

# ComputerEdge™ Online — 05/22/09



## This issue: Wi-Fi Standards and Routers

Wi-Fi equipment with the 802.11n standard will give us more speed, plus a look at Apple's Wi-Fi routers.

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"Upgrading Your PC's RAM," "Video Chat With the Grandkids"



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## Digital Dave

“Digital Dave answers your tech questions.” by *Digital Dave*

What could be causing a reader's maddeningly slow shutdown process?; a reader wants to do word processing on a scanned document; what's the best way to transfer files from an old XP machine to a new Vista PC?

Dear Digital Dave,

*My PC takes more than two minutes to shut down. I have been told that many unnecessary processes are running, and that I should go to Windows Task Manager, identify each .exe file by searching each filename on the Internet, and then turn the non-essential ones off.*

*The files have names such as CCSVCHST.exe, svchost.exe, mdm.exe, syncServiceBasic.exe, and so forth—up to 30 of them. How do I know which ones to remove, and is there a quick way to identify what the file does?*

*Aimee Squires  
Bonita, Calif.*

Dear Aimee,

There are a variety of reasons why your computer will take a while to shut down, and it can be pretty frustrating if you're in a hurry. However, I would be cautious about removing programs or stopping services that I don't absolutely understand. While it could possibly help with a quicker shutdown, there is a risk of losing another useful capability, or worse, causing operating system problems.

There is always cleanup that the operating system (and some programs) needs to do before powering down. Some shutdown procedures are related to writing information to disk; others concern the proper closing of open services and programs. It usually takes much less time for a computer to close down than start up. Two minutes may be a little long, but does not seem out of bounds for a computer to go through its routines. At least it is shutting down without hanging up.

The quickest way to find out if a filename is related to the Microsoft operating system or another Microsoft product is to use the Microsoft Support Search site ([support.microsoft.com/search/default.aspx](http://support.microsoft.com/search/default.aspx)). Simply enter the filename and check the Search results. If you get nothing, then it's time to move to the Internet search engines.

The advice you were given to do a Web search on the program names is probably the quickest way to determine what a program does. If it doesn't appear in the Services tab of Task Manager, which gives a short description and running status (see Figure 1), then I know of no easier way to get information than to Google the program name.

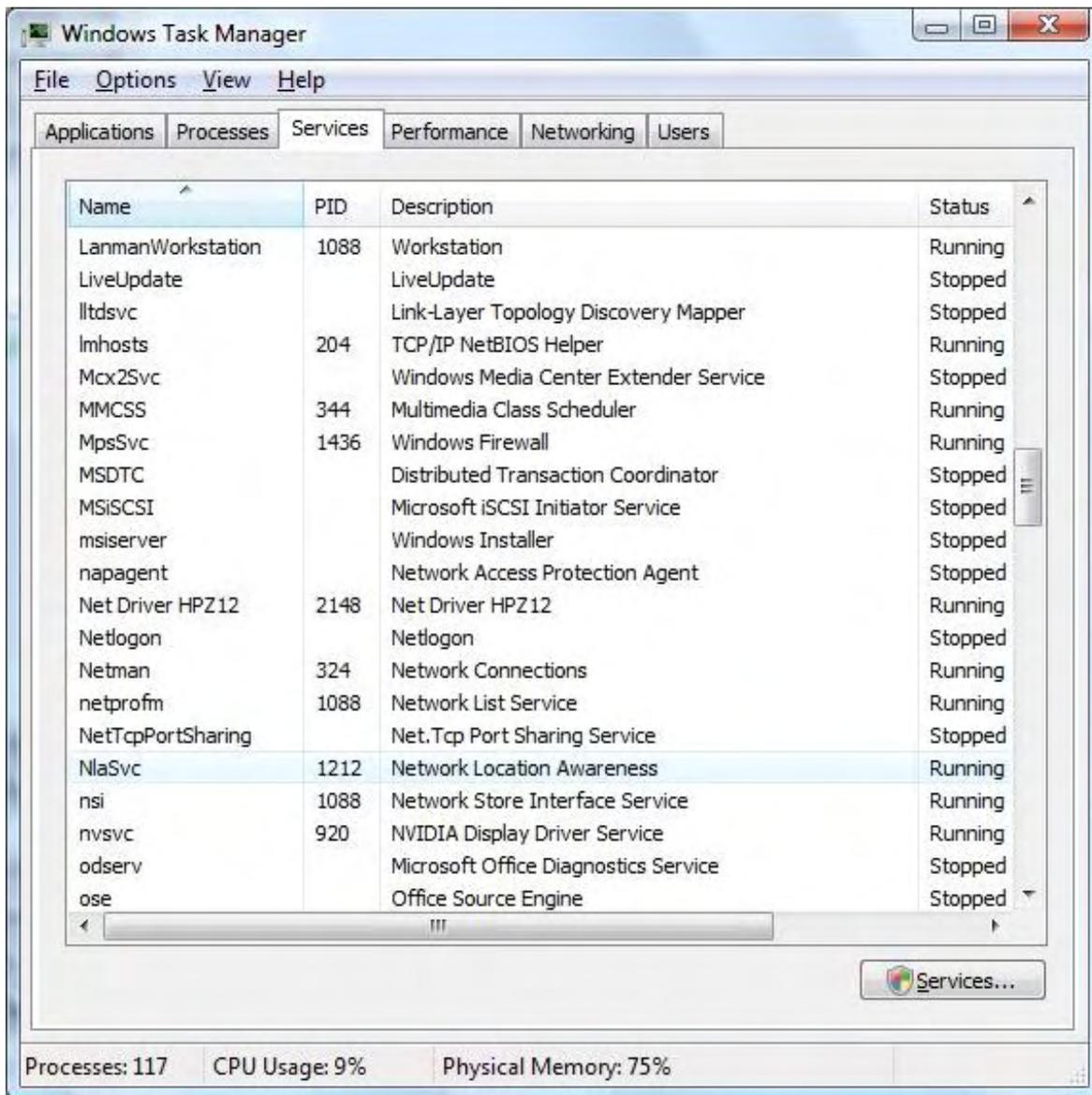


Figure 1. The Services tab of Windows Task Manager.

I quickly checked some of your listed programs, and found a lot of complaints about ccSvcst.exe (it eats up processor time). This is associated with Norton's Utilities by Symantec. The recommendation was to remove Norton and replace it with another antivirus program. Both Norton and McAfee are known to be resource hogs and could easily be responsible for a slow shutdown.

Going in and killing processes may help the first time, but unless you want to do it every time, you're going to have to figure out why it loads in the first place and how to prevent it from doing so. In any case, proceed with caution when making changes to your computer that could affect the operating system. It's too complex to predict what deleting an unknown program will do.

There are lots of other things that could also cause a slow shutdown, but it's hard to speculate without knowing more about the situation (hardware, apps, etc.).

Digital Dave

*Dear Digital Dave,*

*After I scan an item and put it in my Documents folder, is there some way that I can then type on that document?*

*Andrew Hecht  
San Diego*

Dear Andrew,

How you approach this problem will depend upon how much text you need to add to the file. When you scan a document, unless you use Optical Character Recognition (OCR) software, the output is saved as a graphics file (TIFF, JPEG, etc.). Therefore, you can't open it with a text editor or word processor for editing. However, for quick additions you can use a graphics editing program (even PC Paint) and create and paste text when using a text-editing mode.

However, if you want fuller editing capabilities, I would recommend that you convert the document using OCR software. Many of the scanners come with software that includes OCR. While scanning, the software will recognize text characters and convert them to standard ASCII code rather than a graphic representation. Once you have the document converted to text, you can edit it with any word processor or text editor.

If you have a document that is already in a graphics file, then you will need to convert it with OCR software from that file. It is worthwhile to look for this capability in the software that you already have installed on your computer. Microsoft Office Document Imaging (*office.microsoft.com/en-us/help/HP010771031033.aspx*) is a part of Microsoft Office, and includes OCR features.

Adobe Acrobat is another program that includes OCR features. First you import the graphic into a PDF file, then select OCR Text Recognition from the Document menu. Then you can export the text to a variety of file types, including Microsoft Document (.doc) files.

Another free solution that appears to be pretty popular is SimpleOCR (*www.simpleocr.com*). I haven't used this program, but it has been cleared by the major download sites. I would like to hear about other OCR software techniques from anyone who has other approaches.

Digital Dave

*Dear Digital Dave,*

*I am in the market for a new desktop computer. Can I transfer files from my old XP system to the new Vista system with a cross-over Ethernet cord? I have networked a laptop and a desktop before, but both systems had Windows XP. Would it be easier to just back up the old system to an external hard drive?*

*Barrett D.  
Vail, Arizona*

Dear Barrett,

It's been decades since I've used a cross-over cable to transfer data. In those days, they were used with the old serial ports.

Today, you shouldn't need to worry about any type of crossover cable. You will be able to set up your new Vista machine on the same network as the XP computers, wired or wireless. Once you have all the computers on the same network and have shared the target drive, copying the files over will be as simple as a click-and-drag to the new computer.

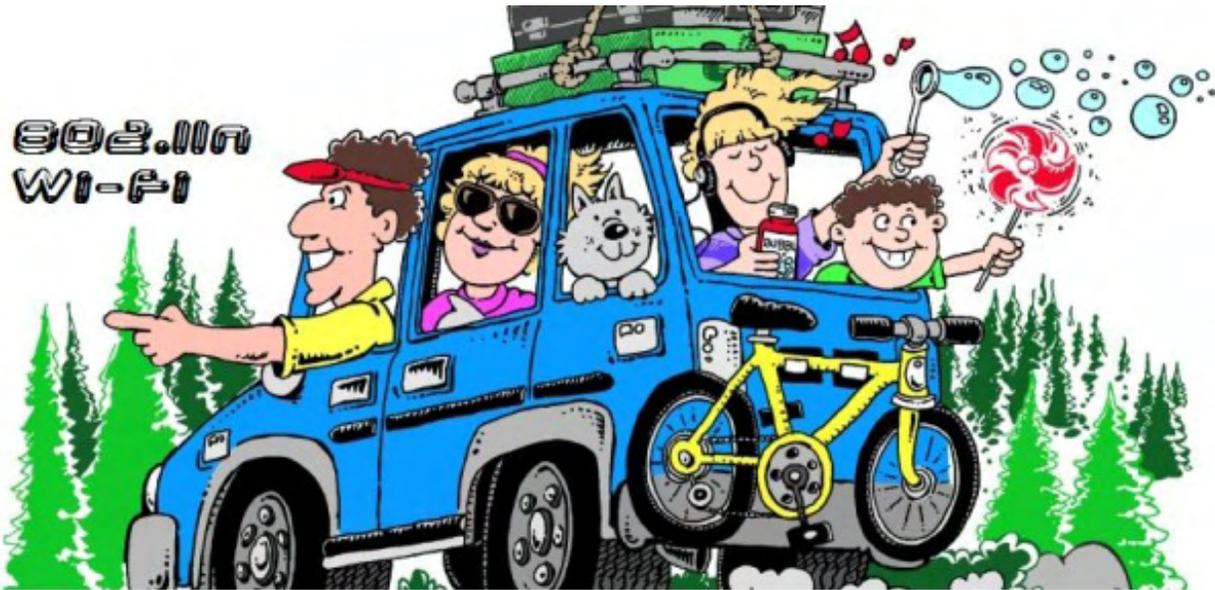
If you're having network problems and you have an external USB drive, then using it to transfer files is a good option. The advantage to using an external drive to move the files is that you will have an additional backup copy of your files on the external drive.

Another excellent approach is to plug your old XP drive directly into the new computer as a second hard drive. This requires that you remove the old drive from the computer—at least temporarily. If your new computer doesn't have the proper connection, then you can get a USB 2.0-to-IDE/SATA Serial ATA Hard Drive Adapter Cable Kit that uses the USB port to connect to any type of drive. This kit supplies all the connections needed to add any type of drive as a second drive (externally). The kit should include a power supply for the old drive. This approach is generally faster than network copying, and works well for laptops that don't have connections for additional drives. Again, moving the files is a simple click-and-drag to the new location.

Digital Dave

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## The New 802.11n Standard for Wi-Fi Routers

**“The new standard promises speed and reliability.”** by Dawn Clement

The next Wi-Fi standard, 802.11n, should be ratified later this year or early next year—and promises to be even faster than current cable Internet service.

Hello, my name is Dawn, and I'm an Internet addict. I check my e-mail multiple times a day and get anxious if I can't log on. I rely on the Internet for communication, news and entertainment. Like most modern consumers, I'm spoiled. I have a reliable cable connection and am annoyed when technical difficulties slow down my surfing. I've been hooked for a long time.

I transferred to the University of California, San Diego from Palomar College in 1989. At that time, I did not own a home computer and my grandmother bought me one to assist in my studies. I don't remember the specifications of that first PC, but I'm sure its limitations would be shocking today! What I do remember is getting my first modem—a 1400-baud external dial-up that I used to connect with the Unix system on campus. I didn't have an ISP because I didn't need one. Instead, I used a SLIP (Serial Line Internet Protocol) connection to get into the university system.

Not too much time later, I discovered Bulletin Board Systems (BBS) and was hooked. Because I didn't use an ISP, every time I logged into a BBS, I incurred phone charges and, unfortunately, my favorite BBS was physically located in Iowa. After a \$900 phone bill, I decided to stick to local BBSs (which is incidentally how I found *ComputerEdge*, as we used to have a listing of local numbers). Then the BBSs starting offering links to the World Wide Web, and everything changed forever. It was no longer possible to thoroughly explore cyberspace without an ISP. I used AOL for a while, and then switched to NetZero (which was actually free back then). It took me a while to break down and finally get a cable modem; I was initially irked that I had to pay for something I had been getting for free. However, once I actually used it, I understood.

Any Internet user will tell you that the most important thing is speed. Faster is better. Currently, the fastest connection is an OC-255 (Optical Carrier 255), which can handle 13.21Gbps speeds. Of course, at millions of dollars per month, an OC-255 is beyond the realm of possibility for the average consumer. Most consumers use cable or DSL to connect to the Internet, and even then are always looking for ways to speed things up. To give you some idea of comparison, the theoretical maximum speed of a dial-up Internet connection is 56Kbps (kilobits per second) and most cable Internet providers offer service with 1-6Mbps (megabits) downstream and 128-768Kbps upstream. Wireless connections have a maximum speed of 54Mbps, but in reality the connection is more like 28Mbps. (One Mbps is one thousand times the speed of one Kbps.)

There are many different flavors of wireless connections, but the most common is Wi-Fi.

Saying that a product is "Wi-Fi" means that it conforms to the standard set by IEEE (the Institute of Electrical and Electronics Engineers). Wi-Fi stands for "Wireless Fidelity" and describes a technology that uses radio waves to transport data wirelessly from one location to another. IEEE has been setting technological standards for 125 years, and is scheduled to formally ratify the next Wi-Fi standard—802.11n—in December 2009 or January 2010. The last official standard, 802.11g, was ratified

in 2003. What makes the new standard so exciting is that it promises to be even faster than current cable Internet service.

The 802.11g standard for wireless networking supports a maximum bandwidth of 54Mbps and has an average range of 175 feet (range varies due to physical obstructions in the signal path). The 802.11n standard promises up to 10 times the speed and three times the range of the 802.11g standard. 802.11n can reportedly reach speeds of 140Mbps and a range of up to 300 feet.

What makes the new standard so much better? All Wi-Fi products use radio waves to transmit data, at a frequency of 2.4GHz or 5GHz. 802.11n will also transmit at a frequency of 2.4GHz or 5GHz. What makes it so special is that it can also transmit on both frequencies! This is because of MIMO (Multiple-In Multiple-Out) technology. The single-most important update to the wireless 802.11 standard is MIMO, which is the use of multiple antennas to improve performance.

In conventional wireless technology, a single antenna is used at both the sending and receiving ends of communication. If there is interference from physical obstructions, the quality of the transmission suffers. MIMO uses multiple antennas at both ends of the transmission, which greatly reduces the risk of error. Other new technologies in the 802.11n standard are channel bonding (this is how 802.11n can use both 2.4GHz and 5GHz frequencies) and payload optimization (allowing more data to be transmitted in each packet). This makes the 802.11n standard a better, more reliable method of transmitting data.

There are a host of products already available that claim to be 802.11n compliant, but there are only a handful that have actually been given a preliminary certification from the Wi-Fi Alliance. This certification warrants interoperability between different wireless devices. Legacy devices will undoubtedly work with the new 802.11n devices, but may impede the performance of the 802.11n device. The speed of any given setup will always be limited by the least common denominator. For example, if you have an 802.11n router, but still have an 802.11b adapter in your computer, your connection speed will be limited to the throughput of the adapter. Yes, this means that you'll probably have to go out and buy some new hardware. Something tells me that it'll be worth it.

As for me, I'm almost drooling with anticipation! I can't wait to see what wonders this new standard of technology opens up for the consumer.

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Dawn Clement is a freelance writer, domestic engineer, and mother of three with a Masters of Arts in Philosophy and over nine years experience in technical support.

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## Wi-Fi Routers and the Mac

**“Apple focuses on features, not jargon.”** by Wally Wang

Rather than mimic the dozen or more Wi-Fi routers available, Apple simply markets three different Wi-Fi routers known as the AirPort Express, the AirPort Extreme and the Time Capsule.

Wi-Fi routers, like computers, love to promote their technical specifications without listing their benefits. Instead, these cryptic ads assume that you understand technical jargon, such as why 802.11n is better than 802.11g. Naturally, most people don't know what these seemingly random gibberish technical specifications mean. As a result, the computer industry makes choosing computer equipment more difficult than necessary.

That's one of the strengths of Apple. Instead of promoting the type of processor, speed of its memory chips, or wireless standard used, Apple simply focuses on features and limited selection.

By promoting features, Apple clearly tells you what its products do and, by limiting the selection, the company makes it easy for consumers to shop. Rather than mimic the dozen or more Wi-Fi routers available, Apple simply markets three different Wi-Fi routers known as the AirPort Express, the AirPort Extreme and the Time Capsule.

Apple's products are rarely the cheapest ones on the market. However, they're almost always the easiest ones to set up, especially if you have a Macintosh. Given a choice between low prices and a wide selection of products with confusing capabilities, or three Apple products with higher prices, but clearly defined benefits, it's easy to see why paying more for Apple products can be so attractive.

### The AirPort Express

The AirPort Express is Apple's entry-level \$99 Wi-Fi router that offers small size and portability, and the ability to wirelessly stream your iTunes music to speakers.

#### AirPort Express at home.



Figure 1. The AirPort Express is a portable Wi-Fi router.

First of all, \$99 is low for an Apple Wi-Fi router, but it's extremely expensive compared to other Wi-Fi routers that can cost as little as \$20. If you just want a low-cost Wi-Fi router, you probably don't want anything with an Apple logo on it.

However, if you want a lightweight (7.4 ounces) router that fits in your hand (3.7 inches by 2.95 inches by 1.12 inches) so you can take it with you on the road, then the AirPort Express has few rivals.

Like all Apple Wi-Fi routers, the AirPort Express follows the 802.11n specification along with all the older ones, such as 802.11a/b/g. What this means is that if you have a Wi-Fi-enabled computer, you can connect to an Apple router with no problems. You can connect up to 10 users wirelessly to the AirPort Express, but it provides only a single 10/100 Ethernet port for plugging in a cable.

In case you don't know what the heck 10/100 Ethernet means, it just specifies the speed of an Ethernet connection. The latest routers offer 10/100/1000 Ethernet ports, so the AirPort Express 10/100 Ethernet port is one generation behind, which means a slower connection.

The most unique feature of the AirPort Express is its ability to wirelessly stream music to Wi-Fi-enabled speakers. Plop your speakers anywhere in your house, and listen to your music from your iTunes library without stringing cables all over the place that you'll trip over. If you need to stream music to remote speakers, the AirPort Express is the only Apple option.

### The AirPort Extreme

If you don't need portability, but do need performance, then you'll probably want the \$179 AirPort Extreme, which looks like a squashed Mac mini. The AirPort Extreme can connect up to 50 users wirelessly along with three 10/100/1000 Ethernet ports for connecting additional computers through cables.

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Figure 2. The AirPort Extreme is good for a home or small office.

Besides the more numerous and faster Ethernet ports, what separates the AirPort Extreme from the AirPort Express is the inclusion of a USB port, which allows you to plug in a printer or an external hard disk.

If you plug a printer into the AirPort Extreme, you'll be able to share that printer wirelessly with other computers using a standard called Bonjour. This ability to share a printer makes the AirPort Extreme convenient for a small office.

Rather than plug in a printer, you can also plug in an external hard disk, which you can share among multiple computers. Back up your data to this single external hard disk, or store files on this external hard disk so you can share them with others.

### Time Capsule

The Time Capsule is like an AirPort Extreme, except that it comes with a built-in hard disk (500GB or 1TB). This allows multiple computers to use Time Machine, the built-in backup program that comes with Mac OS X 10.5.

Time Machine is especially handy for backing up laptops. Instead of fumbling with cables, you can wirelessly back up your hard disk. Although the combined cost of a separate Wi-Fi router and an external hard disk is much cheaper than Time

Capsule (\$299 for the 500GB model or \$499 for the 1TB model), Time Capsule simply packages everything in one place and offers the ultimate in convenience.



Figure 3. Time Capsule can wirelessly back up computers.

Like the AirPort Extreme, Time Capsule also includes a USB port, so you can hook up and share a printer wirelessly. If you have a MobileMe account, you can even access Time Capsule's stored files remotely over the Internet.

### Which Wi-Fi Router?

Given these three options, you have to ask which one is right for you? If you want wireless streaming of music, you have no choice but to get an AirPort Express. If you want portability, the AirPort Express wins again.

If you just want a basic Wi-Fi router with fast Ethernet connections, get the AirPort Extreme. If you want wireless backup, get Time Capsule.

Whether you have a PC or a Mac, you can use any of Apple's Wi-Fi routers, although Time Capsule in particular is especially designed to work with Time Machine on Mac OS X. Apple's Wi-Fi routers may not be the cheapest, but they can be the simplest to use, understand and buy, which is something you can't say by wading through the confusing technical specifications of competing Wi-Fi routers.

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In the early days, before Wally became an Internationally renowned comedian, computer book writer, and generally cool guy, Wally Wang used to hang around The Byte Buyer dangling participles with Jack Dunning and go to the gym to pump iron with Dan Gookin.

Wally is responsible for the following books:

- Microsoft Office 2007 for Dummies ([www.amazon.com/gp/product/0470009233?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470009233](http://www.amazon.com/gp/product/0470009233?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470009233))
- Beginning Programming for Dummies ([www.amazon.com/gp/product/0470088702?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470088702](http://www.amazon.com/gp/product/0470088702?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470088702))
- Breaking Into Acting for Dummies with Larry Garrison ([www.amazon.com/gp/product/0764554468?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0764554468](http://www.amazon.com/gp/product/0764554468?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0764554468))
- Beginning Programming All-in-One Reference for Dummies ([www.amazon.com/gp/product/0470108541?ie=UTF8&tag=the15minmovme-](http://www.amazon.com/gp/product/0470108541?ie=UTF8&tag=the15minmovme-)

20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470108541)

- Steal This Computer Book 4.0 ([www.amazon.com/gp/product/1593271050?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271050](http://www.amazon.com/gp/product/1593271050?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271050))
- Visual Basic Express 2005: Now Playing ([www.amazon.com/gp/product/1593270593?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593270593](http://www.amazon.com/gp/product/1593270593?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593270593))
- My New Mac ([www.amazon.com/gp/product/1593271646?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271646](http://www.amazon.com/gp/product/1593271646?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271646))
- My New iPhone ([www.amazon.com/gp/product/1593271956?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271956](http://www.amazon.com/gp/product/1593271956?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271956))
- Strategic Entrepreneurism with Jon Fisher and Gerald Fisher ([www.amazon.com/gp/product/1590791894?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1590791894](http://www.amazon.com/gp/product/1590791894?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1590791894))

Every Saturday morning from 9:00 am - 10:00 am in San Diego, you can hear Wally with fellow co-hosts Dane Henderson and Candace Lee, on the radio show CyberSports Today ([cybersportstoday.com/](http://cybersportstoday.com/)), which covers the video gaming industry on ESPN Radio 800 AM. Wally covers the military history side of the video game industry.

When not performing stand-up comedy or writing computer books, he likes to paper trade stocks with the video game Stock Reflex ([www.plimus.com/jsp/download\\_trial.jsp?contractId=1722712&referrer=wwang](http://www.plimus.com/jsp/download_trial.jsp?contractId=1722712&referrer=wwang)), using the techniques he learned from a professional Wall Street day trader.

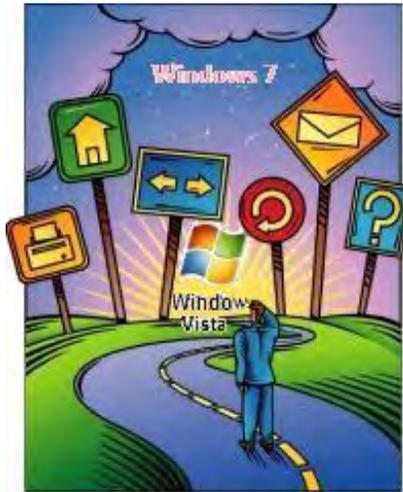
Wally can be reached at [wally@computoredge.com](mailto:wally@computoredge.com) and at his personal web site ([www.wallacewang.com/](http://www.wallacewang.com/)).

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# Windows Vista Tips and Tricks

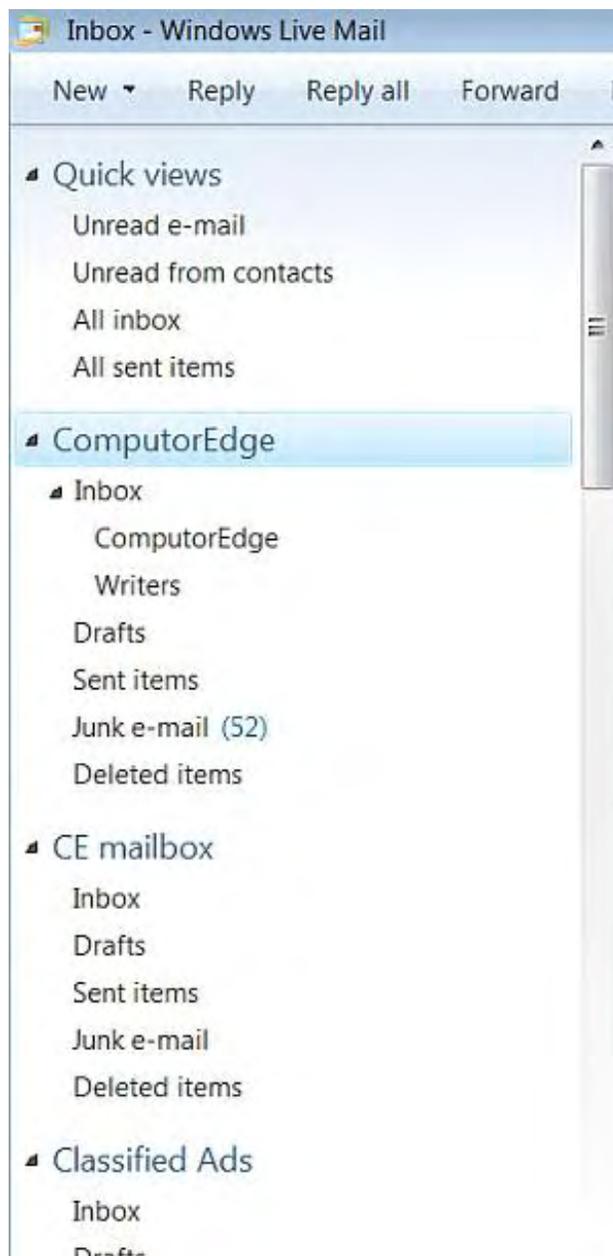
(and some Windows 7)

## Windows Vista (Windows 7) Tips and Tricks

**“For Windows 7, it will be Windows Live Mail. Try it now!”** by Jack Dunning

Windows Live Mail does take a little getting used to, but it has some features that you'll learn to appreciate.

One of the changes in Windows 7 is that it no longer comes with an e-mail program. While Windows Mail was included with the installation of Windows Vista, the latest version of the Microsoft e-mail client, Windows Live Mail, needs to be downloaded. I don't think that this was done purely to make the Windows 7 installation smaller. Microsoft wants to promote its Windows Live programs along with its foray into Web services. When you download Windows Live Mail, a number of other programs will be offered at the same time.



Regardless of motivation, you will need to decide which e-mail program you want to use. If you're already using Thunderbird, the Firefox e-mail alternative, then there may be no decision to make. However, for all the Outlook Express users on XP machines and Windows Mail users on Vista machines, you may want to give Windows Live Mail a try. In some ways, Windows Live Mail is very similar to the other e-mail clients, yet there is a new learning curve involved with this program. Quite frankly, when I first looked at Windows Live Mail, I freaked out. It does take a little getting used to, but it has some features that I'm learning to appreciate.

Windows Live Mail is a chance for people to start preparing for Windows 7 by upgrading their e-mail program now. Even if you are planning to move from Windows XP directly to Windows 7, there is a Windows XP version of the new Windows Live e-mail program—as long as you are running at least Windows XP with Service Pack 2. You can download Windows Live Mail directly from the Microsoft download site ([download.live.com/wlmail](http://download.live.com/wlmail))—no charge.

Once I downloaded and installed Windows Live Mail, it easily imported all of my accounts, folders, e-mail, contacts and message rules. (In other programs, I had to set up all the message rules again.) I was ready to go, but when I loaded Live Mail, I was immediately engaged in a state of confusion. This disconcerting experience may not be so bad for people who have only one or two accounts, but I literally have a dozen or so accounts from which I pick up mail for various reasons. As shown on the left of Figure 1, rather than being buried in an options list, the accounts all appear in the Folder Pane.

I soon discovered that all of my "storage" folders that interacted with the imported message rules were hidden off the screen below the listing of the accounts. It looked as if I were supposed to create a new folder structure for each account—not what I wanted to do. The original folder structure was in place (below the water line in a category

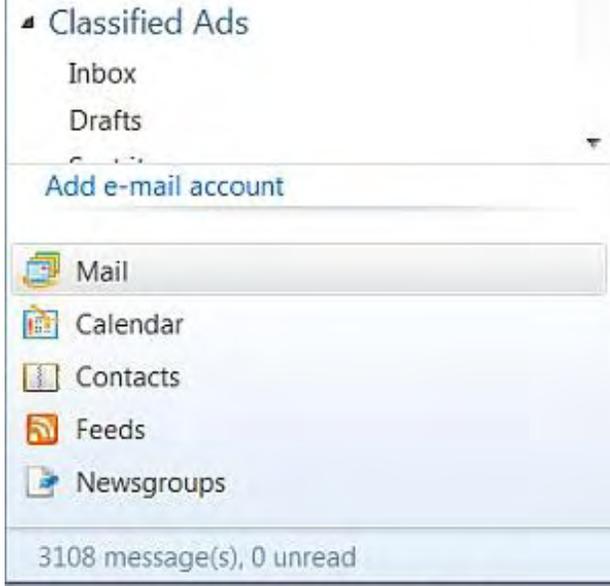


Figure 1. Folder Pane in Windows Live Mail

called "Storage folders"), but could be scrolled into view. All the folders continued to function in conjunction with the message rules, so the key e-mails were being routed properly to the old folders, while the new individual account Inboxes were coming up empty—or with spam. The purpose of the change in format was not immediately apparent to me. Rather than let my annoyance overwhelm me, I continued to play with the program under the theory that there was a method to this madness. It slowly came to me.

The primary reason for the change in structure was to adapt to how most people are using e-mail today. Many people have multiple accounts, including work, home, Gmail, Hotmail, Yahoo Mail, etc. Rather than having all accounts feed into one Inbox, each account now has its own individual Inbox, creating a natural separation between functional e-mail addresses. I soon realized that if I hadn't been forced into integrating all of my e-mail addresses (one Inbox as in Outlook Express and Windows Mail in Vista), this new system could have been my original preference. All of my carefully constructed folders with

associated message rules were now for mere storage. The accounts were for processing the e-mail while the folders, including those that could be added to each account, were for saving important (or at least interesting) e-mail. If I could wrap my mind around accounts first and folders second, then I could start to understand.

Staring at the Windows Live Mail interface, I could see that there were similarities with the Windows Vista look and feel. As with most Vista programs, the interface doesn't show the traditional menu bar across the top of the window. If you want it back, click on the Menus icon (see Figure 2), or Alt-M, select "Show menu bar," and the traditional menu bar will appear.

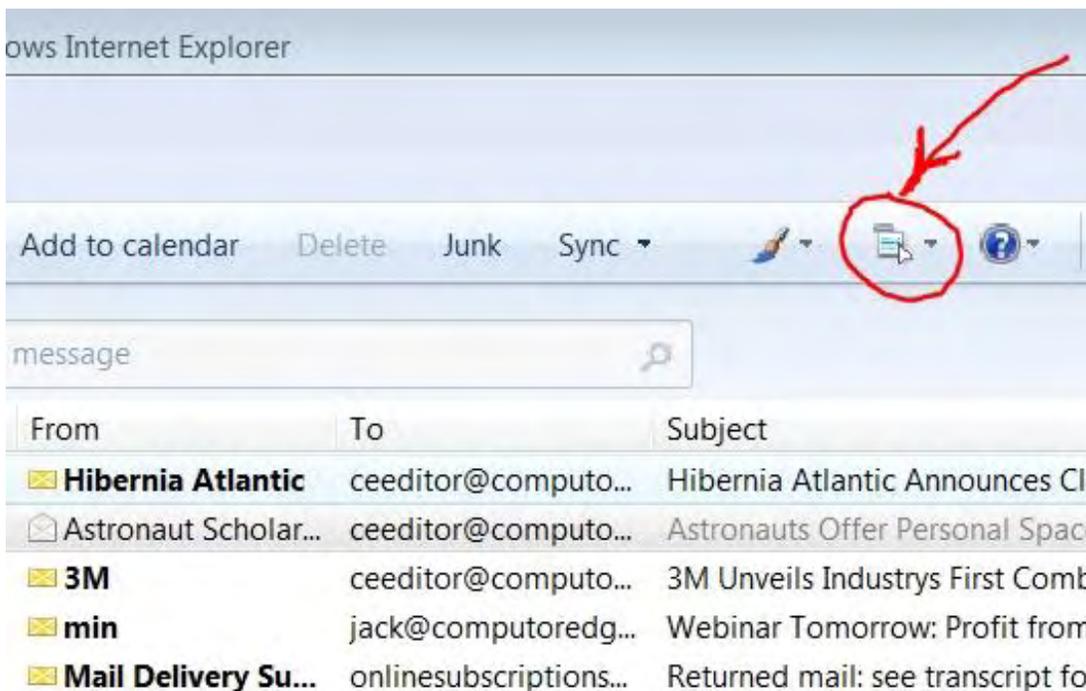


Figure 2. The Menus icon in Windows Live Mail.

One of the best features of Windows Live Mail is the simple pseudo account at the top of the Folder Pane on the left, labeled "Quick views." This solves some e-mail problems that plague many people (and are often worse for anyone with multiple e-mail accounts). "Quick views" are built-in filters that allow you to review all of your e-mail regardless of which account or mailbox holds the e-mail. There are a number of options available for "Quick view," which can be activated by right-clicking on "Quick views" and selecting "Select quick views..." (see Figure 3). Notice that the top option, "Unread e-mail," is checked by default and grayed out.

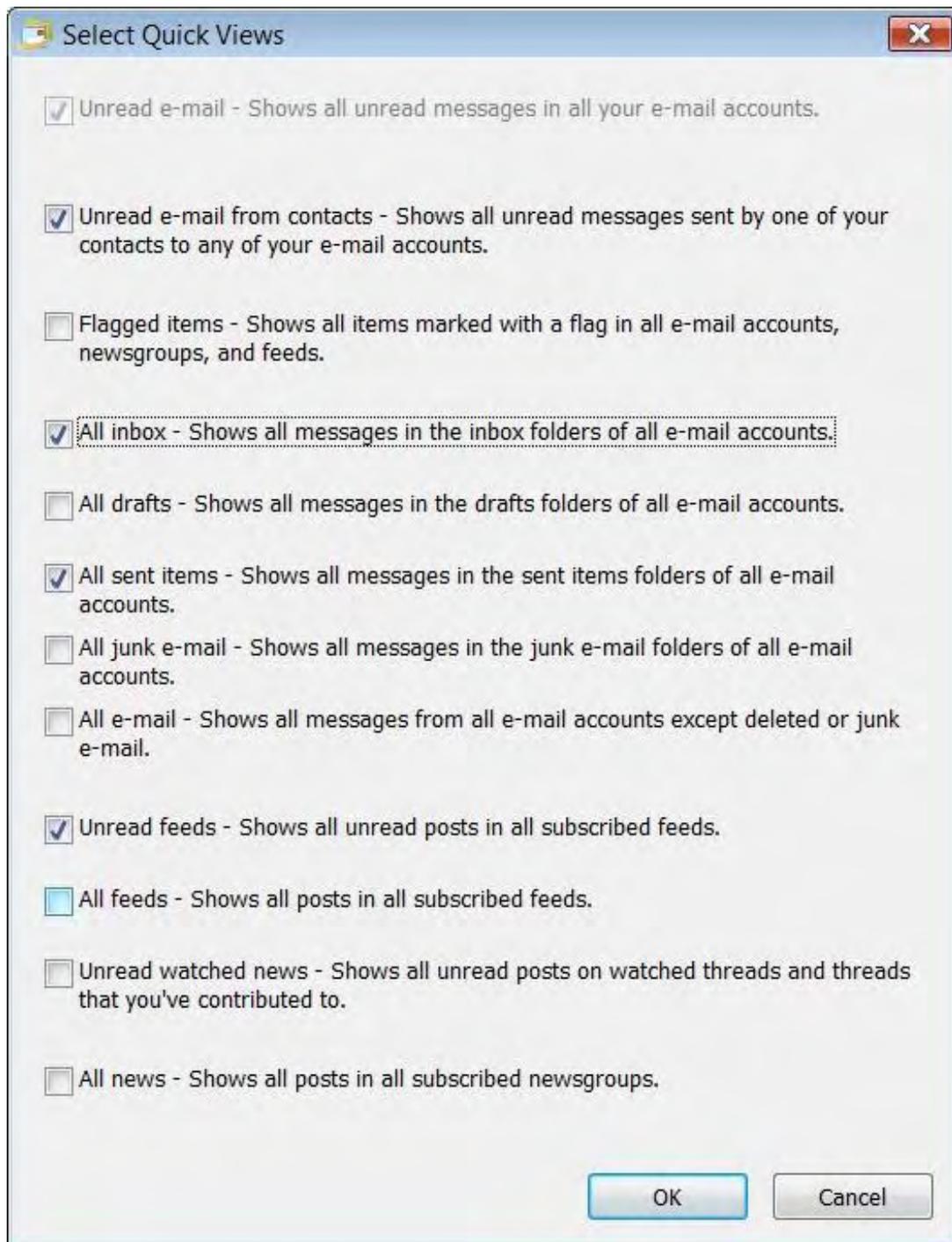


Figure 3. "Quick views" options in Windows Live Mail.

It is important to note that the entries under "Quick views" are not the actual mailbox folders, but rather a display of messages that may be located in any of numerous different folders depending upon the account and subfolder. When you go to the appropriate account/folder, the message will also appear there. However, when you disposition (read, delete, move, etc.) a message via this view, the original message will be affected. For me, one of the most useful options is "Unread e-mail from contacts." When checked, any e-mail from someone who is listed in your contacts list (address book) will automatically appear in this view. This is the opposite of a spam filter, since it displays only mail from known cohorts.

The major advantage of the first entry, "Unread e-mail," is that all e-mail that makes it through your spam filters will appear from all accounts, including those *not* in your contacts list. However, any spam that makes it through the filters will also appear. Once you have read (or deleted) an e-mail, the e-mail will no longer appear in this list. While a "read" e-mail no longer shows up in the "Unread e-mail" list, it will still be found in the Inbox of the original account.

The benefit of the old single Inbox of Outlook Express and Vista's Windows Mail was that you could read and disposition all

your mail from one folder without jumping between accounts. In Windows Live Mail, "Quick views" serves the same function, while adding even more options.

Since the "Unread e-mail" option is grayed out, you cannot remove it, but you can remove the entire "Quick view" by selecting Layout from the Menus menu (see Figure 2 above). When the Layout window opens, select Folder Pane (see Figure 4). Unclick "Show Quick views" and Apply. The "Quick views" entry will no longer appear at the top of Folders Pane.

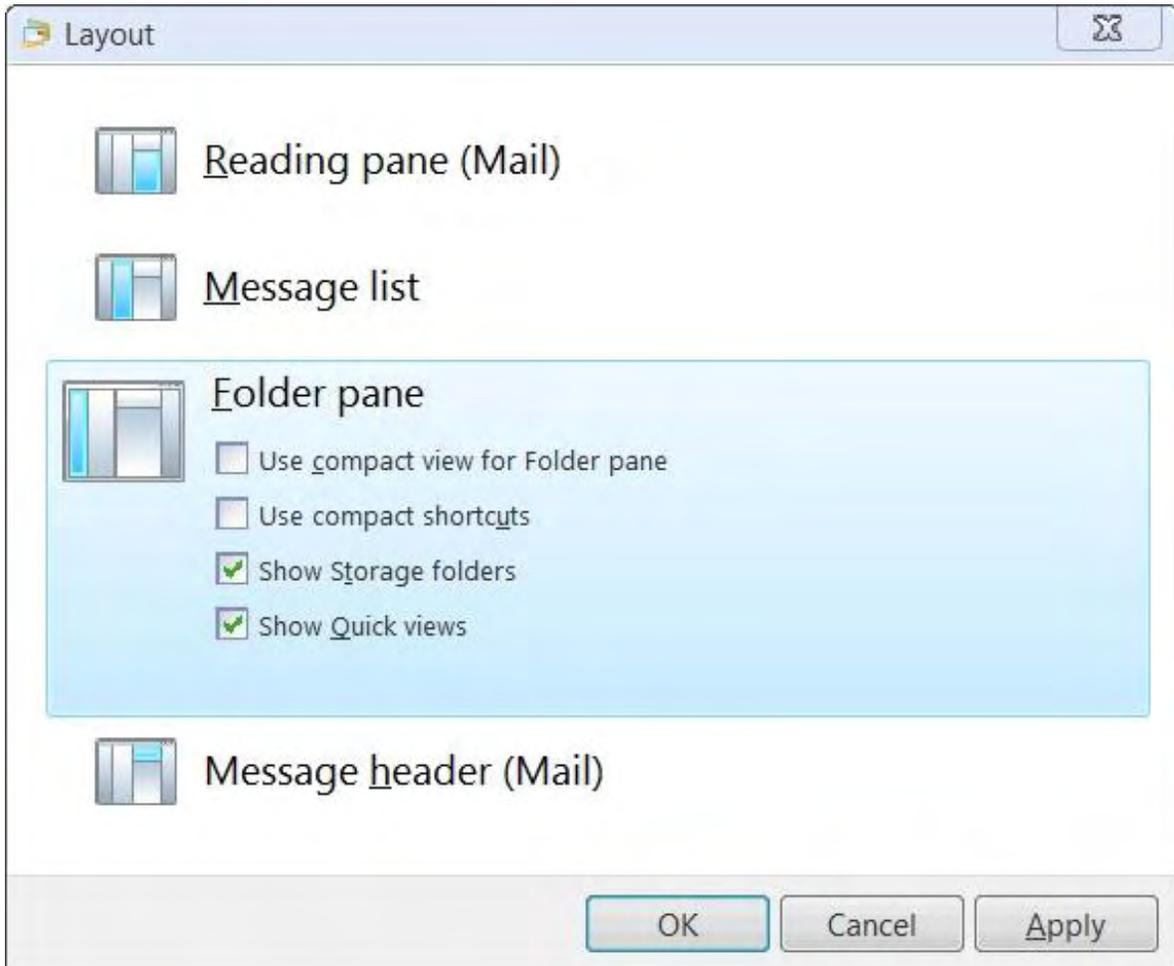


Figure 4. Layout window of Windows Live Mail.

If you're planning to move to Windows 7 and think that you may use Windows Live Mail, then it would be worth the time to download the program and start using it, if only to break down some of that inevitable learning curve. I've only just started looking at Windows Live Mail, albeit not on my primary computer, but I can see that there are some real advantages to the program over both Outlook Express and Windows Mail (Vista). As time permits, I will continue to explore and report on my findings.

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Jack is the publisher of *ComputerEdge* Magazine. He's been with the magazine since first issue on May 16, 1983. Back then, it was called *The Byte Buyer*. His Web site is [www.computoredge.com](http://www.computoredge.com). He can be reached at [ceeditor@computoredge.com](mailto:ceeditor@computoredge.com)

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## Wally Wang's Apple Farm

“The Return of HyperCard Programming” by Wally Wang

HyperCard was one of the first programming tools that made programming easy, fun and simple for complete novices to use, but Apple let it die. Now, Runtime Revolution carries on HyperCard's legacy. Also, more on Apple netbook rumors, and a tip on tweaking the Mac's built-in firewall.

# Wally Wang's Apple Farm

Apple has had its share of failures, including the Newton (a personal digital assistant), the Pippin (Apple's video game console), and Apple Cyberdog (its first Macintosh-specific browser). However, Apple's biggest failure was HyperCard.

When Apple released HyperCard, it caused an immediate sensation. HyperCard let you create simple databases using the metaphor of a stack built out of cards. On each card, you could display information and buttons to link one card to another card. With a unique and easy-to-understand programming language dubbed HyperTalk, HyperCard was one of the first programming tools that made programming easy, fun and simple for complete novices to use.

HyperCard was Apple's secret software weapon to convince people to buy a Macintosh, so what did Apple do? They promptly killed HyperCard because they couldn't figure out a way to make money from it. Instead of realizing that HyperCard was helping drive sales of the Macintosh, Apple saw HyperCard as a product that didn't directly generate any revenue.

HyperCard later helped spawn Microsoft's successful Visual Basic programming language, which let you visually design a program's user interface and then write code to make it do something. HyperCard's use of hyperlinks also formed the basis for the World Wide Web. HyperCard represented the future, and Apple foolishly fumbled away this advantage by letting HyperCard die a lingering death.

To carry on HyperCard's influence, a Scottish company offers a similar tool dubbed Runtime Revolution ([www.runrev.com](http://www.runrev.com)). Not only does Runtime Revolution mimic HyperCard's stack-and-card metaphor, but it's also capable of importing and running HyperCard stacks. Runtime Revolution is simply a more advanced version of HyperCard that Apple should have released a long time ago.

Like HyperCard, Runtime Revolution makes programming easy and fun. Instead of relying on a cryptic language like C++ or Java, Runtime Revolution uses a superset of the HyperTalk language that resembles ordinary English commands while being more powerful than traditional language commands.

For example, suppose you have text stored in a text box and you want to retrieve the second character that appears in the third word of the fifth line. This is the command you could use in Runtime Revolution:

```
Get second character of word 3 of fifth line of field "text box"
```

Such commands are simple and easy to understand for anyone. Try doing that task with a traditional language like BASIC or C++ and you'll need to write huge chunks of code to count each line of text, search for the third word in the fifth line, and then count to the second character of that word. If this sounds like you'll need to write more than one line of code to do this, you're right. Given a choice between writing a short amount of code that's easy to understand, or a large amount of code that's harder to understand and more prone to bugs, you can see how Runtime Revolution makes writing powerful programs faster and easier.

Besides its English-like syntax, Runtime Revolution behaves like Visual Basic by letting you visually design the user interface and then write commands to make that interface work.

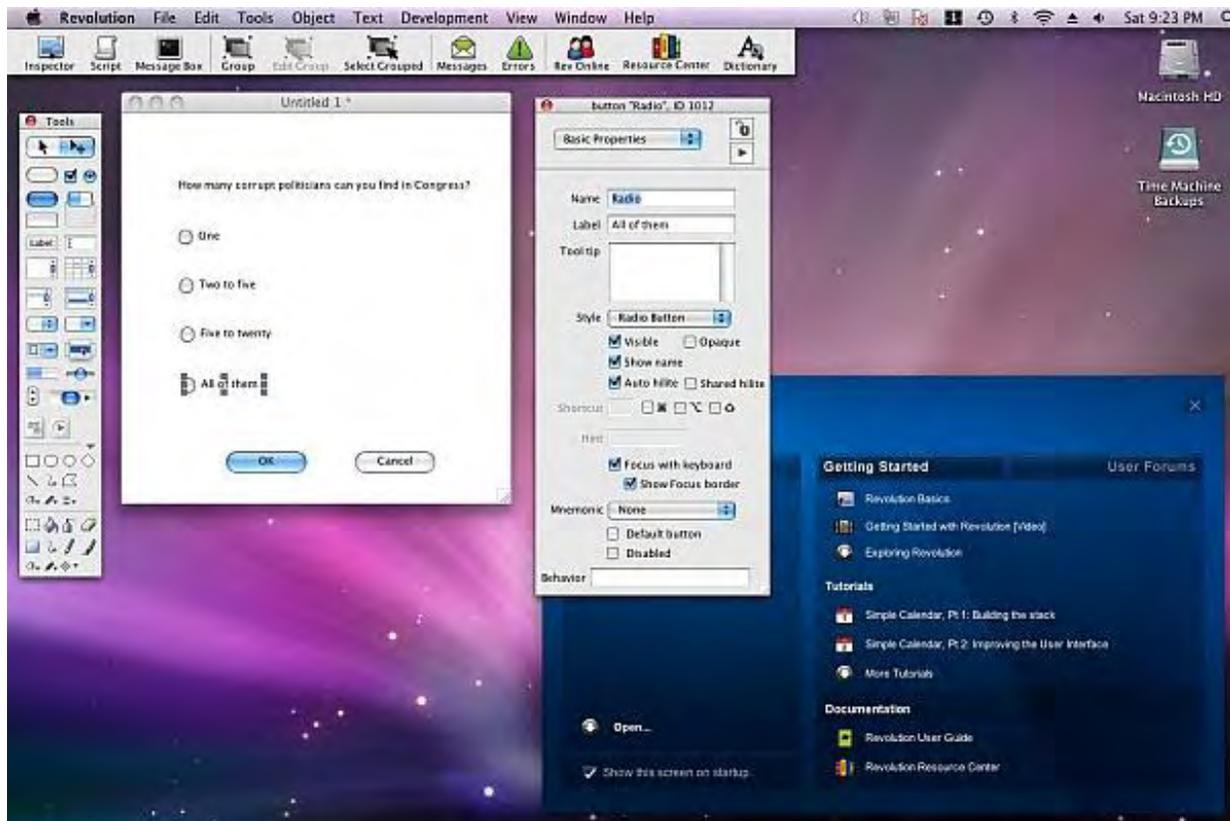


Figure 1. Runtime Revolution lets you visually create a user interface.

Runtime Revolution's greatest feature is its cross-platform abilities. Write a program on Mac OS X, and you can compile it for Windows or Linux. Now you can write a program once and compile it for Mac OS X, Windows and Linux with little, if any, modifications.

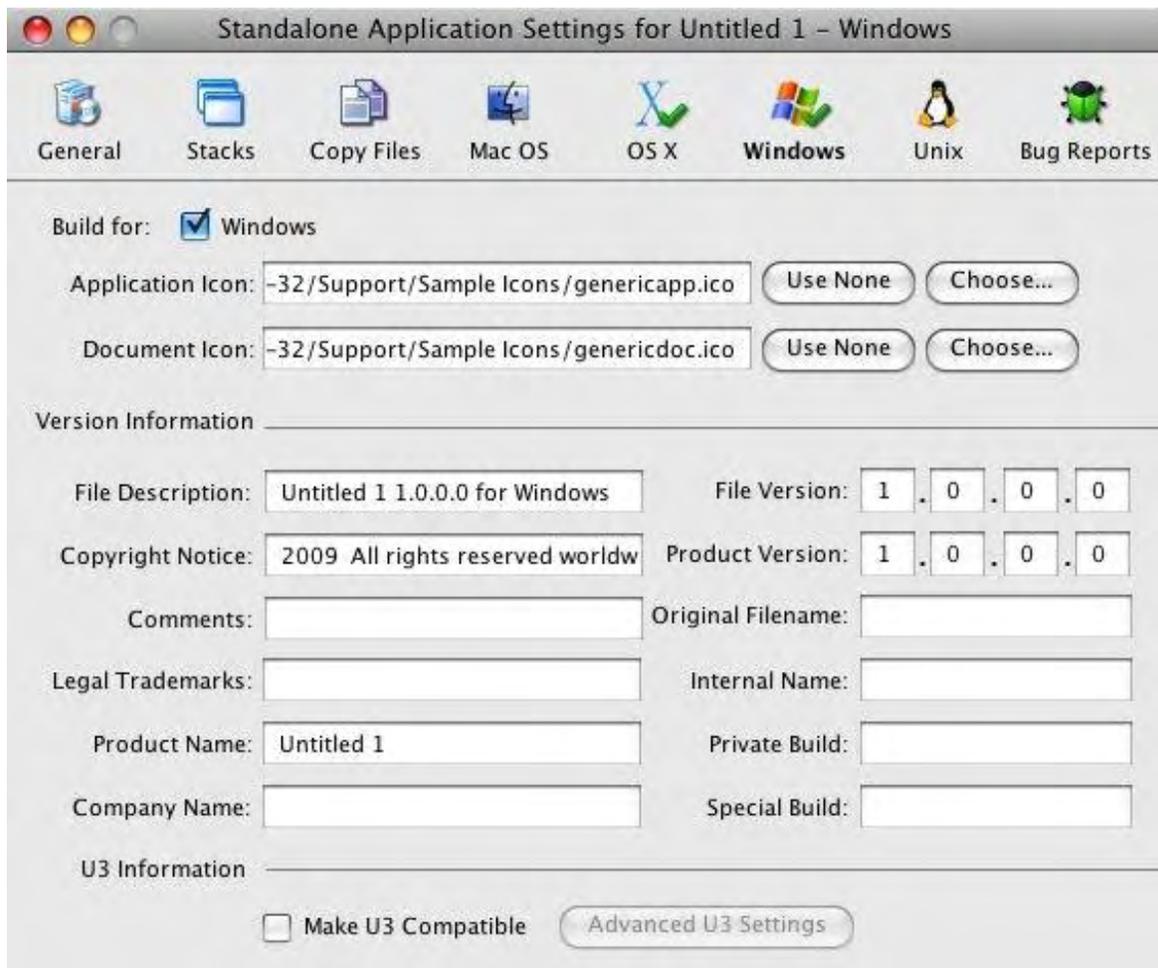


Figure 2. Runtime Revolution can compile a program for multiple operating systems.

Compare this with C++, which can create cross-platform programs, but only after hefty modifications. With C++ or other languages, you can write a large chunk of your program once, but you'll need to create custom code to make your program work on multiple operating systems.

If your idea of fun is debugging the same program on three different operating systems, then you'll probably be happy using C++. For the rest of us, Runtime Revolution is far simpler and more reliable.

### More Apple Netbook Rumors

Apple has released its latest Mac OS X 10.5.7 update and immediately raised eyebrows as a result. First, the latest update has caused numerous problems updating the operating system. On my Mac mini, the update worked flawlessly. On my MacBook, the update froze after installation, but now seems to work fine after rebooting the whole thing.

The more positive way that the update brought attention to itself was through the community of netbook users, who have tweaked Mac OS X to run on ordinary netbooks, dubbed "Hackintoshes."

To save power, most netbooks rely on the Intel Atom processor, a slow but competent processor. After installing the Mac OS X 10.5.7 update, Hackintosh users immediately noticed a greatly improved battery life. Where their Hackintoshes had gotten up to three hours of battery life before, now with Mac OS X 10.5.7, Hackintosh users suddenly started getting more than four hours of battery life.

Apparently, Apple has tweaked Mac OS X specifically to run on Intel's Atom processor. Now the big question is why?

A coincidence seems unlikely. The conclusion is that Apple is preparing its own netbook that uses the Intel Atom processor, and the company wants to make sure Mac OS X runs smoothly on it.

Combined with other tidbits of information, Apple's future netbook so far appears to have a 10-inch screen and an Intel Atom

processor with a four-hour battery life. Naturally, it will have Wi-Fi built-in, but could also have 3G cellular telephone network capabilities as well, which would allow you to connect to the Internet wherever you can get cellular phone coverage.

On June 8, Apple will open its developers conference. That's when it will release information about the new iPhone 3.0 and possibly reveal its rumored netbook at the same time. Stay tuned.

\* \* \*

When connecting to the Internet, you always need a firewall. Every Macintosh includes a firewall, but if you want, you can customize how the firewall works by clicking on the Apple menu and then clicking System Preferences.

After the System Preferences dialog appears, click the Security icon and then click the Firewall tab. Now you'll see a list of options that let you customize your firewall.



Figure 3. Firewall options.

Of course, you probably don't want to fiddle with your firewall if you don't know what these options do, but for those more technically inclined, the Allow All Incoming Connections is the default mode and the least secure.

The Allow Only Essential Services option is more secure, but risks blocking access to the Internet for programs such as Skype or instant messaging programs. The Set Access for Specific Services and Applications lets you define exactly which programs you want the firewall to let through. This can be the most secure option, since any program that you don't specify won't get through the firewall.

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In the early days, before Wally became an Internationally renowned comedian, computer book writer, and generally cool guy, Wally Wang used to hang around The Byte Buyer dangling participles with Jack Dunning and go to the gym to pump iron with Dan Gookin.

Wally is responsible for the following books:

- Microsoft Office 2007 for Dummies ([www.amazon.com/gp/product/0470009233?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470009233](http://www.amazon.com/gp/product/0470009233?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470009233))
- Beginning Programming for Dummies ([www.amazon.com/gp/product/0470088702?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470088702](http://www.amazon.com/gp/product/0470088702?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470088702))
- Breaking Into Acting for Dummies with Larry Garrison ([www.amazon.com/gp/product/0764554468?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0764554468](http://www.amazon.com/gp/product/0764554468?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0764554468))
- Beginning Programming All-in-One Reference for Dummies ([www.amazon.com/gp/product/0470108541?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470108541](http://www.amazon.com/gp/product/0470108541?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0470108541))
- Steal This Computer Book 4.0 ([www.amazon.com/gp/product/1593271050?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271050](http://www.amazon.com/gp/product/1593271050?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271050))
- Visual Basic Express 2005: Now Playing ([www.amazon.com/gp/product/1593270593?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593270593](http://www.amazon.com/gp/product/1593270593?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593270593))
- My New Mac ([www.amazon.com/gp/product/1593271646?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271646](http://www.amazon.com/gp/product/1593271646?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271646))
- My New iPhone ([www.amazon.com/gp/product/1593271956?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271956](http://www.amazon.com/gp/product/1593271956?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1593271956))
- Strategic Entrepreneurism with Jon Fisher and Gerald Fisher ([www.amazon.com/gp/product/1590791894?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1590791894](http://www.amazon.com/gp/product/1590791894?ie=UTF8&tag=the15minmovme-20&linkCode=as2&camp=1789&creative=9325&creativeASIN=1590791894))

Every Saturday morning from 9:00 am - 10:00 am in San Diego, you can hear Wally with fellow co-hosts Dane Henderson and Candace Lee, on the radio show CyberSports Today ([cybersportstoday.com/](http://cybersportstoday.com/)), which covers the video gaming industry on ESPN Radio 800 AM. Wally covers the military history side of the video game industry.

When not performing stand-up comedy or writing computer books, he likes to paper trade stocks with the video game Stock Reflex ([www.plimus.com/jsp/download\\_trial.jsp?contractId=1722712&referrer=wwang](http://www.plimus.com/jsp/download_trial.jsp?contractId=1722712&referrer=wwang)), using the techniques he learned from a professional Wall Street day trader.

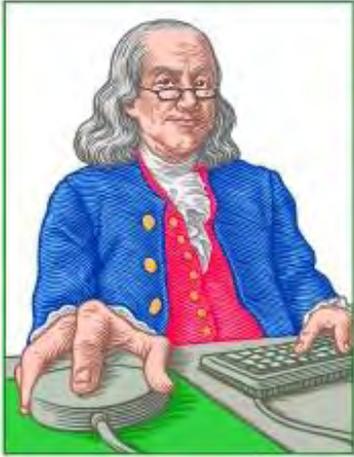
Wally can be reached at [wally@computoredge.com](mailto:wally@computoredge.com) and at his personal web site ([www.wallacewang.com/](http://www.wallacewang.com/)).

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## LITTLE LINUX LESSONS

**"AN INVESTMENT  
IN LINUX KNOWLEDGE  
PAYS THE BEST  
INTEREST."**

Little Linux Lessons: Tips and Tricks from Users

**"Linux users share ideas and ask for help."**

by ComputerEdge Staff

A Linux newbie needs some Ubuntu-related resources; a tip on using Linux's "leave" reminder utility; and a call for opinions and information for the June 12 Linux issue.

### Where Can I Get More Help for Ubuntu?

Could you point me to an Ubuntu user group in San Diego or to free courses where I could learn to iron out some problems I have with Ubuntu on my laptop?

Thank you in advance.

Adrian

*Most of our regional editions of ComputerEdge User Group Listings ([webserver.computoredge.com/online.mvc?article=usergrps](http://webserver.computoredge.com/online.mvc?article=usergrps)) include Linux groups. Any Linux group would be a good starting place, since there will most likely be some members who are familiar with Ubuntu.*

*If you would like to add another local Linux group to our listings, or start a new one, please contact us at Linux User Groups ([ceeditor@computoredge.com](mailto:ceeditor@computoredge.com)) with all of the pertinent information.*

### Or, Maybe This Will Help

I am just learning Ubuntu, but we have a great resource with the Ubuntu forums. Start with Ubuntu Forums ([www.ubuntuforums.org](http://www.ubuntuforums.org)) and search for answers—or ask.

Ted

### Tell Me When to Leave

As we all know, computing can be very absorbing. When working on a brain-numbing problem, time flies without being noticed. In Linux there is a reminder utility called "leave" that we can use to tell us that we need to remove ourselves from the vicinity—before it's too late.

To set up the reminder, you can either enter "leave" with no parameters:

```
$ leave
When do you have to leave? 1500
Alarm set for Wed May 20 15:00:00 PDT 2009. (pid 97613)
```

Enter the amount of time in +HHMM (hours,minutes) from now (note + sign):

```
$ leave +0001
Alarm set for Wed May 20 14:48:36 PDT 2009. (pid 97473)
```

Or, enter "leave" with the time of day HHMM (no + sign). You will receive the following prompt five minutes before, one minute before and every minute after:

Time to leave!

You need to log out or kill the process to stop it.

### **State of Linux and Unix-Like Systems**

On June 12, *ComputerEdge* will be publishing an issue on the current state of Linux. Is it growing? Where does it fit in computing? How is it currently changing the world of computing? Is it only for nerds? How has Linux affected your life personally, if at all?

Quite frankly, we don't know! We need your help to tell us what's happening. Please send us your thoughts, no matter how short or long, concerning the state of the Linux community. Just e-mail your ideas to Linux Update Issue ([ceeditor@computoredge.com](mailto:ceeditor@computoredge.com)). Be sure to put the words "Linux Update Issue" in the subject line. We will organize the ideas and publish them in a feature article on June 12. If you have strong opinions, or know and care about the direction of alternative operating systems, then we want to hear from you.

### **Give Us Your Linux Tips and/or Questions**

*If you have an opinion on these or other Linux topics, then please let us know. Also, if you have another Linux tip that works for you and would like to pass it along (or have a question), please drop us a line at Linux Lessons ([ceeditor@computoredge.com](mailto:ceeditor@computoredge.com)).*

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This is a column for Linux and Unix-like operating system users. The goal is to give Linux users an opportunity to share tips, tricks and ideas with both fellow users and the *ComputerEdge* Linux newbies. Each week in this column, we will highlight the thoughts you submit to us. This is your column. As long as a submission is dealing with the Linux/Unix-like world, we want to share it.

The tips and tricks may be short or long, and can include graphics. If there is a little technique or program that you use on a regular basis, then we want to hear about it. You may also pose questions for other Linux users to answer. E-mail your ideas or questions to Linux Lessons ([ceeditor@computoredge.com](mailto:ceeditor@computoredge.com)). Be sure to put the words "Linux Lessons" in the subject line so it won't get lost in junk mail. We depend upon you to make this column a success.

Jack Dunning  
*ComputerEdge*

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*ComputerEdge* always wants to hear from you, our readers. If you have specific comments about one of our articles, please click the "Tell us what you think about this article!" link at the top or bottom of the article/column. Your comments will be attached to the column and may appear at a later time in the "Editor's Letters" section.

If you want to submit a short "ComputerQuick Review", or yell at us, please e-mail us at [ceeditor@computoredge.com](mailto:ceeditor@computoredge.com).

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## Rob, The Computer Tutor

### Rob, The Computer Tutor Does Visual Basic for Applications

“Error-Trapping and Debugging” by Rob Spahitz

Last week, we looked at using VBA to capture errors. This week, we'll continue with that, and then return to Access to resume our Mailing List project.

Last week, we looked at using VBA to capture errors. This week, we'll continue with that, and then return to Access to resume our Mailing List project.

As usual, to retrieve a recent version of this database, check out [www.dogopoly.com/ce](http://www.dogopoly.com/ce).

#### Error-Trapping

As a reminder, error-trapping is the process of using your programming language (in this case Visual Basic) to identify problems and handle them in a controlled way. The alternative is to let the operating system handle the problem, which often includes shutting down the application with arbitrary messages. Since Access can act as an operating system, sometimes the problem is not too fatal, but it will throw the user into the VBA environment to handle the problem. Most users would have no idea what to do and could mess up some of the code that you have there.

Visual Basic uses "On Error" to manage errors, and includes a few variations on this.

To simply ignore any error that occurs, use "On Error Resume Next." This is like disconnecting the lights on your car's dashboard because you don't want to be bothered when there is a problem with your car. After all, those messages that pop up are pretty useless, aren't they? Like the one that tells you that your seatbelt is not on, or your engine needs to be checked, or oil is low. Who needs to know that the car engine is about to blow anyway, right?

Related to that, you can use "On Error Goto 0" to disable error-trapping. There are times that you simply want to ignore an error (although, honestly, if you know an error is going to occur, you should add code to fix it!), and after the error occurs, stop checking for errors. This will handle it and let the operating system handle any subsequent error.

If you put in proper error-trapping procedures, you never need to use either of these. If you see it in other people's code, it either means they don't know enough about how to use error-trapping or they're simply too lazy to do the job right.

The preferred way in this version of VB is to use "On Error Goto {label}" as we saw last week. This will direct your code to the label you added whenever your code hits an error while running. The biggest problem about VB error-trapping is that you have to create a sort of subroutine to manage the error, in every procedure where you use it. This is why many programmers get lazy and shortcut the error-trapping.

The error "subroutine" is typically added to the end of your existing procedure, preceded by "Exit Sub" to ensure that the normal processing does not slip through to the error-trapping section.

For example, if you have a simple calculation that takes two Form fields and divides them and puts the results into a third field, you might have code that looks like this:

```
Private Sub cmdDoDivision()  
    Me.txtResult.Value = Me.txtField1.Value / Me.txtField2.Value  
End Sub
```

In this case, if Field2 is zero or blank or non-numeric, or Field1 is non-numeric, you have a problem since the division will be trying to divide letters or symbols, or it will be dividing by zero (a mathematical no-no!).

To fix this, right at the top of the procedure, you should add an error-trapping line. Its label should point to a section that will handle your errors. Since the error-trapping section is supposed to trap and manage the error, you'll need to understand how to identify the error, since it could be any of several types. And when you're done, you could exit the section in several ways.

## The Error Object

First, when an error occurs, VB stores that into a special object called Err. This Err object holds information, such as the internal VB number that identifies the error, a reasonable description for the error, and a few other things that you'll rarely use. To see what is available, go to the VB code area and enter Err followed by a dot to get the IntelliSense list.

Typically, you check the Err.Number to see which code it is, then do something based on that code. Since there are hundreds of VB error codes, you are not likely to put special codes for all of them, so you also need some generic code that will typically just display Err.Message (and maybe Err.Number) to the user. Hopefully your users will notify you about this so you can investigate this unexpected error and try to solve it.

So, for example, you might have an error-trapping section like this for the above code and problems:

```
If Err.Number = 6 Then
    MsgBox "You are trying to divide by zero. This is not allowed."
ElseIf Err.Number = 13 Then
    MsgBox "One or both numbers are not correct. Please correct them."
Else
    MsgBox "I didn't expect this error! Please notify me: " & Err.Description
End If
```

As an aside, the Err object also lets you force VB to generate an error. Huh? Why would you want to intentionally create an error? Well, for one thing, you might want to test your error-trapping code by temporarily forcing an error, but more likely you'd use this for creating your own error condition.

For example, error code 13 is something called Type Mismatch. That's rather generic. You might decide that you'd like to know if the data is letters or special symbols or something else. So you could write a fancy subroutine to search through the contents of a field to see if it has letter or symbols and, if so, put up a message box. However, that subroutine might be used in many places, and you may want to manage the problem from the procedure that calls the subroutine. Instead, you can have the subroutine "raise" an error (with a code number of your choice using Err.Raise), so that the calling procedure gets notified of an error and jumps down to its error-trapping procedure with these new custom error codes.

We'll talk more about this in a future column when we get to VB.Net programming.

## Error Resuming

After you've managed the error, you will want to continue processing. There are four ways to continue.

One is to simply let the code fall out of the subroutine and end the procedure. Although this sounds like a simple answer if you have nothing else to do after detecting the error, this used to cause a memory leak because VB was stacked with information about the error and is waiting to find out what to do with it. By simply ending the subroutine, VB never unstacked the message. If this error continued over and over, the stack of waiting messages piles up and will never get released. Microsoft's VB development team got a bit smarter about things like this and I think they've addressed this, but why write sloppy code? Don't use this option. Sloppy code often leads to other problems later.

The other three ways properly manage the error object and "Resume" back to the regular code section.

"Resume" will simply return from the error section back to wherever the error occurred and try again. Sometimes you can fix the problem in the error-trapping routine and move on. The risk here is that if the problem is not correctly fixed, it could cause the error to occur again, return to the error-trapping routine, try to fix the problem, return to try again, and still not fix the problem—and over and over. Be careful when using this one.

"Resume Next" is similar to using "On Error Resume Next," except that you've now done things to manage the code.

After managing it, you're recognizing that the problem cannot really be fixed (for whatever reason), so you're moving on to continue processing. For example, you may need to handle 10 different divisions and one of them was a problem. Rather than stop everything, you can leave this one as unresolved and still process the rest.

"Resume {label}" is the most flexible option. With this, you can go back to any section of the procedure by simply adding a label. Sometimes you want to jump to a section that will do things like close files before exiting or resume with the next item in a collection, and other times you simply want to get to the exit section

Let's wrap up this section by using each of these Resume items. Your final code for the above procedure might look like this:

```
Private Sub cmdDoDivision()
    On Error GoTo cmdDoDivision_Err
    Me.txtResult.Value = Me.txtField1.Value / Me.txtField2.Value
    MsgBox "Division calculation result:" & Me.txtResult.Value

cmdDoDivision_Exit:
    Exit Sub

cmdDoDivision_Err:
    If Err.Number = 6 Then
        MsgBox "You are trying to divide by zero. This is not allowed. Using value 1"
        Me.txtField2.Value = 1
        Resume
    ElseIf Err.Number = 13 Then
        MsgBox "One or both numbers are not correct. Please correct them."
        Me.txtResult.Value = "can't calculate"
        Resume Next
    Else
        MsgBox "I didn't expect this error! Please notify me: " & Err.Description
        Resume cmdDoDivision_Exit
    End If
End Sub
```

As you can see, the main section is pretty small, doing just a division and a message box before exiting the procedure. The "On Error" goes to the error-trapping section. That section checks for division by zero (code 6). If it finds it, it replaces the divisor with a non-zero number and tries again. Since it will not be a divide-by-zero error, that error will not occur again (although a different error could occur.) If the error is an invalid data type error (code 13), the problem is not fixed but the result is updated (with a sort of error message), then it resumes with the next line after where the error occurred. If neither of these occurred, you have the "catch-all" routine that simply tells the user that there was an error. In this case, it resumes in the section that simply exits the routine.

## Debugging

When writing computer code (or any instructions), there is a good chance that you'll write some code that just isn't quite what you wanted or otherwise doesn't do the right thing. To fix that, you need to understand how to remove the "bugs" that are causing it to give the wrong results. There are several techniques to help you isolate the problem and squash the bugs.

One solution is to simply use your brain and some deductive reasoning to guess what is wrong and change the code. This is often the most powerful tool you have in finding bugs. A seasoned programmer can often find bugs within a few minutes by simply understanding the problem and knowing what is likely to cause the problem. For example, if told that you have a division by zero error, a novice programmer might do a search through the code for "/" and not find it and give up. A seasoned programmer realizes that *any* division could have a division by zero, even if you think that all data is correct, since data can get corrupted and sometimes code can cause things to change while processing. By understanding what causes error, it makes it easier to know what parts of the code to look in for the problem, and what parts to ignore.

Since VB can't really help you with your deduction skills, it gives you other tools instead. One is the on-error goto

command described above; another is the breakpoint; another is the Stepping features; another is the Watch. Each of these helps you isolate problems in different ways, and when combined with your reasoning skills, you can find most errors somewhat quickly.

So next week, we'll explore breakpoints, code stepping and value watches. See ya then.

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Rob has been in the computer industry for over 25 years and is currently a part-time teacher, offering classes in Excel, Access, Visual Basic, and a variety of other technical tools. He has loved *ComputerEdge* since 1990 and can be contacted at *RSpahitz@Dogopoly.com*.

Looking for a great boardgame? Grab a copy from DOGOPOLY.com (*dogopoly.com*) and have a dog-gone great time.



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## Worldwide News & Product Reviews

“The latest in tech news and hot product reviews.” by Charles Carr



Do-It-Yourself Server Room—Illuminating tips for setting up a server room on a budget; Gateway XHD3000 30-Inch Monitor—A glowing review of a monitor you'll love; Green Protection for Laptops—Sleeves and cases made of recycled plastic bottles make for a green investment.

### Do-It-Yourself Server Room

Paul Holstein, cofounder and COO of CableOrganizer.com, sends in these illuminating tips for setting up a server room on a budget:

Controlling operational costs is always a challenge, but amid the current recession, budgets are tighter than ever. While it's possible to make smart decisions and cut a few extras to spend less, one thing most companies can't nix is a reliable server and a cool, secure room in which to keep it. In this day and age, it's nearly impossible to do business without a solid network infrastructure, and server rooms have become the nerve centers of our businesses. But despite its vital importance, a server room doesn't necessarily have to break the bank.

Just as all proverbial roads lead to Rome, all structured cabling leads to the server room. This considered, the ideal server room is centrally located, so that cables can be strategically run without the need to cover too much distance, or take too many twists and turns along the way.

Choose a room that is easily accessible to IT staff, but make sure that it's also somewhat out of the way, so that you don't have unauthorized personnel wandering in and out.

When you're considering space for a server room, be sure to allow for growth. Your company may be starting out small, but when it grows, you could find yourself very short on space. Aside from creating logistical nightmares, overcrowded server rooms are also extremely prone to overheating, which can lower the efficiency of, or destroy, your network components.

When purchasing hubs, switches and routers, stick with the same brand for all—it'll make maintenance and troubleshooting down the road that much easier. Should you ever encounter a problem with a mixed setup, troubleshooting between several manufacturers could prove extremely tricky, and it's likely that you'd be referred from one company's service department to the next without ever getting answers. On the other hand, troubleshooting with a single manufacturer just might get you results. When the support reps you're dealing with over the phone are actually familiar with all of your hardware, they'll be far more likely to get to the root of the problem, and far less likely to pass you on to someone else.

One of the most vital aspects of server room operation is temperature control. Because the ambient temperature of a server room needs to stay between 65°F and 75°F for equipment to run safely and efficiently, proper air-conditioning is crucial. Relying on central A/C can cause problems because of the climatic differences between rooms; while one room may be unbearably cold, the one next to it could be stifling. Conditions like this, in the presence of just a single thermostat, can lead to catastrophic overheating in the server room. Don't gamble with central A/C; instead, equip your server room with its own dedicated thermostat, which will allow for minute temperature adjustments as often as needed.

When you purchase a server, take into account all of the software that your business requires, and make sure that the server can singlehandedly accommodate all of the applications.

Save money by passing up the most expensive hubs, switches and routers. Instead, opt for brands like Netgear and D-Link, which manufacture reliable network equipment that won't wipe out your budget.

Instead of purchasing a different server for every application, try to use a single server for everything. If your company is very small, you can always forgo the fileserver, and instead opt for an external hard drive that can be integrated into your network; 500GB drives are typically very affordable.

Take the time to evaluate your needs before you purchase, so that you don't end up spending money on things you don't need. For instance, if your business is small, go with 1GB instead of 10GB, or select smaller hubs and switches; after all, why pay for 48 ports when 24 are more than enough? While being conservative, try to reasonably gauge your business' growth

so that you don't over or under-buy.

If you're starting out small, pass up large server racks for something small and wall-mountable. You can always add more (or bigger) racks later when you need them, but for the time being you'll save money and space.

A great way to save money on server room setup is to terminate the network cables yourself. Even while self-installation helps to cut costs considerably, you'll still need to invest in a crimping tool to get the job done. I suggest the highly economical Modular Crimp Tool, which has a built-in cable cutter and stripper, as well as the ability to crimp three different connector styles: RJ11, RJ12, and RJ45.

If you're going to cut costs by running your own network cables, make your job easier by taking just a little of the money you're saving by not hiring an installer, and investing in a CableCaster ([www.cableorganizer.com/greenlee/cablecaster](http://www.cableorganizer.com/greenlee/cablecaster)). This gun-like cable puller is perfect for installing cables in cramped, difficult-to-navigate plenum spaces. Just shoot one of the glow-in-the-dark darts up to 50 feet, attach your cable to it, and reel the line back in.

### Gateway XHD3000 30-Inch Monitor

I will not soon forget the few weeks Gateway ([www.gateway.com](http://www.gateway.com)) let us test its XHD3000 30-inch LCD monitor. The first thing I noticed: You can get a crazy large number of windows on a monitor that large. It was much better than my old setup of using two smaller monitors side-by-side because, sooner or later, you're going to want to fill that sucker edge to edge with one thing: a DVD, a YouTube video, game, etc.

The XHD3000's image quality was superb at its 2560x1600 native resolution (called 1600p by Gateway). And it looked great from any angle. I ran it at (non-native) 1920x1200 and it still looked fantastic. Deep blacks, vibrant colors and sharp text. Everyone in the office seemed to drop by my desk to do stuff on it—not just for the size of the screen, but the quality of the picture. The monitor's super-fast HQV Rialta processor does away with ghosting that can show up during fast computer games or action movies.



### Gateway XHD3000 30-inch monitor.

There are also an amazing number of inputs: HDMI (although only one), component, VGA, S-Video, composite, and DVI make it a monitor that can accommodate DVD players; video and still cameras; Xbox, PS3 and Wii gaming consoles; and, of course, computers. There's even a built-in six-port USB hub, digital speaker output and a headphone jack.

The XHD3000 has a removable speaker bar attractively situated below the screen that runs its entire width. If you already have speakers you like, simply remove it for a cleaner, leaner look. You might even find some other place you can use the speaker bar. It sounds great.

The included remote makes it easy to change settings, but you can also use the touch-sensitive zones (no mechanical buttons) on the lower-right side of the face frame. The monitor's metal stand is very strong, so don't worry about the thing falling over or going cockeyed.

One thing to keep in mind: I'm not kidding when I say the XHD3000 is large, so for a while it might feel like you're watching a tennis match as you scan from side to side. But you'll get used to it—and I wouldn't be surprised if it turned out to be beneficial for those eye muscles.

Until lately, my only real reservation about the XHD3000 was its price—nearly \$2,000—but I've been seeing it at places like Best Buy and Newegg.com for less than \$1,000. If you can afford it, buy it.

Yes, I will not soon forget the few weeks Gateway let us test its XHD3000 30-inch LCD monitor—nor the excruciating pangs of withdrawal that began the moment it began its journey back to the factory. Which is why I went out and bought one for myself.



### Green Protection for Laptops

If you think Figure 1 shows an ordinary protective sleeve and jacket for notebook computers, guess again. Green Smart's products ([www.act2greensmart.com](http://www.act2greensmart.com)) are anything but ordinary because these gems are made of recycled plastic bottles. Let's take a closer look.



Figure 1. The Green Sleeve (left; inset shows loop and zipper) and All Around Laptop Jacket (center, exterior view showing port for cables; right, interior view showing padded liner and straps) have fabrics made from recycled plastic bottles. The outer fabric has a rain-resistant coating.

The Laptop Green Sleeve ([www.act2greensmart.com/index\\_files/sleeve.htm](http://www.act2greensmart.com/index_files/sleeve.htm)) is sturdy enough and has ample padding to protect a laptop computer from dings and scratches, yet is sufficiently light (about 7 ounces) to slip into a backpack or suitcase without weighing you down. It comes in two sizes (medium for notebook computers with a 13.3-inch widescreen or 14.1-inch regular screen; large for ones with a 15.4-inch widescreen or 15.1-inch regular screen) and two exterior colors (jet black or storm blue).

With regard to bells and whistles, this sleeve is pretty basic. It has dual zippers extending about a third of the way on each side, plus two exterior loops (Figure 1, left inset); the latter facilitate extracting the sleeve out of a backpack. Lacking straps of any

sort on the outside, the Green Sleeve is designed to be handheld.

What I like most about this product is the material from which it is fashioned. The fabrics and padding are 100 percent post-consumer and post-industrial (respectively) recycled PET polyester. According to Green Smart, each medium Green Sleeve keeps six 16-ounce plastic bottles out of the landfill, while each large Green Sleeve keeps eight. You might find a competing sleeve costing less than this one's \$24.99 MSRP, but it almost certainly will be less environmentally responsible.

The All Around Laptop Jacket ([www.act2greensmart.com/index\\_files/AllAround.htm](http://www.act2greensmart.com/index_files/AllAround.htm)) is exactly the same as the Green Sleeve, only different. It similarly is sturdy and well-padded enough to protect against dings and scratches, but tips the scale at about 17 ounces due to the strap and other goodies that we'll discuss in a moment. A diverse variety of sizes is available that accommodates 12-, 14-, or 15-inch notebook computer screens; or 13.3-, 14.1-, 15.4-, or 17-inch widescreen models. If a jet-black exterior suits your fashion taste, you can get any of these sizes. A storm blue exterior, however, is available only for the widescreen sizes, while toasted almond is limited to the 13.3- and 17-inch widescreen sizes.

In the bells-and-whistles department, the All Around Laptop Jacket has several unique and noteworthy features. First is the zippered panel at the bottom that provides handy access to a Windows notebook's ports (Figure 1, center). Second is the removable and adjustable shoulder strap (Figure 1, right) that securely positions the jacket near your hip. In case you prefer hand straps for carrying the All Around Laptop Jacket, those are included too. Next are the two spacious pouches in the outer fabric, one of which is zippered (and contains a plastic insert for business cards) to keep the contents from inadvertently falling out. These pouches easily can hold your computer's power adapter, a cell phone or MP3 player, CDs, papers, and even your deodorant. In addition, there are elastic straps at the inner fabric's top corners (Figure 1, right inset), which slip over the notebook's screen while in use. All told, Green Smart has provided perhaps the most practical feature set I've seen in a trim, lightweight jacket.

This product's features make it quite practical, but what I like even more is its earth-friendliness—the fabrics are the same plastic-derived ones as the sibling Green Sleeve's. According to Green Smart, depending upon size, each jacket keeps 12-16 16-ounce plastic bottles out of the landfill. The jacket's MSRP—which varies from \$45 to \$55 depending upon the size—might seem a bit high, but you'll sleep better knowing you've done your part to minimize the landfill's excessive plastic bottle population.

I have only one quibble with Green Smart's sleeve and jacket—the inner fabric has a pronounced lip residing perilously close to the zipper; one careless move with the zipper and, oopsie, the fabric gets caught.

Postscript: If you're curious about the manufacturing process behind these products, check out the bottles 2 bags story ([www.act2greensmart.com/index\\_files/bottles2bags1.htm](http://www.act2greensmart.com/index_files/bottles2bags1.htm)).



Reviewed by Barry Fass-Holmes

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In addition to being an editor and columnist for *ComputerEdge* and *ComputerScene* Magazines, where he has written hundreds of feature articles and cover stories over the past decade, Charles Carr has also penned well over 1,000 non-tech newspaper and magazine articles and columns for various publications, including two widely-read columns each week for San Diego's *North County Times* newspaper.

Carr has covered such diverse topics as pesticide use in area schools, invasive background checks for county volunteers, asthma awareness, the debate over standards-based grading, potential vulnerabilities in electronic voting machines, and Southern California's devastating 2003 and 2007 wildfires. He has also written many humorous pieces.

Carr has also edited dozens of stories and articles written by others which have appeared in major publications and web sites across the country.

He has been a contributor and technical advisor to *L.A. and San Diego Parent* magazines and receives dozens of requests a year to appear on Southern California television and radio stations to talk about important events in the tech world.

Carr has judged many writing competitions including San Diego Press Club and Time-Warner Communications contests and was sole judge for the national NAPPA Tech Toys awards for five years (which his kids really appreciated). He was recently a judge for the national "Poetry Out Loud" competition.

He has won many writing accolades, including Press Club awards for Best Column Writing, Consumer Writing and Best Arts and Entertainment, and has repeatedly taken top honors in San Diego Songwriter's Guild competitions for his original musical compositions.

Carr will soon publish his first book, *What a World*, a collection of his best writings.

Learn more at [www.charlescarr.com](http://www.charlescarr.com).

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## EdgeWord: "Jailbreaking" at Apple

"Apple's Culture of Innovation" by Jack Dunning

edge **WORD**

There is something built into Apple's culture that prevents it from truly exploiting its early leads.

Every company has its own culture. The ingrained environment develops over the years through the business philosophy, and is reflected in marketing policies and procedures. For better or worse, that enterprise culture will establish how the company is successful—or eventually fades away. Once the "way we do things" sets in, it is almost impossible to change the environment, especially if it's always worked in the past.

One of the more interesting studies is the case of Apple Computer. Based upon brilliant innovation over the years, Apple creates new markets with groundbreaking technology. Yet, ultimately, it seems to fumble away its early lead to other more aggressive businesses.

Apple continues to be a player in all of the markets that it creates. It has a solid core of loyal customers. However, after all these years, you'd think Apple would have risen to the level of dominance of an Intel, Microsoft, or Google.

There is something built into Apple's culture that prevents it from truly exploiting its early leads. It is a mindset that not only appreciates its own innovations, but it also forces Apple to go to almost any extent to protect its proud accomplishments from "inappropriate use." They are control freaks. Apple creates new markets, then immediately implements a defensive strategy to fend off the onslaught of competition, while seemingly maximizing profits. There is huge initial market domination followed by the slow erosion of market share over the coming years.

After World War I, France, foreseeing likely problems with its Germanic neighbor, decided to implement an elaborate defense system based upon the fortress mentality. It built a massive armed wall called the Maginot Line that certainly couldn't be breached—at least not before reinforcements could be called up. It didn't work. The Germans went around the wall.

Defensive strategies in business don't work either. They merely temporarily stave off the inevitable loss of ground. Apple's Maginot Line is composed of an army of lawyers protecting "copyrights." It didn't work against Windows. It won't protect the iPhone.



The latest foray into Apple's defenses is called "jailbreaking." Apparently, if you own an iPhone, you don't really own it. At least, you're not allowed to do as you like with your iPhone without Apple's permission. Apple put software on all iPhones that protects the user from adding non-Apple-approved software. (Apple gets a piece of the action for all "approved" software on your iPhone.) If you "jailbreak" the software so that you can add other cool features—without paying homage to Apple—then you are supposedly in violation of Apple copyrights. This doesn't go down well with the people who think they own their iPhone.

Americans have a love affair with their computers and the Internet. To us this technology represents a fundamental concept embedded in our culture, without which we wouldn't be Americans. It's called freedom. Computers and the Internet have

rapidly increased our freedoms—whether it's how we get our information, how we share our ideas, or how we buy our products—and we don't appreciate anyone telling us what we can't do with our own equipment. Our culture dictates that we fight back when arbitrary rules are placed on our toys. It's not like we didn't pay for our iPhone or the cellular/Internet service.

As usual, Apple will become so preoccupied with protecting its supposed "copyright" that it will eventually lose ground to the now technologically lagging competitors. It's only a matter of time.

Apple could easily fix the problem by throwing the doors wide open to all developers and aggressively pursuing a policy

of encouraging all comers to help turn the iPhone into the dominant handheld computer in the world. Then there would be no "jailbreakers." But that won't happen because it doesn't fit in with the mindset of the Apple culture. Apple will ultimately be content with its piece, albeit a smaller piece, of the pie.

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Jack is the publisher of *ComputerEdge* Magazine. He's been with the magazine since first issue on May 16, 1983. Back then, it was called *The Byte Buyer*. His Web site is [www.computoredge.com](http://www.computoredge.com). He can be reached at [ceeditor@computoredge.com](mailto:ceeditor@computoredge.com)

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[Editor's Letters: Tips and Thoughts from Readers](#)  
**“Computer and Internet tips, plus comments on the articles and columns.”**  
 by ComputerEdge Staff

"Upgrading Your PC's RAM," "Video Chat With the Grandkids"

### Upgrading Your PC's RAM

[The following letters are in regard to Dawn Clement's May 8 article, "Upgrading Your PC's RAM."]

This is a fine article, but I do not see anything about memory used in many new computers that I have seen in stores, which states that it has so many gigabytes of DDR2 or DDR3 memory. My request is for info regarding the DDR2 and DDR3 nomenclatures. Thanks.

-Leon Poole, Colorado Springs, Co

*Leon,*

*DDR3 RAM is faster, higher-capacity (more upgradable), more expensive memory, and the eventual replacement for DDR2. However, they are not interchangeable in the same computer. It's either one or the other when you buy new. DDR2 is still used in older systems and to produce cheaper new computer systems.*

*Hope this helps.*

*-Jack Dunning*

You've explained DDR2 and DDR3, but what about the rest of the code? Looking at just one ad today, I see PC6400, PC4200, PC1600 and others. Are these just speed ratings? Can I assume that faster RAM is OK, even if my computer doesn't run it that fast? Does notebook RAM fit all notebooks?

-Bob Di Giorgio, San Diego

*Bob,*

*Memory terminology can be pretty confusing. It gets worse because not everyone advertises memory in the same way. The PCXXXX numbers you refer to do relate to the speed of the memory, although you need to know what speed the number represents. For example, PC6400 represents 800MHz. In some ads, you will see both numbers. However, you need to match the memory to your motherboard and the processor (computer brand). That's the reason Dawn included the links to sites, such as [www.crucial.com](http://www.crucial.com).*

*It does no good to mix memory speeds. Nor does it help to have memory faster than the motherboard can handle. As Dawn stated, the memory will operate only at the slowest speed in the system.*

*Lastly, not all laptop memory is the same. Again, you need to check the manufacturer's manual or one of the memory sites that will tell you which type of memory to use.*

*-Jack Dunning, ComputerEdge*

My concern about speed was that my computers are old enough that faster memory is often more available than correct memory, so I wonder if it's OK to use faster memory for that reason. Also, my laptop, a Winbook, was bought used, so I never had the manual, and Winbook gives no support at all.

-Bob Di Giorgio

*It should be OK to use the memory as long as it is compatible with your system, although it may not run at the faster speed due to motherboard/processor limitations. Check this Web page for appropriate memory by entering your model number Winbook, or use SCAN MY SYSTEM on the same page:*

[www.crucial.com/store/listmodel.aspx?mfgr=winbook&pid=1405523](http://www.crucial.com/store/listmodel.aspx?mfgr=winbook&pid=1405523)

-Jack, ComputerEdge

Perfect timing—I have a Pentium 4, and with all the [junk] I have on it, it bogs down a bit now and then. I asked some "knowledgeable" friends if upgrading the RAM would help. Some said yes. Some said maybe. This article made up my mind—my particular computer can have a maximum of 4 gigs—I have 1 gig. Will let you know if it helped.

-Don Weekes, Boulder

### **Video Chat With the Grandkids**

[This letter is in regard to Jack Dunning's April 3 article, "Making Video Phone Calls."]

I've been meaning to download Skype. Your article gave me the push I needed. Now I will be able to video chat with the grandkids too!

-Delvina, Temecula

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*ComputerEdge* always wants to hear from you, our readers. If you have specific comments about one of our articles, please click the "Tell us what you think about this article!" link at the top or bottom of the article/column. Your comments will be attached to the column and may appear at a later time in the "Editor's Letters" section.

If you want to submit a short "ComputerQuick Review", or yell at us, please e-mail us at [ceeditor@computoredge.com](mailto:ceeditor@computoredge.com).

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