS

10 am—noon

May 9

May 30

June 13

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**ADVANCED GRAPHICS
EXTRA SESSIONS**

|		
May 30		
Aug 29	all 1pm—3.15	
Oct 31	July 4	2pm—4.15
	(Following OPEN Meeting)	

General PC Support Classes

Tuesday evening 7 pm –9 pm.

Computer Filing System

One of the most difficult computer operations for new users to learn is how the computer stores files. Most computer users do not have a structured filing system for their data but let the computer place the file in one of the default directories [in the Library, on the C: drive] and when it comes time to retrieve their data, they have difficulty finding it.

Shown below is a simple tree structure so you can navigate to your data [using Windows 7]:-
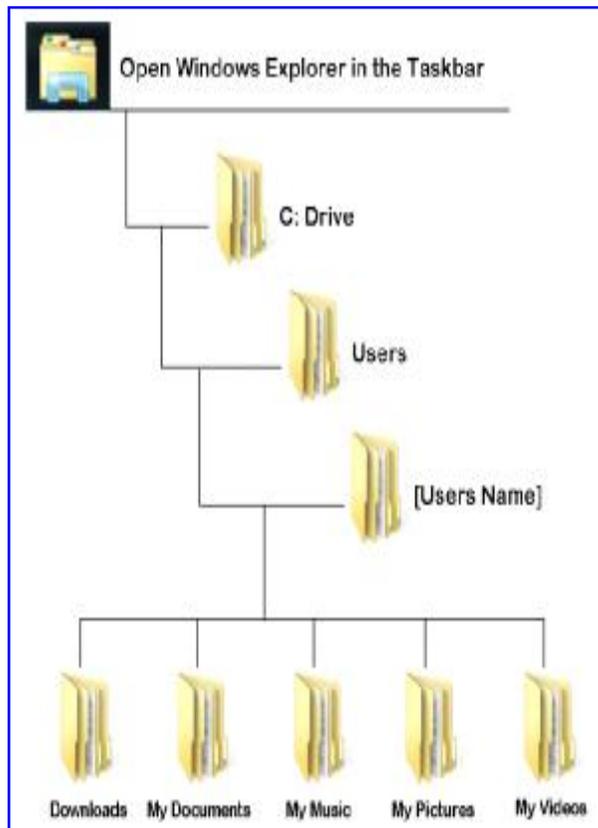
If you are using a program and wish to navigate to your data, just skip the first step of opening Windows Explorer and then proceed by selecting the C: Drive and then follow the path in the tree structure above to your data.

Next month I will continue with the Computer Filing System and show how easy it is to make your own filing system within Windows so you can create new directories for your data such as pictures from your digital camera, documents, eBooks and other types of files that you collect.

Copying Files in Windows

Many new users having difficulty understanding the concept of copying and moving files within their computer. The easiest way to do this is to follow these steps:-

Select the item you wish to copy.

Press the CTRL and C keys.

Select where you wish to place the copied item.

Press the CTRL and V keys.

I think this is the best method of copying files as it is easy to remember and works in all programs.

Making a Copy of the Current Screen

If you get an error message on the screen and want to remember it so as you can get help to fix it, is to make a copy of the screen by pressing the PRINT SCREEN button on the keyboard [usually top right]. This will make a copy of the whole screen and copy it to memory. You then open a program such as Word, Publisher, Paint or even your Mail program and paste [by pressing the CTRL and V keys] it into the document. Most times you do not want a picture of the complete screen but only error message. An easy way to capture only the active window [the one on top] is to press the ALT and PRINT SCREEN keys and this should just capture the error message.

Bruce Dineen

WHAT IS A DOWNLOAD?

With the subject of 'excessive' downloading at OPEN being topical at the moment I thought it might be an appropriate time to refresh members' minds on the definition of downloads.

In simple terms it is the exchange of electronic data between the Internet and YOU. Information sent by you to (*or through*) the 'Net is a called an upload.

In the early days of the Internet you may have only been charged for downloads, until of course, ISPs found that there was money to be made from the exchange of the electronic data in both directions.

The information that you access on the Internet does not have to be saved on your computer to be defined as a download. For instance if you view some sort of video clip on the Internet you will be charged for the amount of data transmitted to your computer. Think of it as tuning in to the news or a sporting event on your radio or TV and being charged for every minute that you watch or listen.

So how much are you downloading? As an example let's consider an 18-minute movie file that a member recently downloaded at home (*at his own expense*) and brought into the club for members to view. Its size was over 300 Megabytes so if three people decided to watch it 'on the Net' while in class at OPEN it is possible that over 1 Gigabyte of usage might be charged to the club's monthly allowance.

Our member's thoughtfulness in placing that movie clip on our server means that it can be viewed many times over by members without having any effect on the club's Internet usage.

The' download once—use often' philosophy can be used in a number of scenarios. Why download installation files for a certain program several times for individual computers when you could save it on our server (*or yours*) and re-use it over and over?

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DOWNLOADS (continued)

Good examples of this are the Windows Service Packs which can be as large as **2.5 Gigabytes** for Windows 7, or the free OpenOffice program that ranges between 140 and 220 Megabytes

If you are a music buff would you go into a store and buy the same record or CD several times? So if like me you like to watch old pop song video clips from YouTube it makes sense to 'download once' on to your hard-drive and to 'view as often' as you wish.

Even when downloading YouTube clips there are multiple format options which will affect the amount you are downloading e.g. I use the 640 by 480 pixels Flash Video format which usually 'eats up' 15-20 MB of my broadband allowance for a 4-minute song. If I were to download the same song in high-definition 1920 x 1040 pixels format it would consume more than 100 MB of my allowance.

Not only it is important to consider how much you are downloading but also **what you are downloading**. Do you ever research that New-You-Beaut program that you are about to install?

If a review said that 'NYB' takes over your home-page, hijacks your internet browser and installs spyware on your computer would you still install it?

If that sounds like a silly question then perhaps you should check out some of the stuff that is being put on computers at OPEN.

Dennis Murray

THE RETURN OF THE KEYBOARD?

In a computer community where the majority of users have become almost totally dependent on the mouse as the preferred method of input between ourselves and our computers it is ironic that one of the latest developments in the IT world may lead to a resurgence of the keyboard.

Microsoft's new operating system Windows 8, due later this year or early in 2013, is being designed to cater for a wider range of devices than previous OS's. So desktop computers and laptops will not be the only places where Windows 8 will be seen—tablet computers, smart-phones and other touch-screen devices will also host W8.

Users of iPods, iPads and iPhones will be familiar with swiping, poking and probing at various parts of the screens iin order to move between applications/programs and in providing that facility for those type of devices some of the traditional on-screen facilities that we PC users have been accustomed to may no longer available.

For instance, how would you access your Programs and the Control Panel if there was no Windows/Start symbol in the bottom left corner of your screen for you to click? If the **Consumer Preview Edition** of Windows 8 is any indication of what we will get with the finished product it is likely you will have to 'dangle' you mouse pointer in a certain corner of the screen in order to access 'Charms', the name given to the disappearing icons that will enable you to connect with those previously-visible programs and features.

Fortunately there will be a combination of old and new keyboard shortcuts that will make computer life a little easier for those of us who don't qualify for membership of Generations X and Y. And thankfully there are some firms working on programs that may give Windows 8 the 'classic look' of previous OS's.

OPEN Session Times
At Studioworks, 1 Pipeworks Rd, L'ton
Standard Sessions $5.00

Day	Time	Session
Monday	10 am –12	General & Beginners
	1 pm – 3 pm	**Beginners & PC Support**
Tuesday	10 am –12	P C Support & Beginners + Mac
	1 pm – 3 pm	**As above**
	7 pm—9 pm	PC Support (Night Class)
Wednesday	10 am—noon	Special sessions or Meetings
	1.pm—3 pm	As for mornings (see rosters)
Thursday	10 am –12	General & Beginners
	1 pm – 3 pm	General & Beginners
Friday	10 am –12	General & Beginners
	1 pm—3 pm	Beginners

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SPECIAL WEDNESDAY SESSIONS
Please register on the sheets – numbers may be limited

Date	Time	Topic	Details
May 2	10 am—noon	Graphics Workshop	Judy. Laraine
	1pm	**OPEN MEETING**	
May 9	10 am-noon	Basic Graphics	Judy and Laraine,
	1 pm—3 pm	**Family History**	**Find your family on line**
May 16	10 am-noon	Online Shopping	Judy
	1:00—3 pm	**1 pm—3 pm**	**PSP X1 Graphics**
May 23	10 am—noon	**Family History**	**online with Judy Hall**
	1 pm—3 pm	**PSP X1 Graphics**	With Judy, Eleanor & Margaret
May 30	10 am-noon	Basic Graphics	Judy and Laraine
	1 pm—3 pm	**Advanced Graphics**	The next step with Judy
June 6	10 am—noon	Graphics Workshop	Judy and Laraine
	1pm	**OPEN MEETING**	
June 13	10 am—noon	Basic Graphics	With Judy, Eleanor and Laraine

POINT OF VIEW: ONLINE ETHICS AND ETIQUETTE

It's been a long time since I tackled the subject of "netiquette," and things have changed in the interim. Back then, the primary means of communicating online were email and newsgroups (remember newsgroups?). In comparison to the "old methods" of printed, mailed letters and telephone or in-person discussions, those methods seemed quick, informal, much less in-depth and not nearly as carefully composed. Today, social media is the online communications method of choice for many people, especially younger people. And social networking posts make email messages look stilted and formal by comparison.

As our technology changes, common practices and even the etiquette of communication changes too. Oh, the basics remain of course - it's still not considered polite to call others names or "troll" (posting outrageous statements just to get others riled up and angry). But the rules regarding privacy and sharing are not the same as back in the earlier days of the Internet. Social networking emphasizes openness and sharing of information, and that may be disconcerting to some folks who are used to more discretion.

To understand why the old rules don't apply anymore, we can start with the Terms of Service that you agree to (whether you realize it or not) when you join a social site. Most people don't even read the ToS; they just click "Agree," same as they do for a software EULA (End User License Agreement) when they install a program.

Let's look at the Facebook ToS as an example. Section 2, Sharing your Content and Information, says (in part):
"When you publish content or information using the Public setting, it means that you are allowing everyone, including people off of Facebook, to access and use that information, and to associate it with you."

What does that mean, exactly? Well for one thing, it means that even though your settings might prevent others from seeing your posts, the "public" information that you publish - such as your name - can be used by anyone, any way they want. For instance, if you accept someone as a Facebook "friend," that person can add you to groups, send you game requests, post on your wall and so forth. Ways are provided for you to control various aspects of your privacy, but it's up to you to figure them out and use them. The default settings will almost always be to share everything with everybody.

I recently heard about a case where a Facebook user was livid that one of his "friends" had added him to a group. It was a local interest group for members of a "real life" organization to which they both belong. The "added party" felt that he had been severely wronged and even threatened to make this an issue within the real-life organization, even after the "adder" removed him from the group.

These kinds of hard feelings can occur when people don't understand 1) the common and accepted practices associated with the sites they join, and 2) how the technology works to encourage (and sometimes even force) more sharing and less privacy.

Let's look a little more closely at Facebook groups. There are two different settings for membership approval. The creator(s) and/or administrator(s) of a group can configure it so that any group member can add or approve additional members, or so that any member can add but an administrator must approve all new members. The default setting allows any member to add and approve.

When you belong to a group and visit its page, a list of "suggested members" appears in a column on the right. As with Facebook in general, the aim of the software is to get more sharing going on. Simply clicking the button by a "suggested member's" name adds him/her to the group. What can you do about it if you're added to a group you didn't want to join? Well, it's easy to remove yourself. Just click the "Settings" button in the top right of the group page under the pictures (it looks like a tiny gear), and select "Leave Group." You're out.

Of course, you can also "unfriend" a person. In that case, he/she won't be able to see your posts unless you mark them as "public." Remember though, that someone else who *is* your friend can copy and share your posts with others. A good rule of thumb is: Don't post it to a social site unless you would be comfortable having it printed on the front page of your local newspaper. Seriously, folks, Mark Zuckerberg (Facebook creator) argued in 2010 that privacy is "no longer the social norm". Certainly there are many indications that young people today don't value privacy nearly as much as previous generations did.

Legally, the concept of "expectation of privacy" is an important one in determining whether a person's rights have been violated. In the context of the U.S. Constitution, this applies to fourth amendment protections regarding the reasonableness of police search and seizure of evidence. The concept is also applicable to determining whether a violation of one's privacy has occurred in the social sense. For example, it's generally accepted that a person has a reasonable expectation that the contents of a letter sealed in an envelope and mailed via the Postal Service are private. It's also generally accepted that no such reasonable expectation exists for a postcard, because the information on it is open to the view of anyone whose hands it passes through.

We can think of electronic communications in the same way. An encrypted email

(Continued from page 8)

message would carry a reasonable expectation of privacy. A post on a social networking site, because of the nature of those venues, probably would not. Nonetheless, there are some generally observed rules of etiquette that apply to social networking. Here are a few regarding friends and groups:

1. You're not obligated to "friend" anyone just because he/she asks, or to "follow" anyone just because he/she follows you but...

2. Remember that a friend request is a *friendly* gesture so don't take offense at being asked. If you decline a friend request from someone you actually have a real-world or online relationship with outside the social network, the polite thing to do is send him/her a private message explaining why (e.g., "I use Facebook only for communicating with my close family members and don't mix business with my private life - but feel free to send me a connection request on LinkedIn").

3. You can "unfriend" anyone at any time but...

4. If you decide to "unfriend" someone, just do it - don't make a big issue of it. It's not necessary (nor polite) to announce it to the world. You don't even need to announce it to the person you're unfriending.

5. You're not obligated to join any group to which you're invited, or to remain in any group to which you're added but...

6. If you don't want to be in a group, just politely decline (or ignore the invitation), or if the site works by adding instead of inviting, just quietly leave the group. It's not necessary (or polite) to post a nasty message to the group or send one to the person who invited or added you. Again, adding someone to a group is a friendly gesture; taking offense marks you as (at best) overly sensitive and unfriendly.

7. If you send a friend request to someone who might not know who you are (such as that guy you met once at a conference or the author of your favorite blog), send along a private message, telling him/her who you are and how *you* know *him/her*, and why you want to be friends. If you send a "bare" request with no personal information, don't be surprised if it's ignored.

8. Don't be offended if you send a nice message asking to be friends, and you get a response that the person only "friends" people he/she knows in real life. Each social network member has the right to decide how narrow or broad to make the scope of his/her friends list.

If someone else gets offended because you friended or unfriended him/her, followed or unfollowed him/her, invited or added him/her to a group, etc., don't respond in kind. It's hard to have your gesture of goodwill rejected, and if you get an unfriendly or accusing reply, your first impulse will be to answer it with unfriendly words of your own. Resist the impulse.

House Call 2012: Fixing a sluggish PC

By Fred Langa

It was a typical winter day in Seattle — gray, rainy, and raw — when I visited Windows Secrets reader Gary Nobel.

Gary's system would occasionally slow "to a crawl." I was there to find out why.

This was the first in a new series of House Calls, an occasional project where I visit a reader's home or business and attempt to diagnose and cure real-life PC problems. The idea behind House Calls is simple: selected Windows Secrets readers and I collaborate to learn new techniques for analyzing, maintaining, and improving personal computers — which we then share with all Windows Secrets readers.

It works like this. Some months ago, I issued a call for volunteers for a personal, onsite, PC troubleshooting session. From time to time, I select one of the more interesting problems plaguing a reader — a problem that might apply to a wider audience. And rather than diagnose the problem remotely, I pay the reader a personal visit to his or her home or place of business — at my own expense. I do whatever I can in one day to solve the problem (or problems) and make the hardware and software run as well as it can.

Each House Call article, like this one, will explain what we found and how we fixed it. I hope that will give you the information you need to perform similar diagnoses and repairs on your system — or on systems you maintain for others.

The problem: Slowdowns with no clear pattern

When I asked for House Call participants, Gary Nobel sent this:

"I have a desktop computer with a 2.5GHz Pentium Dual Core CPU and 2GB of system memory. I'm running Windows 7 Home Premium. "The computer occasionally slows down to a crawl. I think Outlook 2007 or IE — or both — might be involved. Rebooting solves the problem, but I have to reboot every

(Continued from page 9)

few days. Sometimes I get the rotating ring with IE. Clicking the red X doesn't close the window, and I resort to a forced close using Task Manager. "I run Microsoft Security Essentials and occasionally things like Malwarebytes and Ad-Aware. But they rarely find anything except cookies."

a Gary's note caught my eye because it's a nearly universal problem — almost everyone experiences unexplained PC slowdowns from time to time.

When a slowdown follows a clear pattern, it's usually not too difficult to figure out cause and effect. But slowdowns that occur only occasionally — or have no clear pattern — are much tougher to track down. Finding the culprit in Gary's PC would be interesting!
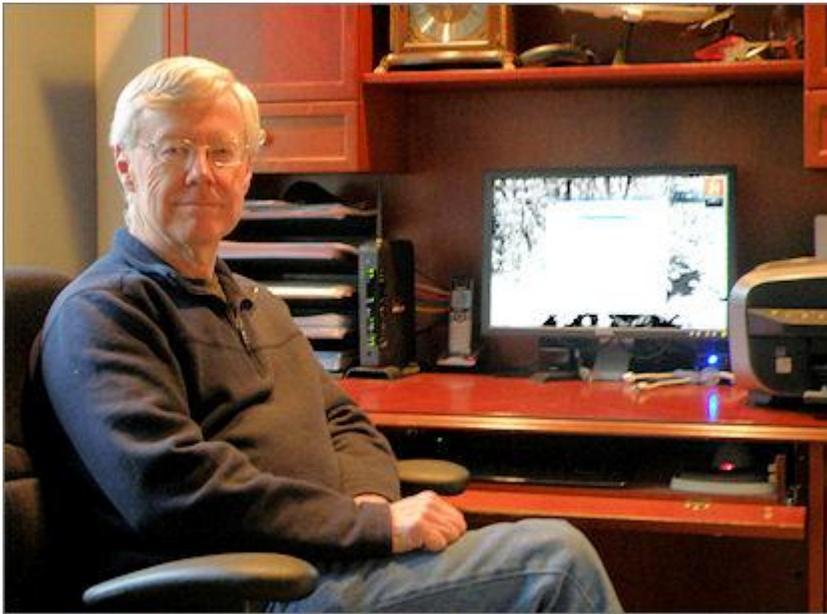
Figure 1. Seattle's Gary Noble — and his problem PC

Also of interest,

Gary's system had 2GB of RAM. That's well above the 1GB minimum Microsoft recommends for Windows 7 (see MS's Win7 system requirements page) but smaller than the 4GB systems I typically use. Working on Gary's system would verify that my recommended diagnosis and repair techniques are still valid for lower-RAM systems. (And I'd modify them if they weren't.)

The first step is always a thorough tune-up

Junk files aren't harmless. They occupy space and require servicing by the operating system — which tracks and indexes them, defrags them and backs them up, and more. Removing junk files reduces the operating system's overall file-management burden and can improve performance.

To get the junk files off his system, Gary and I used the techniques described in the Nov. 10, 2011, Top Story, "Putting Registry-/system-cleanup apps to the test." In particular, we used the enhanced mode of Windows Disk Cleanup plus the free version of CCleaner [site].

We then reduced the size of the system's default recycle bin, Internet Explorer's temp-files storage, and the System Restore area — three notorious space hogs whose voluminous contents can cause a system to bog down. (Need more info? See this Oct. 6, 2005, item.)

When we were done, Windows had about 1.4GB fewer files to keep track of — a nontrivial amount, for sure!

Small systems might need big pagefiles

Next, I poked through various system settings to see whether anything was amiss. Gary's **pagefile** size caught my eye.

A pagefile (or swapfile) is a temporary scratchpad area on the hard drive that stores code and data when Windows is juggling more stuff than will fit into system memory. It lets Windows operate as if the system had more RAM than is actually installed.

But hard drives are usually orders of magnitude slower than system RAM, so any significant use of a pagefile always produces a performance hit.

Windows tries to compensate by keeping the most-used, most-essential code and data in system RAM and inactive and lower-priority code and data in the pagefile's *virtual RAM* on the hard drive.

The proper sizing of pagefiles used to be somewhat of a manual, black-art

(Continued from page 10)

task. But there's no mystery to it anymore: as detailed on an MS TechNet page, Microsoft recommends that a pagefile be no less than 1.5GB on systems with 1GB or less of RAM and no less than the amount of RAM, plus 300MB, on larger systems. Note that these are *minimums.*

The default maximum is three times the amount of system RAM, but you can go larger — much larger. Windows 7 can support pagefiles as large as 16TB (assuming a hard drive had the free space). Clearly, Microsoft isn't looking for minimalistic pagefiles. *Windows needs room.*

By default, Win7 sets its pagefile size at or near the RAM-times-three maximum, then automatically manages pagefile size dynamically — growing or shrinking the pagefile as needed.

In most cases, it works well. Since the advent of Windows 7, I've recommended leaving the pagefile defaults alone and letting the system manage it.

However, Gary's pagefile settings were set by the OEM to a fixed, 3GB pagefile (150 percent of the amount of RAM in Gary's 2GB system). That's within spec — but at the *low end.* Aha!

That meant Gary's PC had dual space constraints: its modest 2GB of system RAM and its smallish pagefile. Normally, Windows can use the pagefile as abundant virtual RAM. But when Gary used his system heavily, the virtual-memory system became saturated with read/write requests, bogging down the entire system with Windows' data-swapping. In effect, the pagefile was a bottleneck, causing his PC to run at inefficient hard-drive speeds instead of high-speed RAM rates.
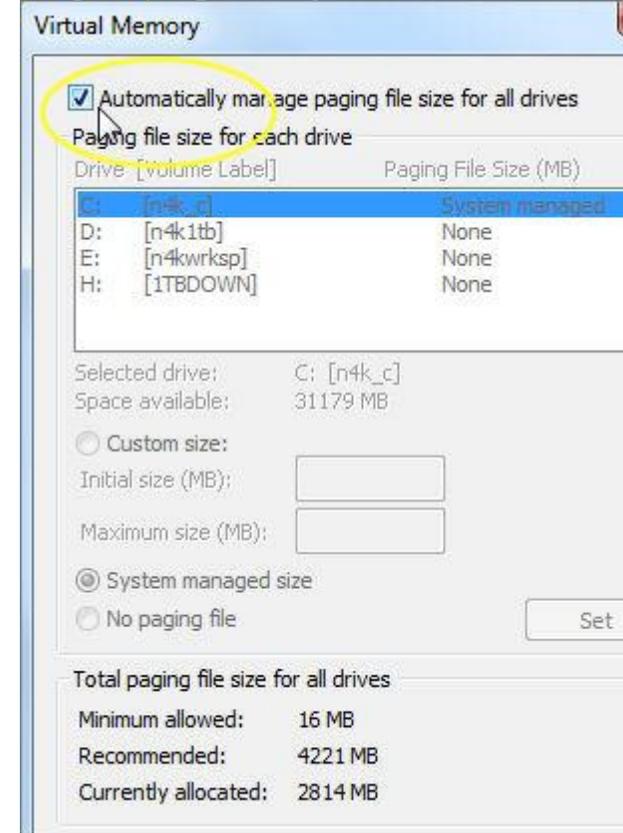
Gary's system had plenty of empty space on the hard drive, so there was no reason to constrain the pagefile that way. We reset the system to let Windows automatically manage pagefile size. As the cited TechNet page states, it's easy to do — via the Windows Control Panel or this handy, undocumented shortcut:

Step 1. Click Start and type **systempropertiesadvanced** (with no spaces) into the **Search programs and files** box. Then press Enter.

Step 2. Under the Advanced tab, click the Settings button in the Performance section.

Step 3. In the Performance Options dialog box, click the Advanced tab.

Step 4. In the Virtual Memory section, click Change. Then, tick the box to **Automatically manage paging file size for all drives** (highlighted in yellow in Figure 2). **Figure 2. If you let it, Win7 will do a good job of automatically managing its pagefile.**

Gary's virtual memory system now had some additional elbow room. We hoped that would be enough to improve memory-use performance and prevent slowdowns.

A few more tweaks, cleanups, and tunings

Next, we stepped through Gary's software and — via Window's **Uninstall or change a program** applet — uninstalled several pieces of old software that he no longer used.

One gave us some trouble — some obsolete BlackBerry software that offered no obvious way to uninstall it. We eventually exorcised it from his system by a brute-force, manual deletion of the files, followed by use of a Registry cleaner to repair the damage.

We ran Windows Update, then installed and ran Secunia's free Personal Software Inspector (PSI) (site) to make sure *all* his software was current.

At that point, the day was drawing to a close. We set Gary's system to defrag

itself (MS defrag Help), and I left feeling confident that cleaning and tuning his system — especially loosening the constraints on the pagefile — would at least ameliorate the occasional slowdowns his system experienced.

Follow-up: One more thing to do — an upgrade

A week or so later, Gary wrote to tell me:

"Things seem pretty normal, except it's taking longer than expected to start new programs. But there are none of the long waits for webpages in IE that sometimes used to happen."

Gary and I discussed the new-programs, slow-start issue. I suspected it was related to limited system RAM. Each time he loaded an additional program, data and code would have to be swapped out of RAM to make room. Increasing the size of Gary's pagefile meant his virtual-memory system was working as well as possible; the only way to reduce overall dependence on virtual memory is to increase the physical system RAM.

I recommended that he flesh out his system to 4GB, which is the maximum amount of RAM that 32-bit systems can access.

He wrote back:

ᵃ "I took your recommendation and did buy some memory. I am running quite well now, and I'm using your CCleaner and Windows Disk Cleanup routines regularly. Thanks again for your help!"

Some of the important takeaway lessons

There are three key points that came from this House Call:

ᵃ **Cleanups work.** Regular use of cleanup techniques, as discussed, will help keep your system junk-free and running lean.

ᵃ **The Win7 defaults are mostly good.** In fact, in the case of pagefile sizes, letting Windows manage things almost always yields better results than manual tweaks.

ᵃ **RAM still matters.** If you have a 1–2GB Win7 system, consider investing in another gig or two of RAM. At the time of this writing, a 2GB stick of RAM is in the neighborhood of U.S. $10-30. It's money well spent!

Thanks, Gary, for letting us all learn from your system.

TALKING TECH: THE CORE(S) OF THE MATTER - UP CLOSE AND PERSONAL WITH YOUR PROCESSOR

Last August, I began what was intended to be a series of "under the hood" articles in Win7News, beginning with a discussion of excess heat and temperature monitoring. Then we decided to combine WXPnews and Win7News into one big newsletter and during the transition to a new website and a new format, the series fell by the wayside. I did pick up the theme again in recent newsletters featuring storage technologies and physical and virtual memory, and then last week with the discussion of video cards. This week I want to take an "up close and personal" look at the component that functions in some ways like the brain of your computer: the Central Processing Unit (CPU) or more simply, the main processor.

I say "main" because the powerful Graphics Processing Units (GPUs) that I talked about last week are capable of doing some of the general processing that was previously done by the CPU, in addition to handling the actual graphics processing. This is referred to as General Purpose Computing on GPUs (GPGPU or GPGP) or GPU Computing. For certain types of operations, the GPU can calculate much faster than a traditional CPU.

That doesn't mean there haven't been great advances in CPU design too. Intel and AMD are the two top manufacturers of the processors that power servers, desktops and laptops. Most of today's smartphones and tablets run on ARM processors, which are based on RISC architecture (some will recognize RISC as the basis of the PowerPC processors that were first designed by IBM and Motorola and were used in Apple's Mac computers until the company switched over to Intel processors in 2006.

Intel started making processors for "microcomputers" (the early terminology for desktop PCs) back in 1971, with a 4-bit processor called the 4004. For many of us, our first "real" computer ran on the venerable 8086 or 8088. The former was used in the IBM PS/2 and the latter was used in the original IBM PC (including the PC/XT). The more powerful IBM PC/AT that was released in 1984 ran on the 80286 and subsequent "PC clones" (similar machines made by vendors other than IBM) were based on its successors, the 80386 and 80486 (which were 32-bit processors) - thus the term "x86" to refer to that Intel processor architecture.

Then along came a new Intel brand in 1993, the Pentiums. This included the Pentium Pro, Pentium II and III, Celeron and several variants of the Pentium 4. Somewhere along the way, Intel also came out with the Xeon (capable of working in pairs or larger groups with a multiprocessing operating system). These were still part of the x386

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family. Intel's first 64-bit processors were released in 2001 and named Itanium; they used a totally different instruction set from the x86 processors. In 2005, we got another line of 64-bit processors that was more like its x86 predecessors. There were the x64 processors that began with the Pentium 4F and Pentium D.

In 2006, Intel introduced the Core microarchitecture with the dual-core Woodcrest and quad-core Clovertown technologies for the Xeon line and that same year we got the Core 2/Core 2 Duo dual-core desktop processors. Next were the Core 2 Quad processors in 2007. The Nehalem architecture was introduced in 2008, and included the Core i7, which is still at the heart of some of today's most powerful desktop and laptop systems. There are Nehalem designs that support six (Gulftown), eight (Beckton) or ten (Westmere-EX) cores. Core i3 and Core i5 were released as lower-powered, lower-cost Nehalem designs that came out in 2009 and 2010. They're popular for laptops because they're more power-efficient than the i7. The latest Sandy Bridge architecture replaces Nehalem, but its processors retain the Core i3/i5/i7 names. The first Sandy Bridge processors were released in 2011.

And that's just an abbreviated and very simplified history of Intel processors. Advanced Micro Devices (AMD), which licensed from Intel the right to make x86-compatible processors and which merged with graphics card maker ATI, has its own story. The competition between these two top competitors has benefitted computer users as each company tries to outdo the other.

A look at today's multiplicity of processor technologies can be overwhelming. What's a core and how many of them do you really need? How do you balance power usage against performance? What's System on a Chip (SoC) and where does it fit in? Are traditional processors on the way out, as we move into the so-called "post PC era?" Over the next couple of weeks, I'll try to answer some of those questions.

First let's look at the relatively new phenomenon of multi-core processing. Not so long ago, if you needed superior processing power, you could install more than one processor in your computer. Of course the computer had to have a motherboard that had more than one CPU socket. Most such motherboards were built for servers, although there were also dual processor (or better) high-performance workstations, too. Multi-core processors consist of two or more independent processors but they're located on the same die or package. The die is the chip that contains an integrated circuit.

Multi-core processors take up much less room inside the computer case than multiple single-core CPUs, don't generate as much heat and cost less. But you only benefit from multiple cores (or multiple single processors) if your software is written to take advantage of them. Windows NT was designed to support Symmetric Multiprocessing (SMP). Windows XP Professional supports dual processors; the Home version does not. Windows 7 Home Premium supports two processor cores, but not dual CPUs in two different sockets. Pro, Enterprise and Ultimate support two physical CPUs. Windows Server 2008 R2 (Datacenter Edition) supports up to 256 processor cores or 64 physical processors. Wow.

Not only does the OS need to support those processors, but the applications do too, if you're going to see appreciable performance benefits. Today's software developers design their programs to run in multiple threads so they can take advantage of multi-core processing. As with the high-end graphics cards that we discussed last week, those who get the most "bang for the buck" from a multiplicity of processor cores tend to be the hard-core (no pun intended) gamers. If all you do with your computer most of the time is surf the web, organize your photos, post to your blog and work on the occasional Word doc or Excel spreadsheet, a couple of cores will probably serve your purposes.

Talking tech: The need for speed - up close and personal with your processor, part 2

Last week, we started our discussion of computer processors with a brief history of the Intel microprocessor, focusing on the benefits of multi-core processors and how they work. This time, we'll leave the cores aside and talk about processor speed - although that's actually a bit of a misnomer.

The number that people usually refer to as the "speed" of the processor is actually the *clock rate,* which is expressed in hertz (which includes megahertz and gigahertz). This represents the frequency at which the processor runs. Hertz (Hz) measures the number of cycles per second. These cycles are created by oscillator crystals or ceramic resonators that vibrate to create an electrical signal. Quartz crystals were first used in clocks in the 1920s and are the basis of quartz movement watches. Ceramic resonators are less expensive than quartz and also smaller in size.

The processor in the first IBM PC was an Intel 8088 that ran at 4.77 MHz, which is a bit over 4.7 million cycles per second. Intel's current fastest quad-core (the i7-3820) runs at 3.6GHz, which is 3.6 billion cycles per second, although IBM created a 5.2GHz processor back in 2010 (that's over 50 billion cycles per second).

You can find out your processor(s)'s clock rate by expanding the Processors node in Device Manager, as shown in the figure.
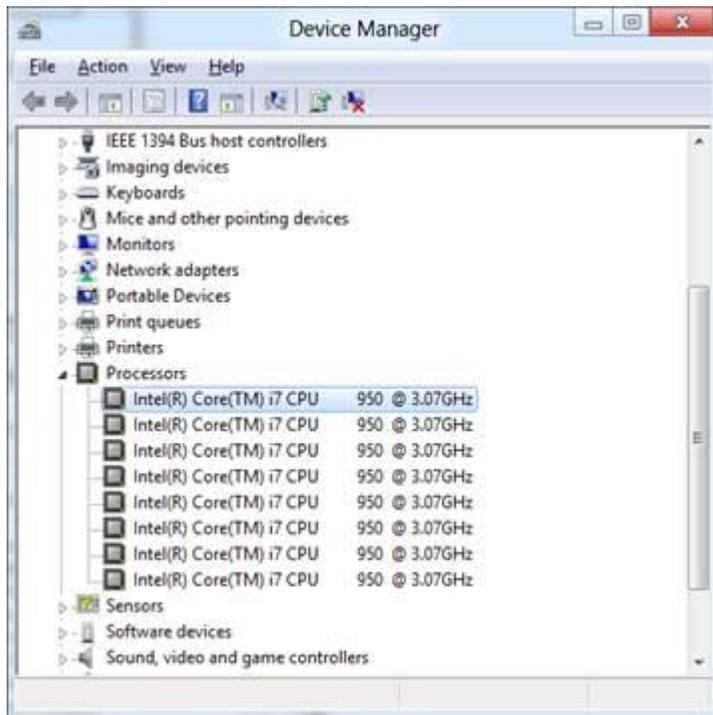
So how much does the clock rate matter to the actual performance of the processor? Just as the number of SPUs (Streaming Processing Units) on a video card can be useful for comparing two cards from the same vendor, but not so much when comparing across different manufacturers, clock rate comparisons between different processor families don't tell you much. All other things being equal, a higher clock speed means faster processing, but all other things are rarely equal.

The CPU's design and architecture, the amount of cache it has onboard, the width of the data bus and other factors go into determining real-world performance. More important than the "speed" (clock rate) of the processor is the number of instructions per second (IPS) it's able to process. This can be expressed as MIPS (Million Instructions per Second) or GIPS (Giga Instructions per Second).

The cache is a small, very fast memory chip on the processor that stores information coming from the computer's other hardware (such as the hard drive or RAM) to the CPU. The processor can process data more quickly than the hard drive or RAM can

transfer it. The cache stores instructions from the RAM and runs as fast as the processor, so as to get the data to the processor as quickly as possible. There are different "levels" of cache: L1, L2 and now even L3, which is shared among multiple cores. The larger the cache size, the faster the data can be transferred and the faster the processor will perform. Cache memory, because it's so fast, is also very expensive, so the bigger the processor's cache, the more the processor will cost. Cache sizes range from 512KB all the way up to 12MB on the high-end Core i7 processors.

What else impacts CPU performance? The speed of the *buses*, or interfaces between the CPU and other components such as the memory controller, is one factor. The Front Side Bus (FSB) has been replaced by QuickPath Interconnect (QPI) in high-end Intel processors and the memory controller is integrated onto the processor. AMD got there first with the integrated memory controller idea; their bus is called HyperTransport.

How about the bit rate? Are 64-bit processors faster than 32-bit models? Well, the former can handle twice as many bits of data per processing cycle since its addressing register is twice as wide. To get faster real-world performance, the operating system and the application software have to support 64-bit operations as well. 64-bit processors can also work with larger amounts of RAM than their 32-bit counterparts.

Some processors can be *overclocked* to make them run faster than they were intended to by the manufacturer. That can be done by changing the clock rate, the CPU multiplier or the memory timings. This carries risks, as overclocked processors produce more heat and can become unstable and permanently damaged if it's overdone. Nonetheless, some folks like to push performance to the extreme and some are even overclocking tablets and phones now.

There are standard performance benchmarks for evaluating performance. These are software programs that are designed to emulate a typical workload, either by using special programs that mimic the workload or by running real-world applications. There are websites that aggregate this processor performance information.

We expect each new generation of processors to be faster and yet more energy efficient. That's a tall order for microprocessor manufacturers. Intel has adopted what they call a "tick tock" model for developing new processors. The "tick" cycle focuses on shrinking the die fabrication so that we've gone from a 65-nanometer (nm) process in 2006 to the 22nm process of today's Ivy Bridge, and the expectation is to get down to 10nm by 2016.
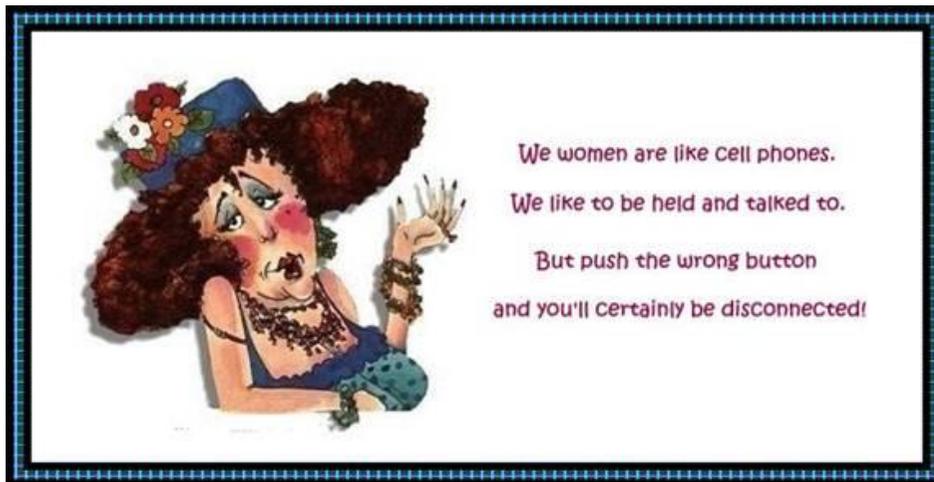
(Continued from page 14)

The "tock" cycle in alternating years introduces a new microarchitecture, like Core, Nehalem and Sandy Bridge. The new microarchitectures support new features and designs, such as the integrated memory controller, the Quick Path Interconnect that replaced the old FSB and the second-generation virtualization technology (VT) in Nehalem. Sandy Bridge brings further enhancements, including Intel Quick Sync Video that provides hardware support for video encoding/decoding.

AMD has become less competitive in the high-end market in recent years, but their processors generally cost less and power many of the low-priced desktops and laptops on the market. They do have plans to introduce a new architecture called Steamroller in 2013-2014. The competition between the two companies has driven processor development for many years.

What do you think about processor performance? Are the high-end (but also high-priced and relatively high-energy consumption) Core i7s worth it? Is overclocking "risky business" that you leave to the hobbyists or do you indulge? Does processor performance matter to you more than, as much as, or less than other technical specs such as amount of memory, video-card quality and amount of storage space? Are you one of the Intel faithful or an AMD fan? Do you think desktop processors are on the way out anyway, to be replaced by ARM processors and other "systems on a chip

We women are like cell phones.

We like to be held and talked to.

But push the wrong button

and you'll certainly be disconnected!

Office Q&A: Image wrangling in Word 2010

By Katherine Murray

We include pictures in everything — from blog posts to annual reports to letters to Grandma.

But easy as it is to insert pictures into a doc, we're often flummoxed by how to keep them exactly where we want them. This article explores a few of the maddening Word picture-placement issues our readers (and editors) have faced.

Fixing text flow disrupted by an added picture

a "When I add a picture to my page, it makes a mess of my text formatting, adding lots of white space around the picture. And when I add text or try to reformat it, the picture moves to a new place on the page. How can I fix that?"

Word deals with all pictures — including photos, diagrams, drawings, clip art, charts, and WordArt — in one of two ways: as *inline with text* or as a *floating image.*

Inline images are treated as if they're another character in your text, so you might notice lots of space above any figure you simply insert inline. (See Figure 1.) When surrounding text moves, so does the inline illustration. There's no way to make an inline image *stick* to one spot on a page.

Pearl Comes Home!

Figure 1. When you insert a picture inline with text, it moves wherever the text moves.

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Images classified as *floating*, on the other hand, are linked to an *object anchor* — wherever the anchor appears, the image appears, too. You can locate a floating image (and its anchor) within a paragraph or next to a paragraph marker, but you must use the Wrap Text tool (click the image and select the Format/Picture Tools tab; or right-click the image) to choose how to flow text around the image. Wrapping options include Square, Tight, Through, Top and Bottom, Behind Text, and In Front of Text, as shown in Figure 2. (You can also select In Line with Text.)
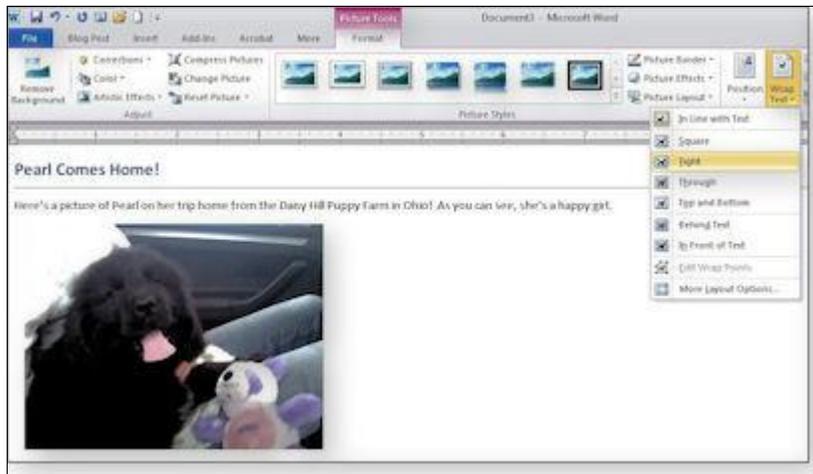
Figure 2. Choose any option in the Wrap Text list except *In Line with Text* to make your picture a floating image that you can keep anchored on the page.

You must choose one of these text-wrapping options to place an image exactly where you want it. If you don't, Word defines an image as In Line with Text by default.

Also by default, object anchors are hidden. Revealing the anchors will make it easier for you to see exactly where Word has anchored the pictures in your document. This way, if one unexpectedly moves to the next page, you'll be able to see where the image was anchored and move it so it stays on the page where you want it to appear.

To show anchors, click the File tab and select Options/Display (see Figure 3). In the

Always show these formatting marks on the screen section, click the Object anchors check box. Then click OK. (To hide anchors, you might have to uncheck "Show all formatting marks.")
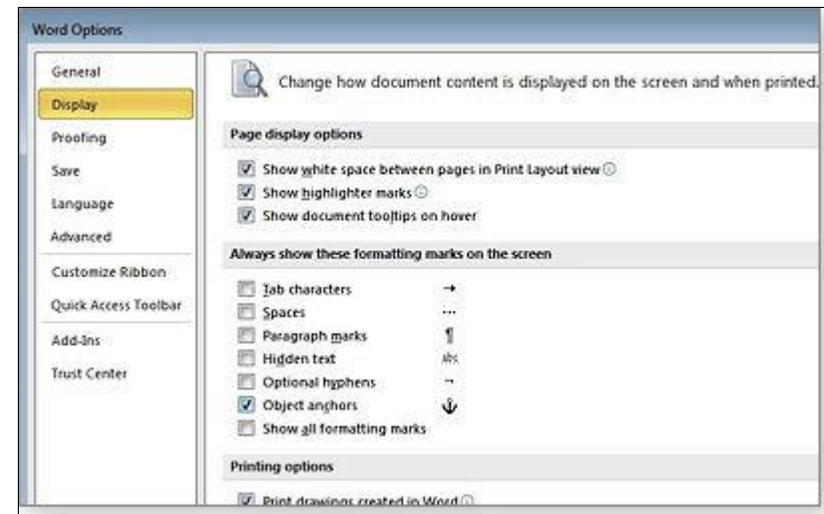

Figure 3. Reveal or hide image anchors in the Word Options dialog box.

Floating images keep jumping around. Why?

a "Sometimes, when I add a picture to my page, it stays where I put it. But other times it jumps to the next page. It's incredibly annoying."

Image anchors are tied to paragraphs. If you add new text or images above an anchored paragraph, it might be displaced to a following page — and its associated image will naturally go with it. You can change the placement of an anchor — and move the picture back to the page where you want it to appear — by right-clicking a picture, choosing Cut, and then pasting the picture into the new location. (See Figure
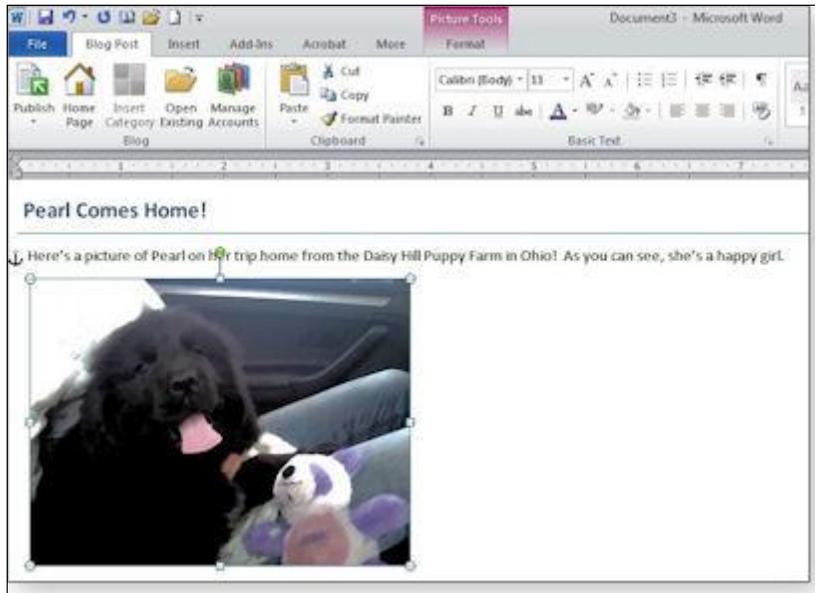
4.)

Figure 4. Move an anchor by cutting the image and placing it back where you want it on the page.

When you move an image (and its anchor) to a new location, remember to reapply a Wrap Text setting so it still floats. If you don't, Word will insert the image as an inline object and you'll no longer see the anchor. Yes, it's frustrating.

A mirage image — it's there, then gone

a "When I insert a picture on the Word page, it disappears! I see just a picture frame for a second and then nothing. What's going on?"

When you first add a picture to your Word page, Word treats it by default as an inline image — it's considered just another character on the page and is treated like any other text. Not only can this make your line spacing funky, but if your Paragraph attributes are set to a specific line height, your picture can disappear from the page. (And it could pop up in an unexpected place when you print.)

If you have a problem with the picture disappearing or you see only a sliver of your image or there's just a picture frame (but no picture), check your Paragraph settings. Select the Home tab and then click the dialog launcher (the tiny box-and-arrow) in the bottom-right corner of the Paragraph group. In the dialog box that pops up, click the Line spacing drop box and change the setting from Exactly to either Single or Multiple, as shown in Figure 5. This should fix the appearance problem, but you might also want to apply a Wrap Text setting.
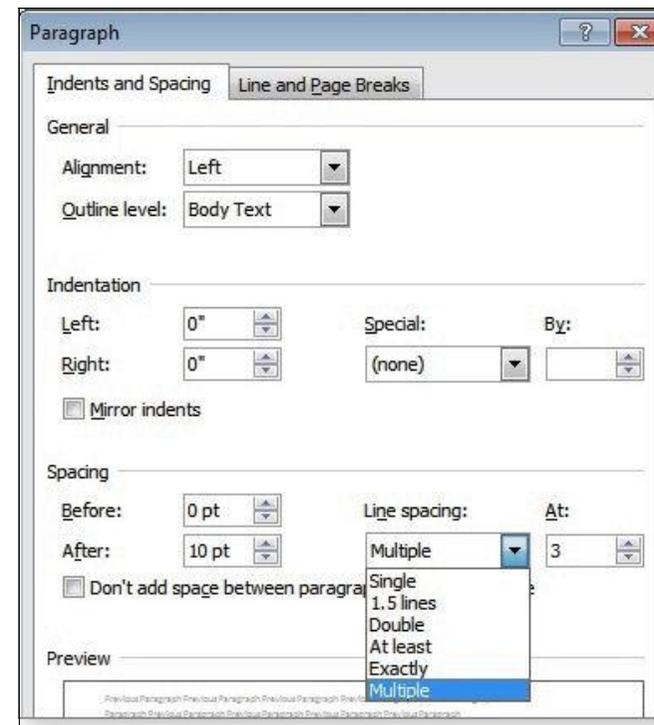

Figure 5. Check your paragraph line-spacing setting to ensure images always appear.

What to do with those roaming captions?

a   "The captions that I add to figures often wind up getting bumped to the next page, while the image stays at the bottom of the previous page. How can I keep the pictures and captions together?"

In Word, the way to make captions stick depends on the type of picture — inline or floating — placed on a page. If it's an inline picture that's formatted as part of the text, add a caption by clicking the References tab and choosing Insert Caption in the Captions group. This displays the Caption dialog box (see Figure 6), where you choose your label and add descriptive text that will stay with the image as it flows with the text in your document.

If you created a floating image with one of the Wrap Text settings, your picture and your caption will be treated as two different objects on the page, which means you need to put them both into a text box if you want to be sure to keep them together. To add a text box, click the Insert tab and then click Text Box in the Text group. Choose Draw Text Box and draw a box over the picture on your page, with a little extra room at the bottom for the caption. (See Figure 7.)
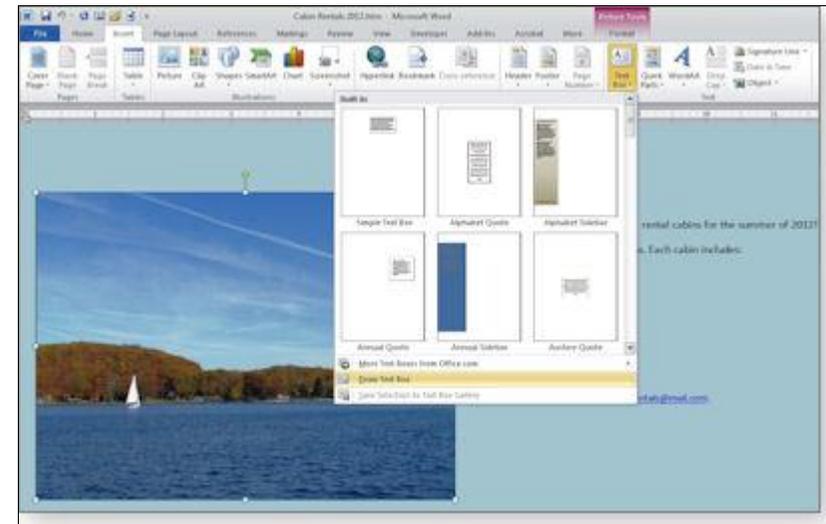

Figure 7. If you want to add a caption to a floating image, put both the image and the caption into a text box.

Choose No Fill for the box (so that you can see the image through it) and then, after using Send Backward to move the box behind the picture, cut and paste the picture into the box. In the text box, click below the picture and type your caption, formatting it as you want it to appear.

You can hide the border of the text box, if you like, so that the text in your document appears to flow around the picture and caption. Simply click the text box and, in the Format/Drawing Tools/Shape Styles section, set Shape Outline to No Outline (see Figure 8.)
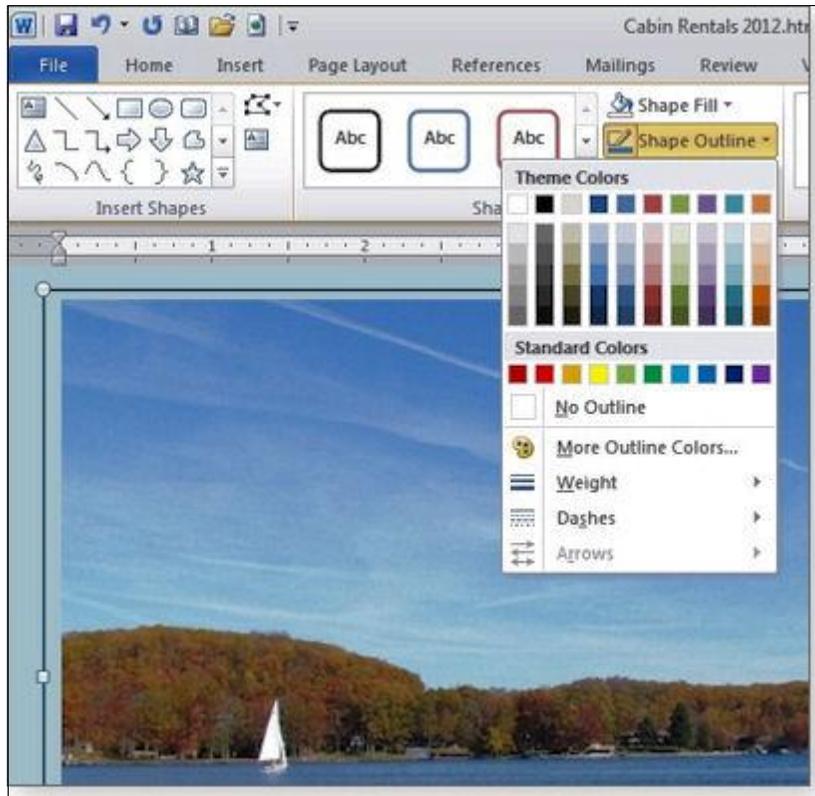
Figure 8. Hide the text box outline by choosing No Outline from the Shape Outline settings.

Word's picture tools are improving in each incarnation, but it can still be a challenge getting Word to display, format, and print pictures just the way you want them seen.

TWENTY-NINE LINES TO MAKE YOU SMILE

1. My husband and I divorced over religious differences. He thought he was God and I didn't.

2. I don't suffer from insanity; I enjoy every damn minute of it.

3. S! ome people are alive only because it's illegal to kill them.

4. I used to have a handle on life, but it broke.

5. Don't take life too seriously; No one gets out alive.

6. You're just jealous because the voices only talk to me.

7. Beauty is in the eye of the beer holder.

8. Earth is the insane asylum for the universe.

9. I'm not a complete idiot -- Some parts are just missing.

10. Out of my mind. Back in five minutes. !

11. NyQuil, the stuffy, sneezy, why-the-heck- is-the-room- spinning medicine.

12. God must love stupid people; He made so many.

13. The gene pool could use a little chlorine.

14. ! Consciousness: That annoying time between naps.

15. Ever stop to think, and forget to start again?

16. Being 'over the hill' is much better than being under it!

17. Wrinkled Was Not One of the Things I Wanted to Be When I Grew up.

18. Procrastinate Now!

19. I Have a Degree in Liberal Arts; Do You Want Fries With That?

20. A hangover is the wrath of grapes.

21. A journey of a thousand miles begins with a cash advance.

22. Stupidity is not a handicap. Park elsewhere!

23. They call it PMS because Mad Cow Disease was already taken.

24. He who dies with the most toys is nonetheless DEAD.

cid:9F94D1E0EBB2473683FA7A717136287F@renken

25. A picture is worth a thousand words, but it uses up three thousand times the memory.

26. Ham and eggs... A day's work for a chicken, a lifetime commitment for a pig. (how true)

27. The trouble with life is there's no background music.

28. The original point and click interface was a Smith & Wesson.

29. I smile because I don't know what the hell is going on.