# *ComputorEdge™ Online — 10/23/09*

## This issue: Protect Your Data through Encryption and Hard Drive Scrubbing

**How to protect your most important information before and after you replace that hard drive.**

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## Digital Dave
**"Digital Dave answers your tech questions."** by *Digital Dave*

A reader suddenly can't download images from a digital camera to his computer; a reader is experiencing problems with Internet Explorer getting hung up; a reader wants to know if it's possible to upgrade a notebook computer's Wi-Fi.

*Dear Digital Dave,*

*I can't download images from my Canon PowerShot A70 camera to my Dell desktop, either with the software from Canon or with my Windows XP. I've tried reinstalling the Canon software, which I previously didn't need with Windows XP. It was working perfectly, and all of a sudden—kaput!*

*Any suggestions? Could my camera need repairing or what?*

*Thanks*

*John*
*San Diego*

Dear John,

It is possible that there is a problem with the camera, although it does seem that this issue occasionally crops up for other XP users. Consult with a friend who also uses an XP. If your camera works when you plug it into another XP computer, then you know that the problem lies with your XP. It could be a problem with the drivers or the USB port. I'm guessing that you may need to look for the XP drivers and reinstall them. Most people don't seem to be using the Canon software. Possibly other readers who have encountered a similar XP/camera problem will give us some ideas.

In the meantime (and possibly all of the time), you can do what I do. Rather than plug the camera into the computer, I read the digital storage card directly. When I want to transfer, copy, or delete files on my camera, I remove the flash memory card and plug it directly into a slot in my computer. The card will come up like another drive without the need for the camera interface.

Many of today's computers come with built-in card readers, but in your case, since you may have an older XP, you may need to purchase a card reader that will plug directly into one of your USB ports. The reason for that is your camera uses the CompactFlash card, which is not as standard as the Secure Digital (SD) card slots found on many computers. Some computers (and printers) may have multiple slots to accommodate various type of flash cards, but with your XP you will probably need a CompactFlash card reader—they're pretty inexpensive.

Digital Dave

*Dear Digital Dave,*

*I am using Windows XP Pro, SP3 with Internet Explorer 8. Many times when I go to open a link*

*from my e-mail or click on an IE shortcut on my desktop, the IE window opens, but the home page never comes up. The progress bar hangs about 1/3 the distance, and no mater how long I wait, it just sits there.*

*Sometimes when that happens, I click on the IE shortcut on my desktop and a new, or second, IE window opens quickly, and my home page (Google.com) comes up.*

*I run a full registered version of AVG Security Pack and regularly scan my PC for viruses, as well as keep up-to-date with all the XP updates. I have run Ad-Aware, but that does not identify anything unique and the problem continues.*

*Any tips on how to overcome this hangup?*

*Joe Galaska*
*Rockville, MD (Formerly Evergreen, CO)*

Dear Joe,

There is a surefire way of stopping the problem. Don't use Internet Explorer anymore. I don't think that there is anything wrong with your computer. I've noticed many of the same problems myself. I'll add that when I've had IE loaded and in use for a while, it will randomly hang up as well. The problem is with Internet Explorer, and I found that IE8 was even worse than earlier versions.

Fortunately, there is no reason to deal with the IE problems anymore. Programs such as Mozilla Firefox (*www. mozilla.com/en-US/firefox/firefox.html*) and Google Chrome (*www.google.com/chrome*) are readily available and free. (Also, check out Apple's Safari (*www.apple.com/safari/*) and Opera (*www.opera.com/*)—both free. Heck, get them all.)

If you're looking for a full-featured (extra bells and whistles) browser similar to IE, then Firefox, as the second most-used browser behind IE, is a good best bet. If you want a lean browser designed for speed and stability, then Chrome may be the way to go. (Ironically, Google Chrome doesn't support Google Toolbar.)

Actually, you don't have to pick one—pick them all! Then you can use the one that works best for a particular application or Web site. There is no penalty for installing all the available browsers on your computer. Hard disk space is cheap.

There are some Web sites that do need IE to work properly. These are usually specialty sites that require a login. This is because certain companies have designed their site using IE as the main test and operating browser. The implementation of the HTML/JavaScript specification by Microsoft in IE has made these special applications incompatible with other browsers. Microsoft just doesn't care about the standard and continues forward with whatever they decide is correct, convenient, or in their best interest. (These sites could be fixed—made compatible with other browsers—by the Webmasters, but their use is generally for such a specific, limited audience that they just tell the users that they must use IE.)

In any case, you do have IE available in case you need it. Make one of the other browsers your default program, and your IE problems will be solved.

Digital Dave

*Dear Digital Dave,*

*I have been a reader since my Navy days in San Diego in the mid-'90s, and you've helped me often in the past.*

*I have a three-year-old HP Pavilion laptop. The Wi-Fi has an on/off switch to enable/disable Wi-Fi depending on where I am. A few days ago, I reached for the keyboard, received a slight shock, and now my Wi-Fi doesn't work and the indicator light remains orange (off).*

*I tried removing/reloading drivers and the HP wireless assistant, to no avail; logic tells me that either my Wi-Fi card or the switch fried. The card is infinitely easier to swap out than the switch, so I want to go that route. I purchased a (cheap) USB Wi-Fi as a temporary link until I can get the internal working again.*

*A brand-new Broadcom part costs between $80 and $100, and is not readily available as the technology has advanced so much since the computer was made (G/G+/N wireless, etc.); a used part on eBay runs between $15 and $50, with no or limited warranty, so that's a last resort.*

*Is it possible to upgrade a notebook's Wi-Fi in the same way one would upgrade notebook RAM or a tower?*

*The notebook uses a mini PCI-E slot. Although notebook MBs differ due to layout, it doesn't seem to me that plug-in cards would be too terribly different from each other since, much like a tower, many brands use the standardized slots for cross-compatibility.*

*So, can I upgrade, and, if so, how do I determine which mini PCI-E is right for my computer?*

*Maxi Morgan*
*Ekalaka, MT*

Dear Maxi,

You're right. Most likely (since you felt a shock), there is a component that has burned out. It could be either the switch, the internal Wi-Fi card, or the interface to the internal card. If the problem is the switch or the interface, then replacing the card will do no good. Most likely that would require a new motherboard (and possibly Wi-Fi card).

Finding out if there is a replacement card that would upgrade your Wi-Fi capabilities requires some research. You can check availability of parts with HP at their Part Surfer (*partsurfer.hp.com/Home.aspx*) site. This site will offer a list of the available parts for your HP Pavilion model. If there is a more up-to-date card listed for your computer at the HP site, then it should work—provided it's not the switch or interface that's burned out.

If replacing the original internal card is not workable, then either using a USB Wi-Fi adapter, as you're doing now, or buying a mini PCI-E Wi-Fi card should do the trick—as long as you have a mini PCI-E slot available. I've found that most laptops come with so many built-in features and USB ports that the mini PCI-E port(s) often go unused. This port should bypass the hardware problem on your computer.

Any brand mini PCI-E card should be OK, although you may want to check user reviews on the Web before you buy. To determine which mini PCI-E is right for your computer:

1. Identify the cards that will fit into the slot in your computer.

2. Read user reviews at various Web sites (Amazon, Newegg.com).

3. Pick one, buy and install.

Other than changing hard drives and memory, I don't usually work on laptops the way I might with a desktop computer. There are so many devices integrated into the motherboard that the solution for upgrading often involves replacing the main board. Since there is so much trial and error in the process of solving the problem, I usually content myself with the USB solution—just as long as it works.

Digital Dave

# Proactive Protection by Encrypting Your Data

**"A powerful option for securing your data."** by Tim McGuire

> Protect your valuable information from unapproved access with disk and data-encryption options for Windows, Mac and Linux computers.

The other articles in this issue of *ComputorEdge* focus on protecting your privacy and important information by wiping the hard drive. But what if a team of highly trained and cleverly named sexy female assassins boards your commuter train one morning and steals your laptop? Or, in a possibly more likely scenario, tired from a long day of work, in a rush to get off the train at the right station, you leave your laptop behind. Whether accidental or malicious, a significant number of laptops are lost or stolen each year. A Ponemon Institute report places the number at more than 10,000 per week in U.S. airports alone. When your computer is gone, how can you possibly feel safe and secure, confident that your personal or company information won't be misused? One answer is: encryption!

**Yes, More Secrets**

Evidence suggests that since the invention of writing, most cultures have also invented codes to mask the apparent meaning of some of that writing. Sneaky. Read a Dan Brown novel, and you'll feel like it happens pretty frequently. In the computer world, this code-making is called encryption, which is basically taking information and using a key and an algorithm, translating it into what seems like garbage, and later the garbage is decrypted using the key and algorithm. The key is like a secret decoder ring, and the algorithm would be the instructions for using the ring.

Most computer users run into encryption every day. Bank Web sites, and most e-commerce sites, for example, will encrypt your transactions before they are transmitted across the open Internet. That way, without the bank's key, if the information is intercepted, it is not very useful to anyone. Additionally, there are programs and options for encrypting e-mails (so that only someone with a shared key can read the e-mail that is sent), single files, folders, or entire drive volumes. Encrypting an entire volume would provide reasonable insurance that, if your laptop did fall into the "wrong" hands, the data on it would be pretty useless. Without encryption, anyone with a screwdriver or a boot disk can circumvent normal password

protection. Encrypting specific folders or files may be more appropriate if there is a very limited amount of confidential information, and it is very well organized.

## To Encrypt or Not to Encrypt

There are some drawbacks to encryption. There is a slight performance impact. Instead of simply reading data, your computer is now doing a little extra work of encoding or decoding the info in order to write or read anything on your drive. With modern processors and with a machine oriented toward business activities, this may be less of a concern, but on a gaming rig or a Web server, where speed is very important, it could impede performance.

There is also the factor of complication. If your file system is encrypted, then to access it, you must have the key, which is like a passphrase. If you forget that passphrase, you have no chance of recovering your information. The key could also be a special USB stick. If you lose that device, again, your data is lost. There are other options for the key, as well, including fingerprints, and hopefully those won't be lost either. If properly configured, some encryption programs have options for "Escrow" keys, which you can store safely and separately, which can either be used to recover or generate a new key. Data recovery can also be more difficult, although with proper backups, this shouldn't be an issue. Since the data is scrambled before being saved, if your hard drive fails and pieces of the scrambled data are missing, it becomes more difficult to reconstruct. Still, if the information on your computer is confidential, encryption might be a good option despite these obstacles.

As a spy, Ralph naturally encrypts all his files, but just to be on the safe side, he also writes everything in gibberish.

J. Whiting

## How to Encrypt

Most recent releases of major operating systems include options for file, folder, or volume encryption. There are also numerous third-party options, ranging from free, open-source projects, to commercial applications.

## Windows BitLocker

The Enterprise and Ultimate versions of Windows Vista and Windows 7, and all versions of Windows Server 2008, have a feature built-in called BitLocker. BitLocker allows the encryption of a full disk volume. If the computer has a Trusted Platform Module (TPM) chip and the right BIOS version, then BitLocker can operate in transparent mode. As long as BitLocker does not detect unregistered changes to the boot process, nothing beyond the user's password is required to access the system, so it is pretty unobtrusive. If a change is detected, then the user is prompted for their encryption key, which they could have on a USB memory card, or they may have printed it out and filed it away.

There is also a user-authentication mode, in which the user is prompted for a PIN or the USB memory stick right away when the machine is powered on, and before the OS boots. In the case of hardware that does not have TPM, BitLocker can be configured in USB key mode, in which the USB memory stick is required to

boot up. There are additional options and key storage methods available when BitLocker is deployed in a domain with Group Policy governing the configuration. In any case, if the hard drive is removed and placed into a different computer, the encrypted volume is useless without the key.

Configuration of BitLocker on an already-in-use computer can be a bit tricky, as a small separate disk volume must be created. However, there is a Windows BitLocker Drive Preparation Tool (*www.microsoft. com/downloads/details.aspx?FamilyID=320b9aa9-47e8-44f9-b8d0-4d7d6a75add0&displaylang=en*) to help with this. Once complete, to turn on BitLocker click Start/Control Panel/Security, and then click BitLocker Drive Encryption. On the page that comes up, choose Turn on BitLocker, and then you will be prompted to create a passphrase. After completing the rest of the wizard, you will reboot, and your drives will go through the encryption process.

In Windows 7, there is also a BitLocker To Go option, which allows you to encrypt the data on a removable storage device (external hard drive, USB Stick, SD card, etc.). This is a great option for transporting important information. The memory device is readable only when accessed with the correct passphrase.

Microsoft's site can be a big help. For assistance use the BitLocker setup guide (*technet.microsoft.com/en-us/ library/cc766295(WS.10).aspx*). Microsoft also offers a Secure Online Key Backup, which can cover you in the case of a lost key. Lastly, Microsoft has a repair tool (*support.microsoft.com/kb/928201/en-us*) to help recover data from an encrypted volume.

## FileVault for the Mac

On the Mac OS X, 10.3 and later, there is a option to encrypt entire home directories using the built-in FileVault. While not full disk encryption, this is a very safe option if you save all of your confidential information within your home folder. Setup is typically Mac-easy. On the Security Control Panel, on the FileVault tab, you must set a master password, and then you can enable FileVault.

Some drawbacks to FileVault are that you must have free space equal to the size of your User folders before it can be enabled. Additionally, there are some concerns about the strength of the cryptography. TimeMachine also functions differently with FileVault enabled. It will back up only after a user has logged out, and it backs up the entire home folder, so individual file recovery becomes difficult. Lastly, because the whole disk is not encrypted, a malicious user could still access the non-user folders of the drive.

## TrueCrypt for Linux

Disk encryption options in Linux are related to the particular build in use. Most will come with some encryption options built-in, but the options and implementation can widely vary. TrueCrypt, which I'll explain in a moment, is an excellent option for Linux.

There are many third-party options for disk encryption. Despite the many commercial options, I would recommend the free, open-source TrueCrypt (*www.truecrypt.org/*). It has builds available for Windows (including XP and 2000), Mac OS 10.4 and above, and several flavors of Linux. The options are very robust, ranging from a FileVault-esqe folder or mounted volume (they even have a hidden volume option for the super secretive among you) to an entire disk.

No matter what encryption method you try, one strong suggestion is to back up your data before you implement the encryption. By the very nature of it, encryption scrambles up your data. This does mean, that if something goes wrong during the encryption process, you could lose data. It isn't likely, but as always, there really isn't a good reason not to back up first.

Disk encryption is a powerful option for securing your data. If deployed properly, it can protect your information from unapproved access. With the number of computers stolen and lost each year, this can be a very important tool to protect your vital personal or company information.

Tim McGuire founded The Backup Plan, Inc. (*thebackupplan.com/*) in 2005 and writes on a variety of blogs as tmcguire47.

# BCWipe for Secure File Deletion

**"Your data is your own--keep it that way!"** by Michael J. Ross

> BCWipe is designed for deleting and wiping individual files, wiping the contents of your Recycle Bin, or wiping all of the free space on a hard drive, flash drive, or any other data storage device.

Most if not all experienced computer users are familiar with how to delete a file—using their operating system's built-in file manager, or using a third-party file-management program, or, far less commonly, executing a file-deletion command at the command line. They may know how to perform such an operation, but they typically do not understand what actually happens. They generally assume that all of the data has been wiped away, to make room for new data. But it hasn't.

Here's what really happens: For operating systems that have built-in undelete capabilities, the chosen file is no longer listed in its current directory (or "folder" in Windows parlance), but instead becomes listed in the operating system's trash area. In the case of Windows, this is known as the Recycle Bin. The file appears to have been moved, but the data on the disk remains exactly where it was before. All that has changed is that the operating system's reference to the file has been reassigned from its original directory to the trash area.

If the user chooses to empty that trash area, or if she is using an operating system that does not natively support the undelete capability (such as Linux and Unix), then the space on the disk occupied by the deleted file is simply marked as available for future use by the operating system. The data in the file is left on the disk, for two primary reasons: Cleaning the file's data from the hard drive would take time, and in most cases would be of no benefit to the user. Secondly, for environments that support undeletion, the data naturally needs to be available in order to "re-create" the deleted file, if and when the user tries to undelete it.

**Data That Bites You**

This approach to "deleting" files—freeing up the space but not overwriting the data—may offer the aforementioned benefits, but can also pose problems, depending upon your situation and needs. For evildoers attempting to hide illegal material or other incriminating information on a computer, the lack of true data deletion can be the critical mistake that leads to their criminal conviction, because law-enforcement authorities and their forensics experts oftentimes have years of experience, and no difficulty, in recovering cyber clues from the hard drives of criminals. Of course, this data vulnerability may make the perpetrators quite unhappy, but it is obviously beneficial to society.

Yet the reverse situation—in which the sensitive data of innocent people is used against them—can occur just as easily, and probably occurs even more frequently than does successful data forensics by the police, FBI and other authorities. There are countless instances in which people sell their hard drives separately or inside computers, and assume that because they deleted all of their personal files, the buyer won't be able to access that information. As we learned above, that assumption would be true only if the space on the disk previously occupied by that sensitive information just happens to be overwritten by a new file. But one cannot and should not count on such luck.

With the "deleted" data still present on the hard drive, anyone else further down the line, who gains access to the drive, can stumble upon that sensitive data—either intentionally for criminal purposes, or unintentionally when trying to recover their own data. At that point, depending upon his character, the discoverer could use your personal information for any number of purposes. (Even more inexcusable is the practice of selling hard

drives or computers without even bothering to try to delete your personal information. Similarly, some hard drive manufacturers are negligent about purging returned hard drives when refurbishing them.)

## Wipe That Data!

For people who have chosen to run Linux or a Mac operating system on their computers, they may have a variety of options built into their OSes for thoroughly cleaning deleted data off of drives. But PC owners running Microsoft's flagship operating system do not have access to any built-in file-wiping capabilities. Even the Windows Recycle Bin only has an option to empty it, but not to wipe the files from the disk. For that reason, Windows users clearly should obtain a quality file-erasure program, such as the one that we will be examining in this article, BCWipe.
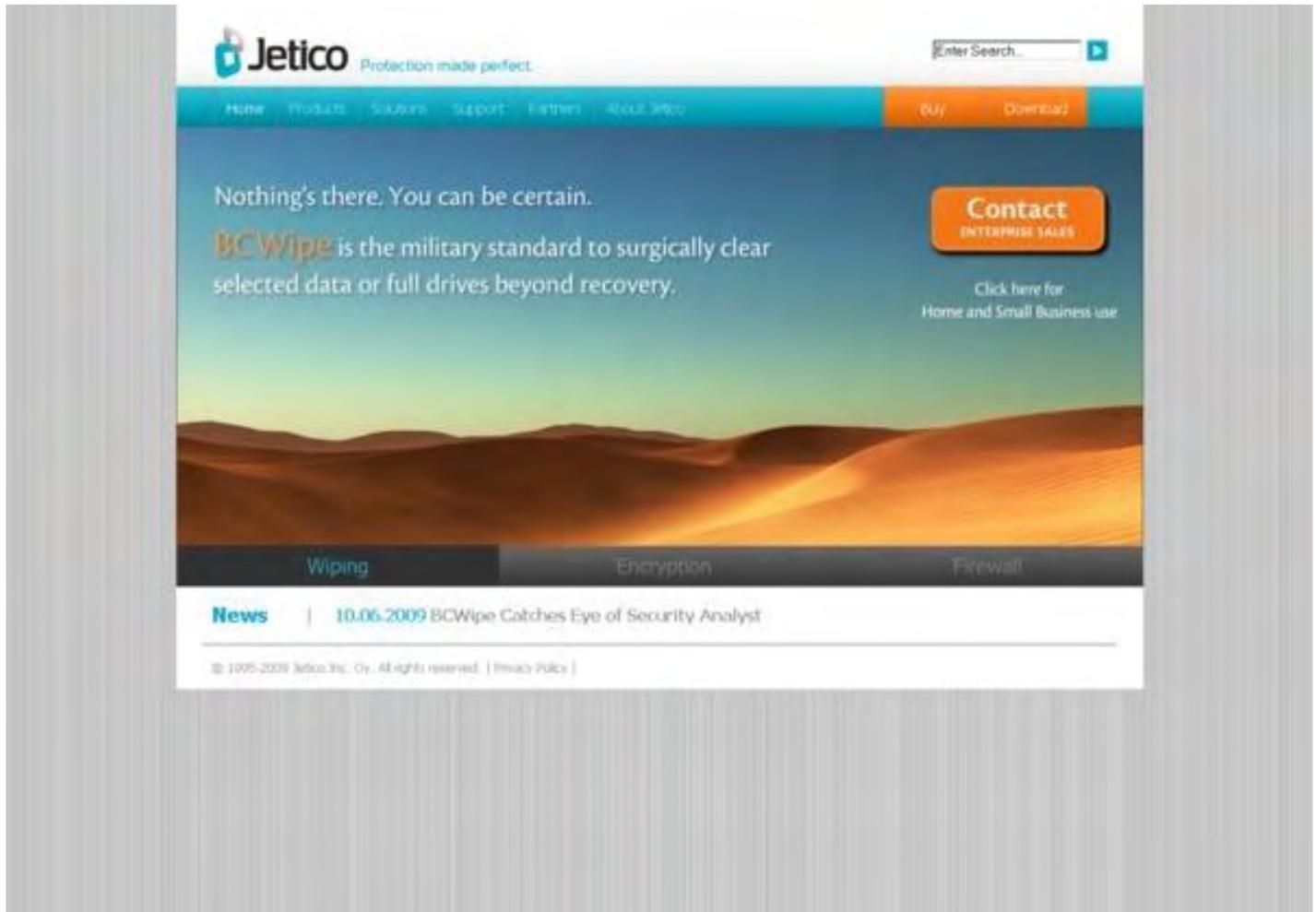


Figure 1. Jetico homepage.

Jetico (*www.jetico.com/*) is a software development company located in Espoo, Finland, and founded in 1995. The company makes and sell firewall and file-encryption products, but we will be focusing on its file-erasure product. BCWipe is designed for deleting and wiping individual files, wiping the contents of your Recycle Bin, or wiping all of the free space on a hard drive, flash drive, or any other data storage device. Its companion product, BCWipe Total Wipeout, is dedicated to thoroughly erasing everything from a hard drive, including any operating system, as well as the boot sector.

## Data Security in the BC Era

BCWipe runs on Windows (all versions from Vista back to even 9x) and seven different types of Unix. It

supports seven different human languages. Even though BCWipe is a commercial offering, it is quite affordable, at $39.95. For corporations and other large organizations, volume discounts are available. Best of all, you can try it before you buy it. To do so, simply visit the BCWipe Web site (*www.jetico.com/wiping-bcwipe/*) and click the large blue Download button.



Figure 2. BCWipe page.

Save the installation file to some location on your computer where you can find it when needed, or on the Windows desktop. Then double-click the file to start the installation process, after which you will be shown the setup program's welcome dialog box, which allows you to change the language from the default, English.
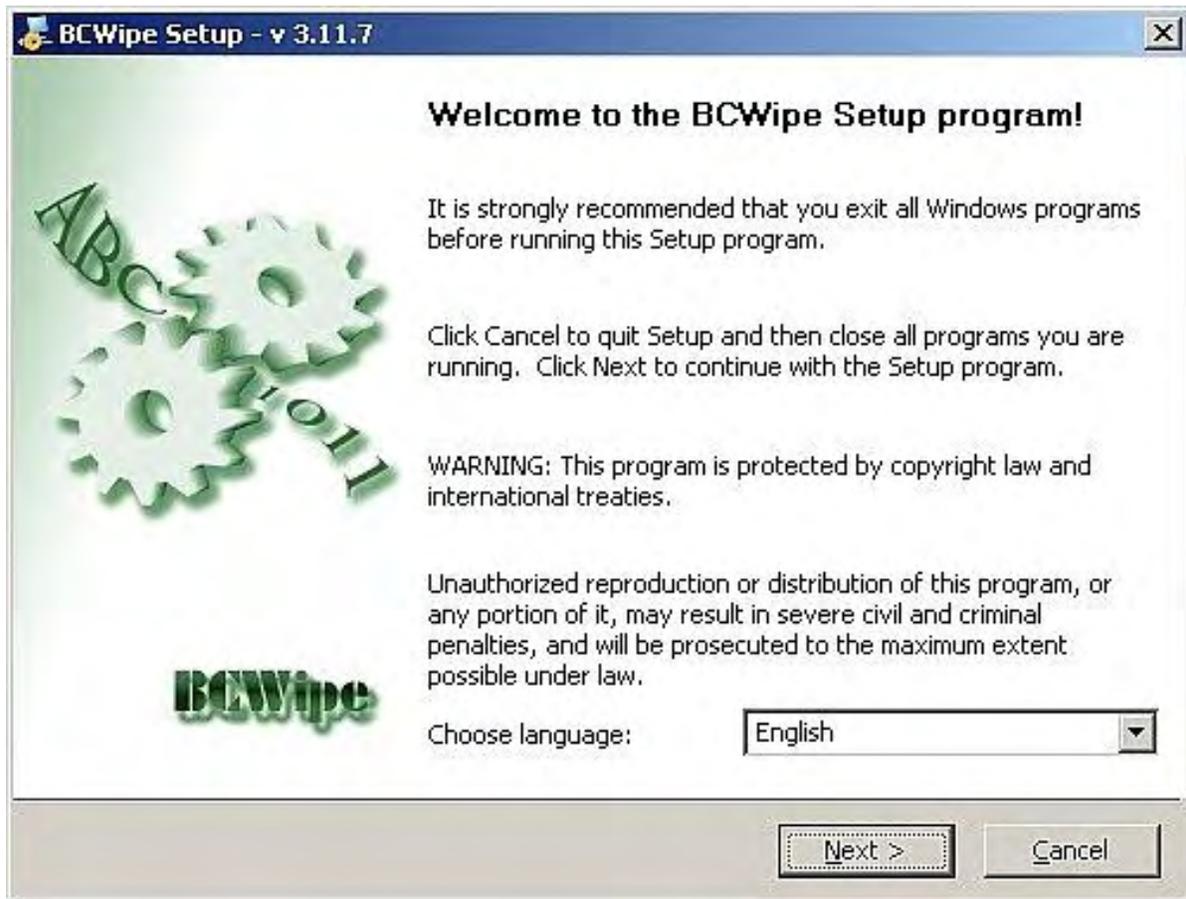
Figure 3. BCWipe install welcome.

Then you will be presented with a user license agreement.
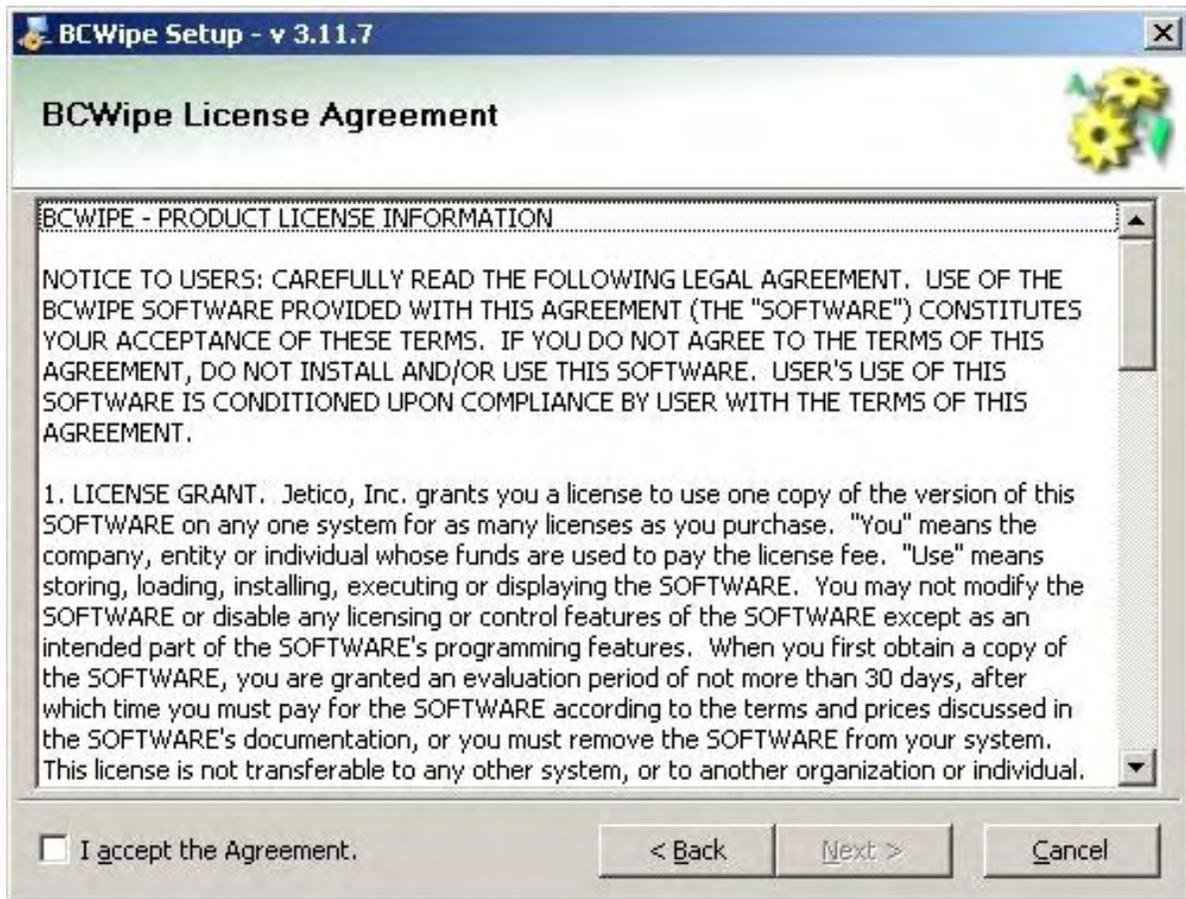
Figure 4. BCWipe install ULA.

At the installation destination screen, you can use a different target folder in which to install the program, if you prefer not to use the default folder (C:\Program Files\Jetico\BCWipe\).
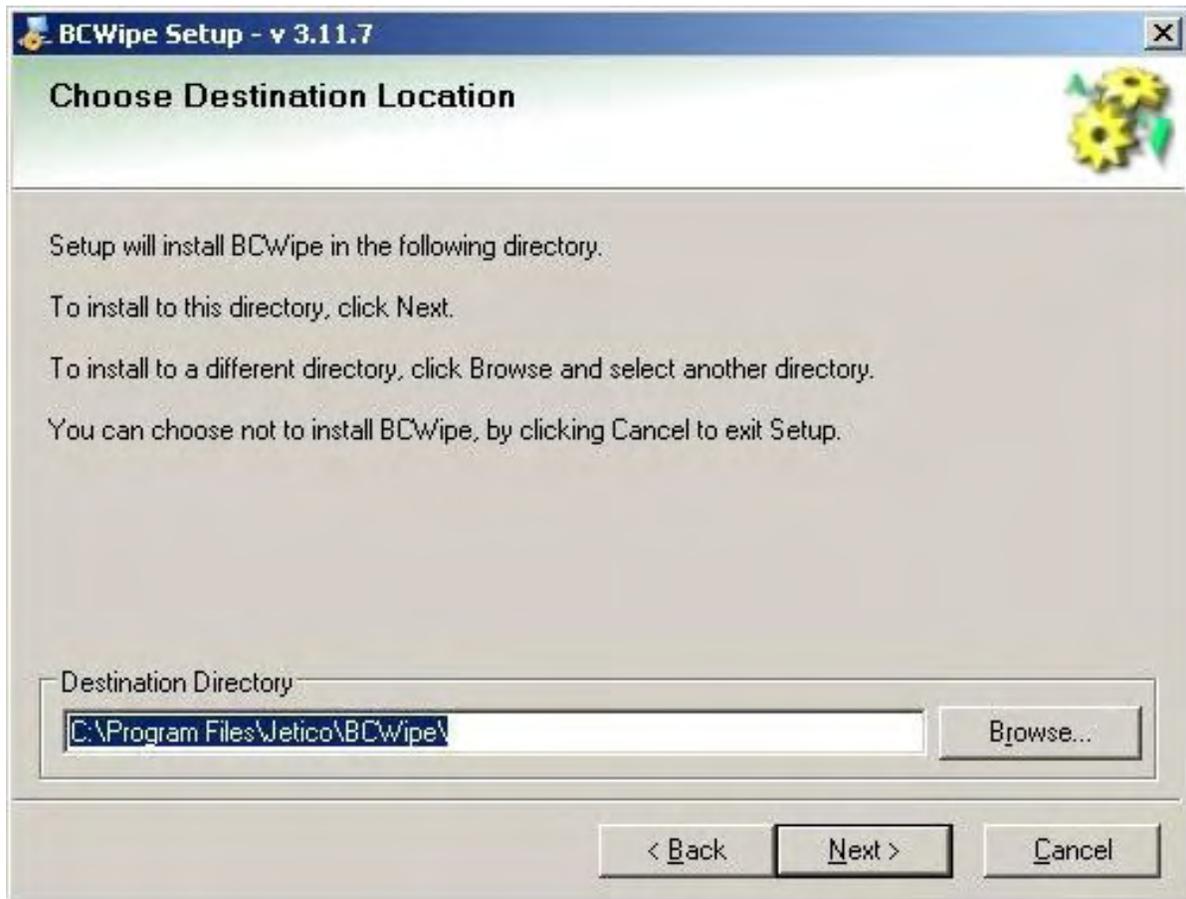
Figure 5. BCWipe install destination.

The next dialog box allows you to specify the name of BCWipe's menu item in the Windows Program menu. Oddly, the dialog box title bar correctly identifies the current version (which is 3.11.7 as of this writing), but the default name is BCWipe 3.0.

Figure 6. BCWipe install Program menu.

In the next dialog box, you can enter a license number received from Jetico upon purchase of the program, or use the trial license that comes freely with the download.
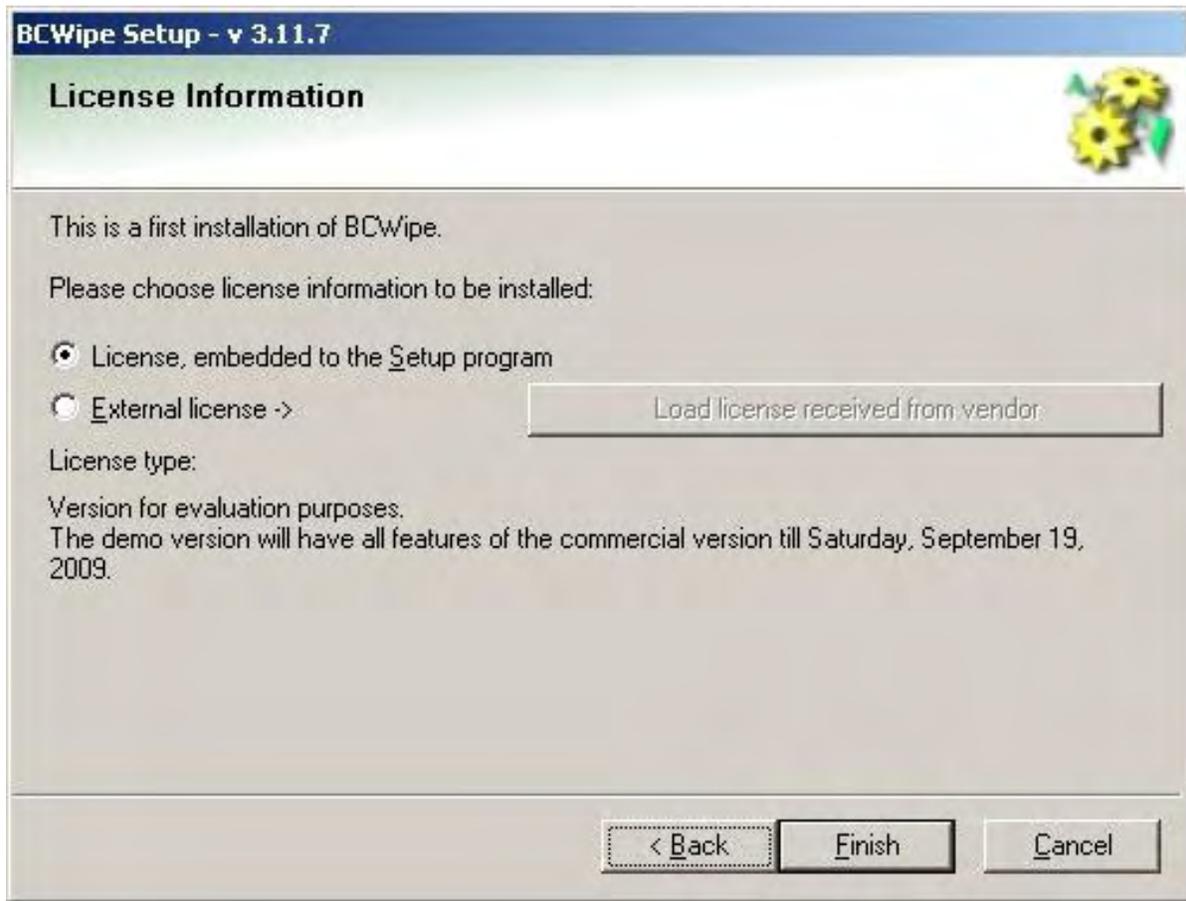
Figure 7. BCWipe install license info.

The final dialog box indicates that the setup wizard has finished the installation process.

Figure 8. BCWipe install wizard complete.

Now you are ready to begin thoroughly erasing any files containing sensitive information, as well as wiping free disk space, slack space within files, the Windows swap file, names of recently used files, and temporary Internet files created by browsers, including cookies, saved history, saved passwords, and the browser cache.

You can use BCWipe inside Windows Explorer, or in the BCWipe Task Manager, or at a command-line prompt. In case you had any instances of Windows Explorer running during the installation process, shut them down, and start up a new instance. Otherwise, the BCWipe commands will not be found in the context menus as needed. (Jetico should modify the setup wizard to warn the user of this.)

To securely erase one or more files or folders in Windows Explorer, select them in the right-hand pane, and right-click with your mouse, which should pop up the context menu. Within that, you will find the menu item "Delete with wiping."
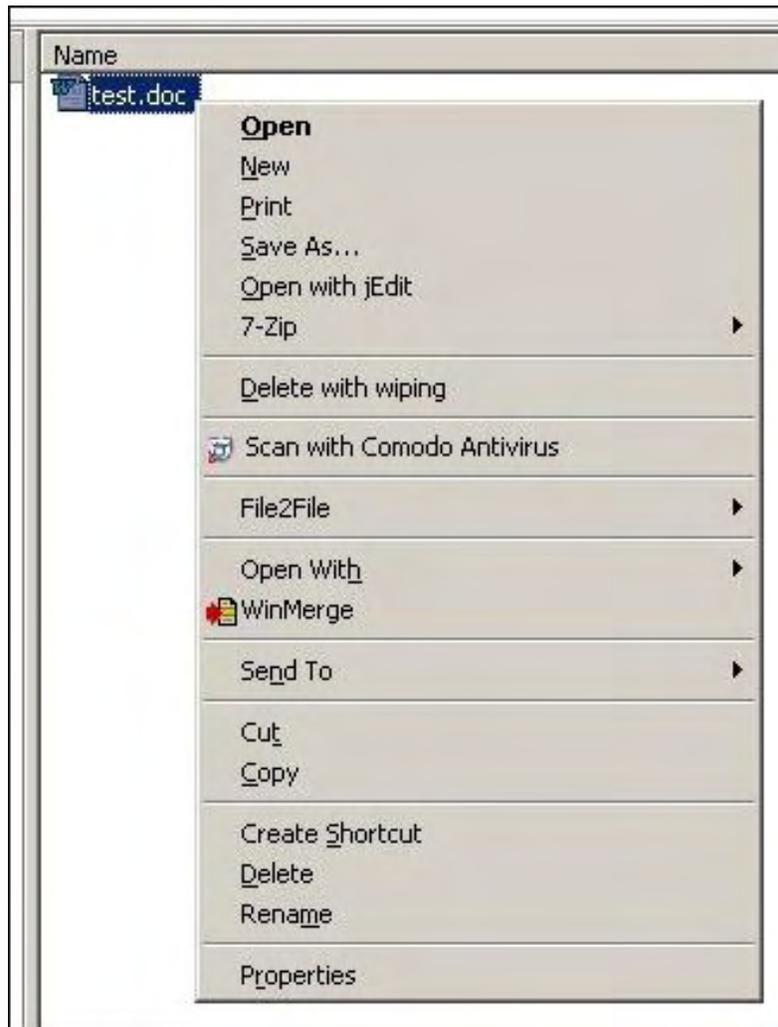
Figure 9. Windows Explorer context menu.

You will then be presented with a dialog box that allows you to perform various operations, all of which should be self-explanatory.
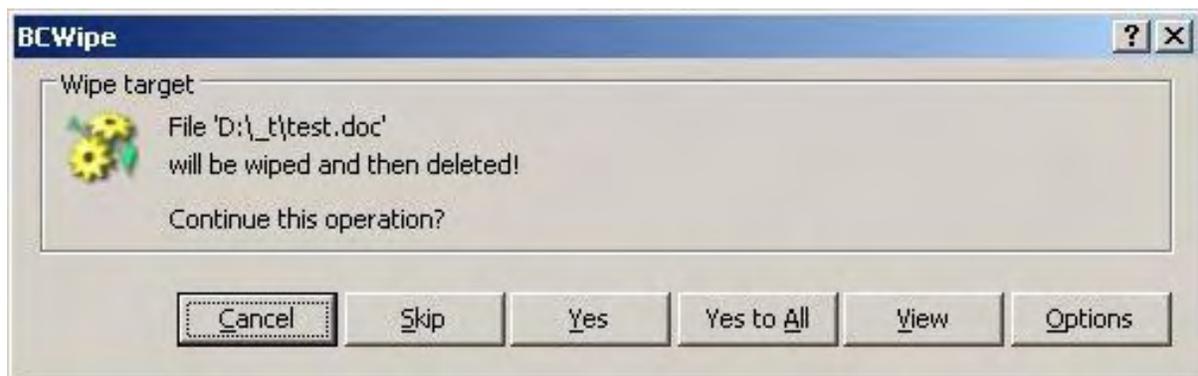
Figure 10. File-wiping operations.

In the case of the Windows Recycle Bin, everything is the same as described above, but the context menu item is different.
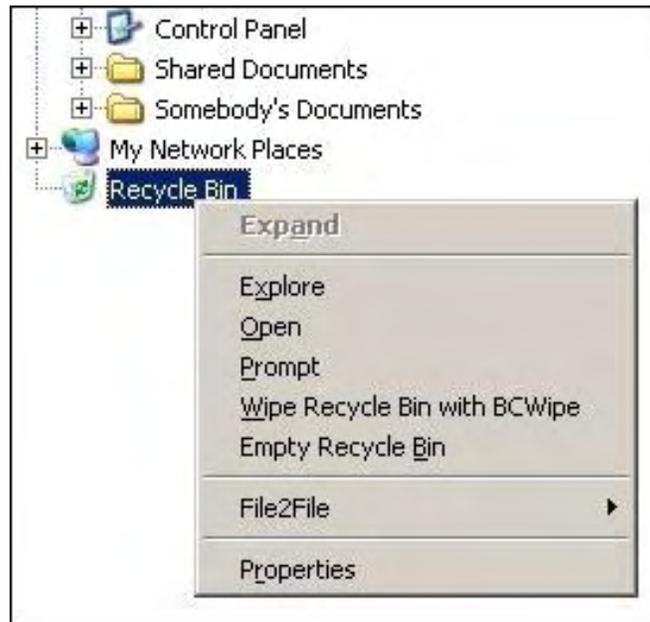
Figure 11. Recycle Bin context menu.

You can schedule wiping operations to start at any time, such as during the middle of the night. This is advisable for any wiping of a significant number of files or the free space of a hard drive, as the process can take a very long time—particularly if you choose "military grade" wiping, which involves seven passes over each relevant hard disk sector.
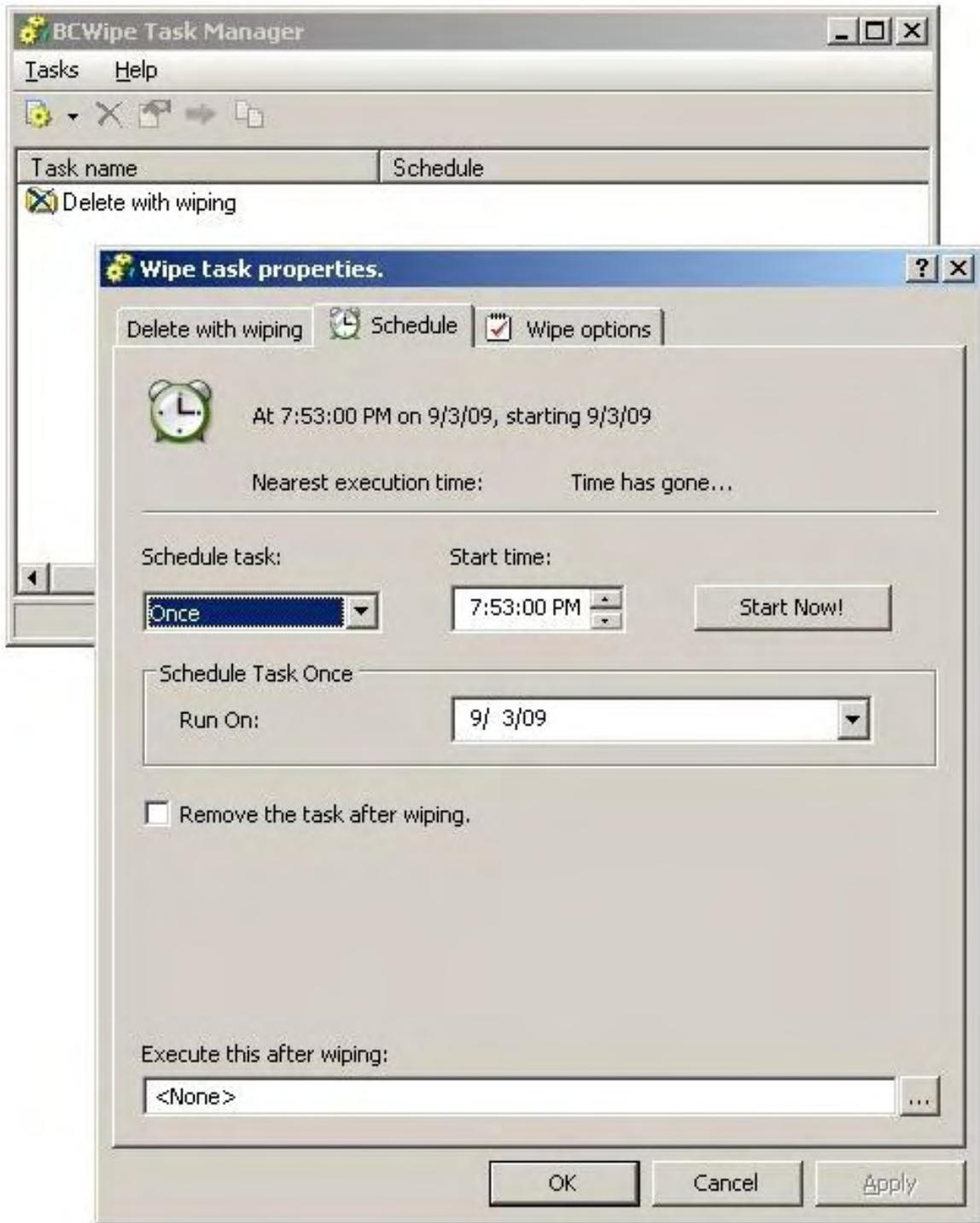
Figure 12. Task Manager.

We will not get into the details of how to use BCWipe on the command line, because there are far too many available options. However, the ReadMe.txt file—located by default in C:\Program Files\Jetico\BCWipe —has further details, including the command-line options.

When it comes time to permanently send any type of on-disk information to the Big Bit Bucket in the Sky, consider using BCWipe, which is well regarded in the industry, for good reason.

Remember, secure file erasure is most critical when you are selling or donating a hard drive or computer. Your data is your own—keep it that way!

Michael J. Ross is a Web developer (*www.ross.ws*), writer, and freelance editor. He creates Web sites that help entrepreneurs turn their ideas into profitable online businesses.
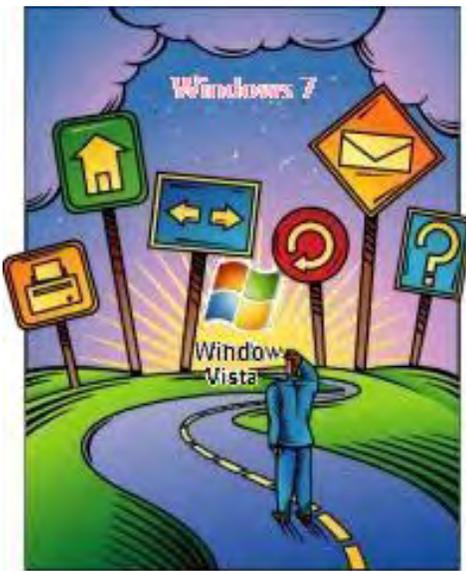
## Windows Tips and Tricks: A Windows 7 Review

**"For those evaluating a Win 7 upgrade."** by Jack Dunning

In anticipation of people wanting to evaluate their Windows 7-update decision, here's a collection of some past nuggets of Windows wisdom from past columns.

It seems like years that we've been waiting for Windows 7 to be released—ever since Vista hit the market. Now it's official. Yesterday, October 22, was the introduction of Windows 7 to the computer market. Now most of the off-the-shelf computers should come with Win 7 installed—unless they are a Mac or possibly a netbook.

There will be a few people rushing out to buy a new Win 7 machine, but I suspect that most people will either wait a day or two getting ready for the move, or they are thinking about upgrading their current computer. In anticipation of people wanting to review their Windows decision, I dug through past issues of *ComputorEdge* pulling out those columns and articles most relevant to the Win 7 decision. What follows is a review of many of the words of wisdom (with links) that I have published over the past year about Windows 7 and upgrading from other versions of Windows.

**Window 7 for Newbies**

If you are new to the subject, *ComputorEdge* dedicated an issue to the topic of Windows 7 on June 26. In that issue there was an article on called "Using Windows 7: New features and a new look and feel." For the uninitiated, this is a good starting point. While the article doesn't cover all of the Win 7 changes, I try to hit the most relevant and interesting aspects of Windows 7.

In the same June 26 issue, there is a second article dedicated to "Windows 7: New and Improved Programs: If you're upgrading anyway, these may be a bonus." While these programs are not essential to any operating system, they are either new to Win 7, or in most cases improvements on older, standard Windows programs. If you just want to know a little more of what all the hoopla is about, the two articles in this issue will bring you up to speed.

**New Computer or Upgrade**

While it appears that most XP computers will probably be able to handle Windows 7, it may not be worth the cost or effort to upgrade. That depends upon the age and capability of your hardware—the two go hand-in-hand. Check out the Windows Tips and Tricks column titled "Windows 7, October 22: Microsoft Learned from Vista's Mistakes" in the September 18 issue. For more details on upgrading, there is a section on Windows Upgrade Advisor in "Windows Tips and Tricks: Start Getting Ready for Windows 7" in the May

15 issue. This Microsoft program will test your hardware to determine if your machine is up to the task. If not, you may be better off buying new.

## Which Version of Windows 7

Maybe you've already decided to move to Windows 7, but aren't sure which version to buy. There is a significant difference in price between versions, although the added features may or may not be worth it to you. Those difference are reviewed in "EdgeWord: Which Version of Windows 7, Home or Professional?: Should you spring for the extra money?" in the October 2 issue.

The primary feature that appears in the Enterprise and Ultimate versions of Windows Vista and Windows 7, but not in the Professional version, is Windows BitLocker. This is the Windows file-encryption program discussed in "Proactive Protection by Encrypting Your Data" by Tim McGuire in this week's issue. If you need to encrypt your hard drive, then you may prefer the Ultimate version of Win 7.

## Is It Time to Switch from Windows XP?

It was just last week that I responded to a question addressing whether XP users needed to make the switch. As usual the answer was, "It depends." For the details of the answer see, "Windows Tips and Tricks: Windows 7 Versus Windows XP: Is it really time to drop XP?" in the October 16 issue.

## What Missing From Windows 7?

More stripped down than Vista, the leaner Windows 7 has had a number of programs removed from it. Some are features that were introduced in Vista, such as Windows Sidebar for gadgets. (Only Sidebar is removed—the gadgets remain.) Others have been standards that also appear in Windows XP. In most cases the programs can be downloaded free from Windows Live Essentials (*download.live.com/*). These programs include Windows Photo Gallery, Windows Movie Maker and a couple of others.

Probably the biggest shock is the fact that there is no e-mail program included with Windows 7. Many people will be rummaging through the program trees wondering how they will pick up their e-mail. Windows Live Mail is another free download from Windows Live Essentials mentioned and linked to above. If you install it you will find it considerably different from other e-mail programs you've used. I installed it on a Vista machine last May and liked it, as discussed in "Windows Tips and Tricks: For Windows 7, it will be Windows Live Mail" in the May 22 issue. Try it now! You may or may not agree. I expect that for many, Mozilla's free Thunderbird e-mail (*www.mozillamessaging.com/en-US/thunderbird/*) will look like an excellent alternative. Remember, you will need to download an e-mail program.

## 32-Bit Versus 64-Bit?

If you are running 64-bit Vista, then you should have no problems with 64-bit Windows 7. Most of the new computers will come with the 64-bit version of Windows 7 installed. Any 32-bit programs (most of the current programs are 32-bit) will run fine in the 32-bit mode of the 64-bit version of Windows. The primary problems have occurred when running selected drivers and programs in 64-bit Windows. Sometimes, they just don't work. To be sure that your critical software will function with a 64-bit Windows computer, load it on a friend's 64-bit Windows operating system machine (64-bit Vista is a good test). If it works, then you're good to go to 64-bit Windows 7.

If you take the time to review some of the cited pieces on the topic of Windows 7, be sure to check the readers comments attached at the end. Some of them add significant information to the topic and help to

clarify any misguided statements I may have made.

As can be seen throughout most of the articles and columns, my philosophy is that as long as you're happy with your computer (and it still works), don't feel compelled to make any changes. (That includes all of you happy Vista users out there.) However, for almost anyone, when they eventually move to Windows 7, it will be an improved computing experience.

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Jack is the publisher of *ComputorEdge* 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*. He can be reached at *ceeditor@computoredge.com*

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## Wally Wang's Apple Farm

**"Scrubbing Hard Drives"** by Wally Wang

If you want to erase your files as much as possible, you need to use a special hard disk-scrubbing program such as the Shred program, which comes with Drive Genius. Also, Wally lists four reasons why he'll stick with the Mac in spite of Win 7's launch; and a tip on controlling your mouse pointer using the keyboard.

The FBI once approached a child pornographer in the Air Force to arrest him. When they arrived at the suspect's house, the suspect met them at the door, held out a floppy disk containing all the incriminating evidence, and with a smile, promptly sliced the floppy disk into pieces with a scissors. The FBI retrieved the floppy disk pieces, recovered the incriminating evidence, and arrested the guy anyway.

A friend of mine in the FBI told me that he's been involved in hundreds of arrests where people have lit their hard disks on fire, dropped them in acid, or smashed them into tiny pieces with a hammer. Each time, the FBI managed to recover the fragments of the hard disk, recover enough incriminating evidence, and put the suspect behind bars.

The simple fact is that anything you store on magnetic media stays there permanently. No matter how many times you erase it or try to destroy it, fragments of every file will always remain.

Of course, the trick is that the more damaged the magnetic media, the more time-consuming and expensive recovery will be. If you're hiding terrorist secrets, the government will spare no expense recovering your data, but if you're just worried about keeping your personal information out of sight from strangers, you probably don't have to worry that a common thief will have the time or equipment to recover your data from your hard disk.

When you delete a file, your computer simply pretends that the file doesn't exist. If you create a new file, your computer may overwrite a deleted file with the new file, or it may just store the new file in an entirely different part of your hard disk. That means you could erase a file today and three months from now, find that deleted file still on your hard disk.

At the simplest level, you can undelete a deleted file from a Macintosh just by emptying the Trash. Right-click on the Trash icon on the Dock and choose Open from the pop-up menu. When a Finder window appears displaying the contents of the Trash, right-click on the file you want to retrieve and choose Put Back from the pop-up menu.

To "permanently" erase a file, right-click on the Trash icon on the Dock and choose Empty Trash from the pop-up menu. This will prevent someone from using the Put Back command to retrieve your file, but it still

leaves your files on the hard disk.

If you want to erase your files as much as possible, you need to use a special hard disk-scrubbing program such as the Shred program, which comes with Drive Genius (*www.prosofteng.com/products/drive_genius. php*).

Drive Genius claims that its Shred program:

"…overwrites the volume or the drive with 1 (Zeros), 3 (Random) or 7 pass (DoD) and ensures all previous data will never be recoverable. Drive Genius also features a 35 pass (Gutmann) option, which overwrites every block of data 35 times. Drive Genius 2's Shredder function conforms to the U.S. Department of Defense standard for drive sanitation (DoD 5220.22 M), and it works with IDE (ATA), SCSI, USB, and Firewire hard drives.

"Note: US Department of Defense in the clearing and sanitizing standard DoD 5220.22-M recommends the approach 'Overwrite all addressable locations with a character, its complement, then a random character, verify for clearing and sanitizing information on the writable media.'"
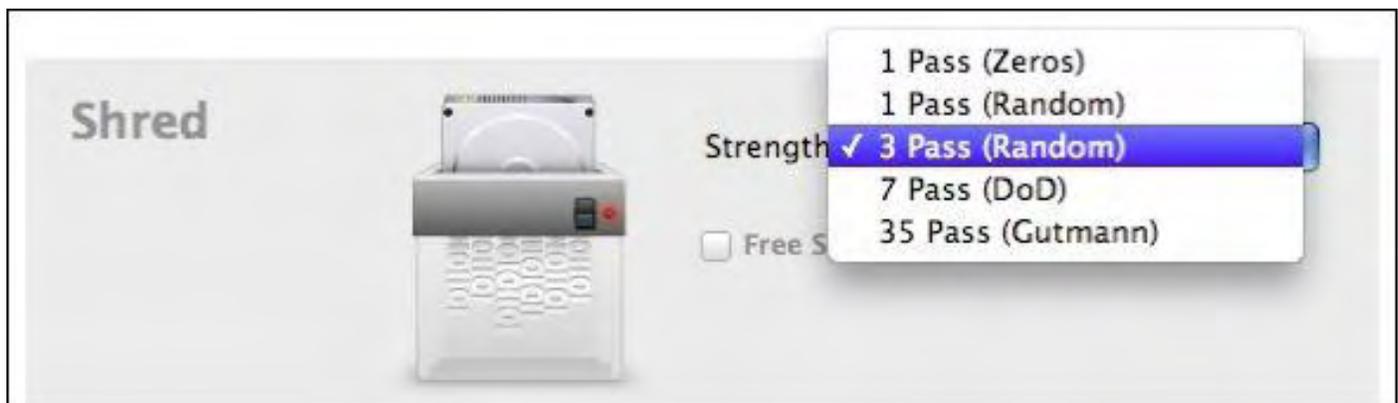

Figure 1. Drive Genius's Shred program can overwrite data multiple times.

In case none of the above makes any sense to you, Shred gives you the option of rewriting your deleted files with zeroes or random characters. Doing this once is often enough to wipe out most traces of a file, but do this multiple times (such as three or seven times), and each successive pass over your deleted files erases more and more information, making it progressively difficult to recover that data ever again.

What many people overlook is that almost every program creates temporary files that store the exact same data as the original file. Delete the original file, and these temporary files still exist on your hard disk. To completely wipe out your hard disk data, you need to wipe out these temporary files, stored in an area of the hard disk known as "free space."

Figure 2. Shred can wipe out the free space of your hard disk to destroy temporary files.

Just be aware that even a program like Shred can't completely erase files, so if you really want to protect sensitive data, securely delete it using a program like Shred, then physically destroy the hard disk. It will still be possible to recover data from such damaged hard disks, but unless you're hiding secrets from the government, it will probably be enough to keep ordinary thieves and nosy relatives from prying into your sensitive files.

**Windows 7, the new OS/2?**

Back in the mid-'90s when IBM marketed OS/2 to the masses, the company used a curious tactic. IBM asked its employees to run around in public, telling people how great OS/2 was. The results speak for themselves. Hardly anyone cared, and OS/2 slowly faded away.

IBM even ran a curious TV ad that showed how great OS/2 was without actually showing you what it did ("IBM's OS/2 Campaign" (*blogs.techrepublic.com.com/classic-tech/?p=113*)). Sound familiar?

To convince reluctant MS-DOS and Windows users to switch to OS/2, IBM promoted OS/2's ability to run MS-DOS and Windows programs. That essentially made people wonder, "If running MS-DOS and Windows programs is so important, why don't I avoid OS/2 and just use MS-DOS and Windows instead?"

Now Microsoft is trying to promote Windows 7 as a great operating system without its commercials actually showing you what it can do. Instead of pushing its own employees to promote Windows 7, Microsoft wants individuals to promote Windows 7 through launch parties held around the country. (Did anyone attend one of these parties? If so, let us know how it went.)

To convince reluctant Windows XP users to switch to Windows 7, Microsoft is promoting Windows 7's ability to run Windows XP in emulation mode. This will likely cause people to ask, "If running Windows XP programs is so important, why don't I avoid Windows 7 and just use Windows XP instead?"

After 20 years of using Windows, Vista turned me away from Windows altogether, and Windows 7 probably won't convince me to leave the Macintosh. Avoiding the traditional Windows vs. Mac debate, here are four reasons why I'll stick with my Macintosh.

First, Windows 7 still relies on the Registry, which is a database that keeps track of programs installed on your computer. Since every program can access the Registry, one program often moves or deletes data that another program needs, causing the other program to suddenly fail or work erratically for no apparent reason.

To fix this problem, you need to use a Registry optimizer or Registry cleaner periodically, which most people don't know about and don't use. The number one reason why a typical Windows PC gradually slows down over time is because the Registry gets clogged and disorganized. Unlike Windows 7, the Macintosh doesn't depend on a Registry, which represents a single point of failure.

Second, Windows stores files as close together as possible. So if you have a 500GB hard drive and store two files on it, Windows smashes those two files as close as possible like sardines in a can. The moment you modify one file, you cause fragmentation, which leaves gaps between adjoining files. To solve this problem, you need to run a disk defragmenter periodically. Otherwise your computer will gradually slow down the more your hard disk gets fragmented.

Unlike Windows, the Macintosh (and most Unix-based operating systems such as Linux) store files as far apart as possible. That means disk defragmentation never occurs until you actually fill up the hard disk and start running out of room. With Windows, you can have a hard disk that's 99 percent empty and still get fragmentation that will slow down your computer.

Third, you need to run and update an antivirus program periodically to keep Windows secure. Running an antivirus program in the background takes up memory and slows your computer down.

Of course, many people say that the Macintosh will need antivirus programs eventually, once more people start writing viruses for the Mac, but the point is that right now, the Macintosh doesn't need antivirus programs. That's like saying that San Diego would be a dangerous place to live if we had death squads, car bombings, and suicide bombers slaughtering people like in Baghdad. Given a choice between living in the dangerous world of Baghdad or the relatively safe world of San Diego, where would you rather be right now? Likewise, given a choice between the dangerous world of Windows or the much safer world of Mac OS X, where would you rather be right now?

That brings up a fourth reason. Besides running and updating antivirus programs, Windows also requires you to run and update anti-spyware programs. Just to keep a Windows PC running, you need to use a Registry optimizer, a disk defragmenter, an antivirus program, and an anti-spyware program.

Using those four programs regularly isn't difficult, but why bother if you don't have to use them at all? Do you really want to spend your time maintaining a computer, or actually doing something useful with it? For me, that's the big difference between Windows and Mac OS X, and that's why I switched to the Macintosh.

To hear an interview of me explaining the advantages of the Macintosh vs. Windows, grab a copy of this MP3 file (*www.computoredge.com/images/2743/jw-fullmp3HiQ.mp3*) *[93 minute interview, 85M bytes to download]*. Joe Polish (*www.joepolish.com*), a world-renowned marketer, interviewed me for his Genius Network (*www.geniusnetwork.com*) series, where experts on different topics share their thoughts.

<p align="center">*          *          *</p>

If your mouse isn't working, you can still control the mouse pointer using the keyboard to a limited extent.

Ctrl+F2—Highlights the Apple menu. Now you can use the arrow keys to highlight different menu titles (such as File or Edit) or menu commands (such as Print or Edit). Then press Return to choose an option.

Ctrl+F3—Highlights the Dock. Now you can use the left/right arrow keys to highlight icons on the Dock and press Return to select a program to run.

Command+W—Closes the currently active window.

Ctrl-Eject—Displays the Shutdown dialog, giving you a choice of shutting down, restarting, or putting your Macintosh to sleep.

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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*)
 • Beginning Programming for Dummies (*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*)
 • 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*)
 • 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*)
 • 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*)
 • My New Mac (*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*)
 • 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*)

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/*), 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*), using the techniques he learned from a professional Wall Street day trader.

Wally can be reached at *wally@computoredge.com* and at his personal web site (*www.wallacewang.com/*).
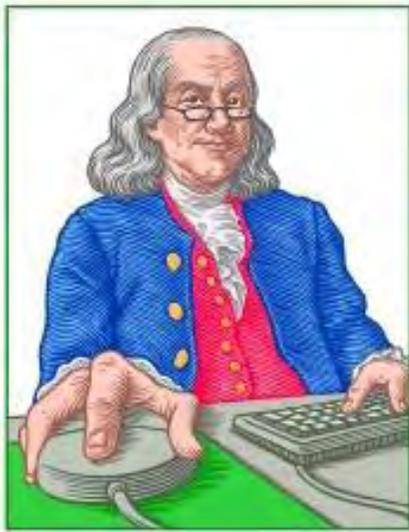
**Linux Lessons: Tips and Tricks from Users**
**"Virtual machines in Linux."** by ComputorEdge Staff

A reader sends in additional comments and thoughts on the topic of using Linux with virtual-machine software.

**Virtual Machines in Linux: Xen/KVM/VMware/VirtualBox/DosBox/ESXi/Wine**

Jack, thanks for your very complete review *["Linux Lessons" in the October 6 issue of* ComputorEdge*]*. So here are a few comments:

1. I found that the tricky area is the USB. Can you run your USB devices in whatever virtualization system you use?

2. Another area that works in some, but not in others, is copy and paste.

3. QEMU, a processor emulator, is a pretty solid program. It does not do everything, and you have to read the manual, but it is solid.

4. VMware (*www.vmware.com/*) IMHO (*en.wiktionary.org/wiki/IMHO*) is the top of what is available. I have run the VMware workstation for a few versions. It is complete in every aspect—backups, networking of virtual units, copy and paste and USB, including on the Palm Treo (one of the main reasons I have a need for it). If you install a new kernel, the upgrade is transparent— just click a button and you are done. Yes, it cost a few dollars, but if you need it, it is money very well spent. Top product.

5. Wine—You are correct that the setup ain't easy; however, for very few dollars you can get Crossover Pro and the setup is pretty easy. If your Windows program runs well under Wine/Crossover, it is the best way to run it. I need MS Office for my business—at least to check what I produce with OpenOffice. I use Crossover. Crossover not only facilitates the installation, but makes perfect backups and copies. It is not a front end for Wine, but a very complete system that uses Wine as its engine.

6. If you want to virtualize IBM OS/2, the only one that can do it is Virtual Box (*www.virtualbox.org*). I have not done it.

When I started to use Linux I needed many programs from the other platforms. Right now I do almost everything using Linux programs, with two exceptions: (1) to synchronize the Treo I do it under VMware and (2) to check doc and spreadsheet files (MS format) written in OpenOffice I use Crossover. This step very seldom requires any changes, since I started to use the same family of fonts under Linux and Crossover/Win XP.

Teruel deCampo
Denver, CO

\*          \*          \*

In the August 14 Linux column, Jack Hamilton offered an agenda for future columns. Everyone is welcome to contribute. As a thought, the following possible topics are taken from Jack's list:

Admin basics:
• chmod/chown/chattr/lsattr
• fsck
• fdisk
• formatting with mkfs

If you would like to contribute to this or any other Linux topic, send your input to Linux Lessons (*ceeditor@computoredge.com*).

\*          \*          \*

## 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, or a favorite Linux software application, and would like to pass it along (or have a question), please drop us a line at Linux Lessons (*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 *ComputorEdge* 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*). 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
*ComputorEdge*

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*ComputorEdge* 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 "ComputorQuick Review", or yell at us, please e-mail us at *ceeditor@computoredge.com*.

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## Rob, The ComputorTutor Does VB.Net 2010

**"Using Visual Basic with Databases"** by Rob Spahitz

Last time, we wrapped up the first edition of our Sticky Notes application. Now let's learn how to use Visual Basic with databases.

Last time, we wrapped up the first edition of our Sticky Notes application. Now let's learn how to use Visual Basic with databases.

Note: These columns are written using VB.Net 2010. However, most of the features will work just fine with VB.Net 2008 or even earlier versions. To see how to install VB.Net 2010, check my July 31, 2009 column, and to retrieve project files, check my server at *www.dogopoly.com/ce*.

### Responses from Readers

First, a few interesting comments sent along this way:

*Arch of San Diego, in response to my questions on current applications, said, ". . . the thing that I most don't like are promises that are not met by the software. I'll pay money for a software download only to find out that stuff doesn't really do all that I expected, and it's very upsetting."*

This is one reason I've been offering these columns. If you learn how to "do-it-yourself," then you're less likely to be disappointed by things out of your control.

When asked about listening to music on the e-devices:

*"A classic iPod, an iPhone, my computer, and on my main TV via my TiVo box. I pay for all of the music I listen to, but I don't pay twice."*

Good for you. I always wondered why we are required to pay royalties (included in the price) for a song purchased on vinyl, then again on 8-tracks and cassette, then again on CD, then again on every time we download the music to a new device. But if we try to copy it to a new device, the music industry thinks we're breaking copyright protections.

### Databases

By learning how to make VB talk to a database, we can put our Sticky Notes into a database rather than arbitrary text files. For our purposes, we'll simply use an Access database as our source, although we could use SQL Server, Oracle, or even a text file if the right drivers are available to talk to them.

Let's start by quickly building a database. Open Access and save it with the name VBDB.mdb, then create a table with the following:

```
Table name: tblPerson
```

```
Fields: PersonID, autonumber; FirstName, Text(50); LastName, Text(50)
```

If you don't have Access, you can still download any of the databases that we created for my previous columns, stored at *www.dogopoly.com/ce*.

Note that you don't need to have Access installed on your Windows machine in order to use the database in VB. So when you deliver your app to other people's machines, they also don't need to have Access when they use your app and database.

Now let's create a VB project to use this DB. Our goal will be to simply do what Access does for us with its forms. However, we'll quickly see that VB offers far superior form-creation features than Access does at this point.

Create a new VB Windows Forms Application solution named DBApp. Change the Text property of the form to "Person Maintenance," since the form is used to maintain the Person data. We should also change the form name to frmPerson since this will eventually hold the information used to update the Person table that we just created. In VB 2010, do this by selecting the form in the Solution Explorer window (Ctrl-Alt-L if not open), then changing the name in the Properties window (including the .vb extension).

Now we need to add the database to the project so it can be properly managed by VB. Go to menu Project and select "Add Existing Item..." which brings up a dialog box. Locate the database you saved and Add it. VB will present a new dialog box, as seen in Figure 1, after it added the database to the Solution explorer window.
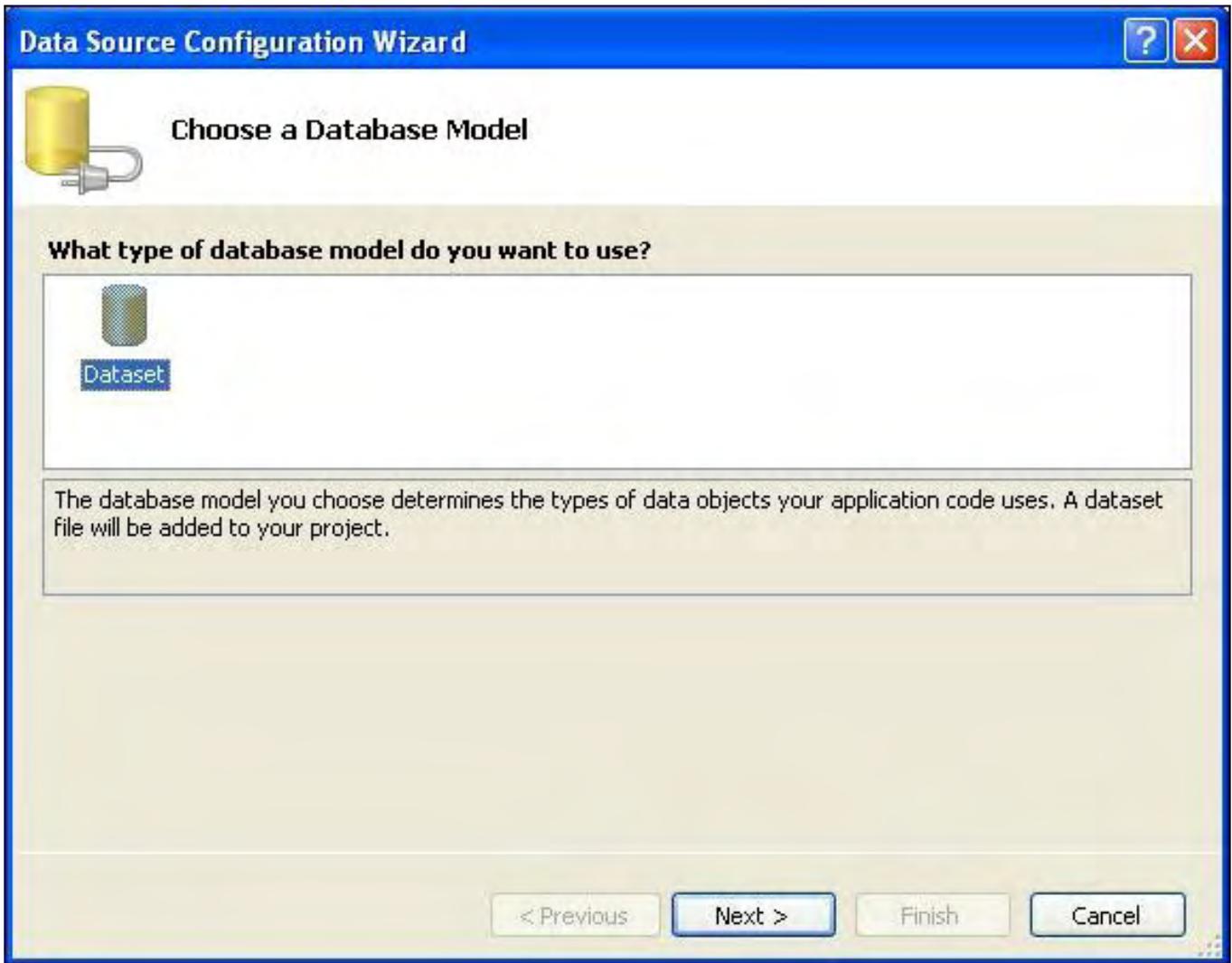
Figure 1. Adding a database to VB.

In this case, since we selected a file that VB recognizes as a database, we only have one choice; in other contexts, we may also have other options. So make sure "DataSet" is selected and click on the Next button, which presents you with the window seen in Figure 2.
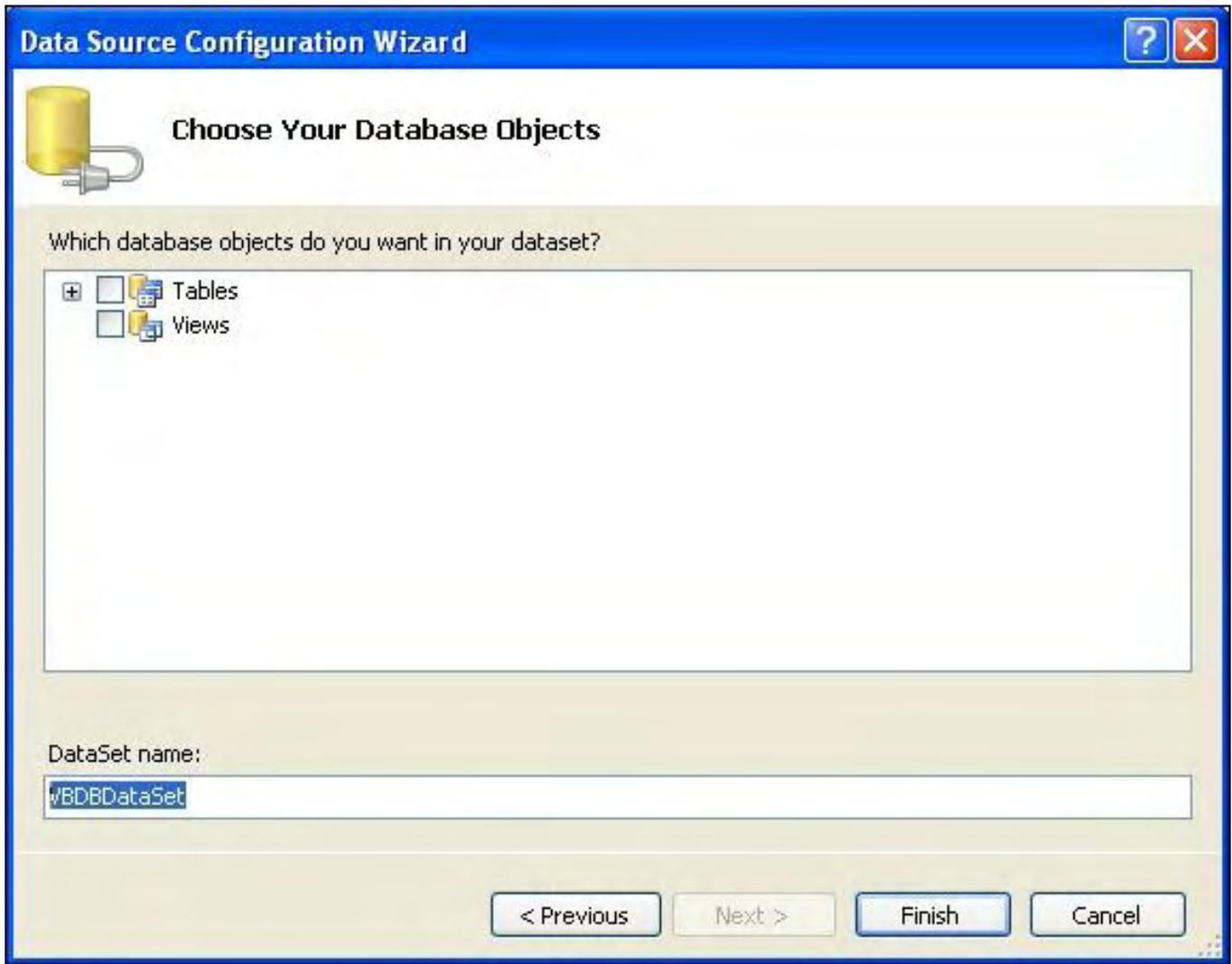
Figure 2. Picking a data set.

This is where we will tell VB about the data that we are trying to retrieve from the database. The "DataSet" is the set of fields that holds the data you want to use. Change the name in the bottom box to dsPerson, then open the "+" in the upper box so you can see the list of tables, then click on the checkbox next to tblPerson to select all fields from that table, as seen in Figure 3. You can also pick individual fields if desired, including those in different tables. In this case, since there is only one table, all checkboxes become selected.
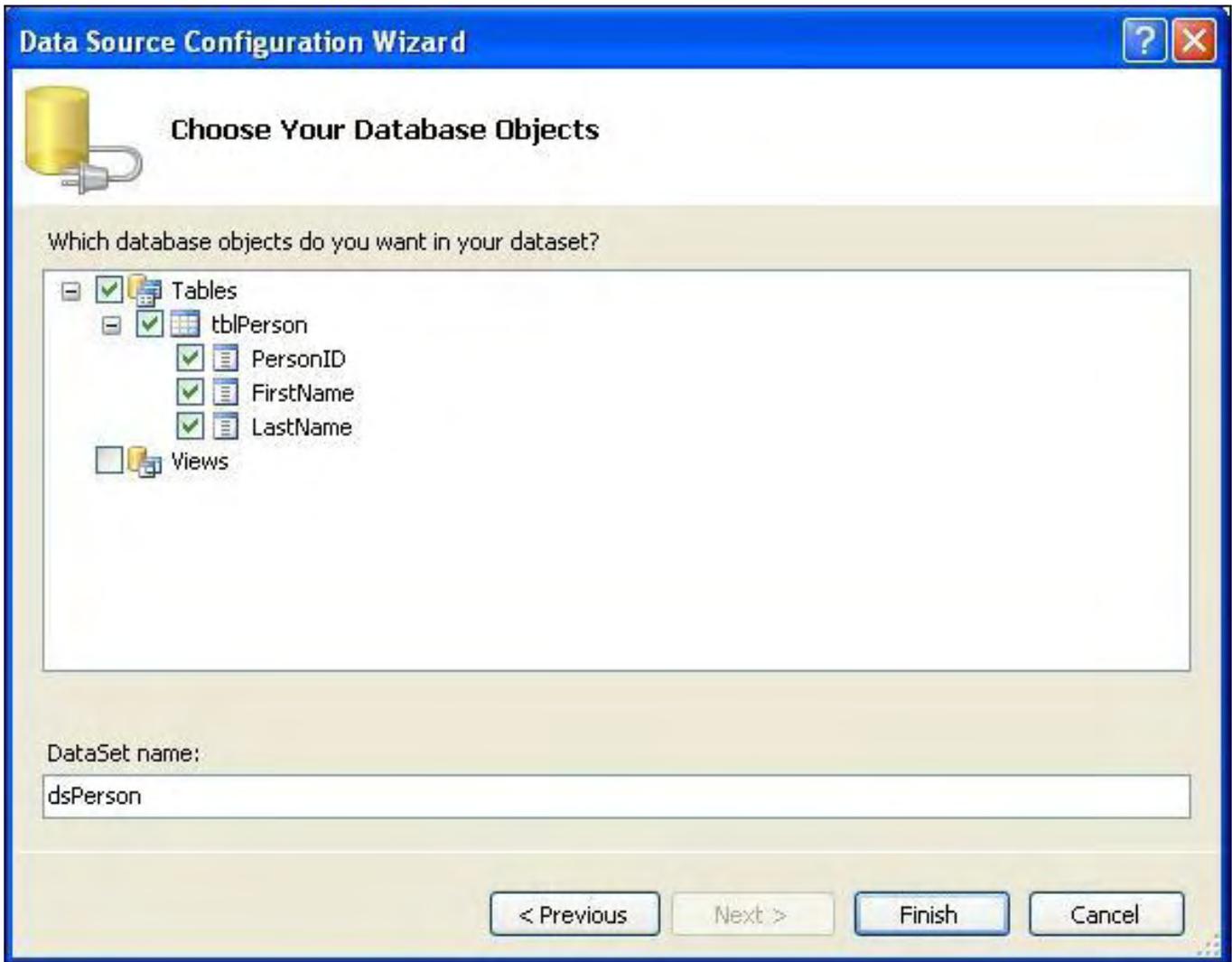
Figure 3. Identifying a data set name and fields.

When you click on the Finish button, VB collects some information from the database so that it can be used in the form. The Solution Explorer will now look something like Figure 4.


Figure 4. Solution with database.

Notice the addition of the VBDB.mdb database and something called dsPerson.xsd, which is a definition file for an .xml file (similar to .html).

Now, from the toolbox, select the DataGridView and drag it to the top left corner of your form. When you do

this, VB will add a grid and ask you if you'd like to connect it to a database, as seen in Figure 5.
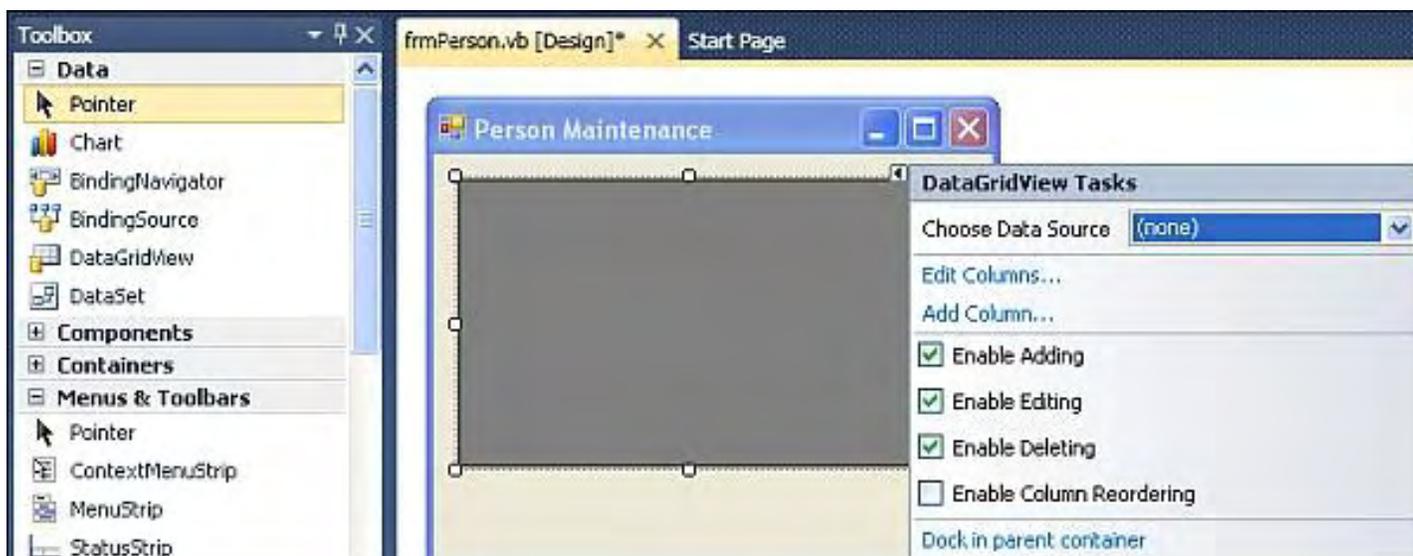

Figure 5. Adding a Data Grid to a Form.

Notice how there are also checkboxes to allow users of this grid to add, change (edit) and delete entries.

Let's go connect this to the dataset we created earlier. In the "Choose Data Source" dropdown list, open it and notice that you have the choice of "None" or "Other Data Sources." Expand "Other" by clicking on the little plus to its left. You'll see "Project Data Sources." Expand that and you'll see the dataset we added previously. Finally, expand that and you'll see the table we added, as seen in Figure 6.
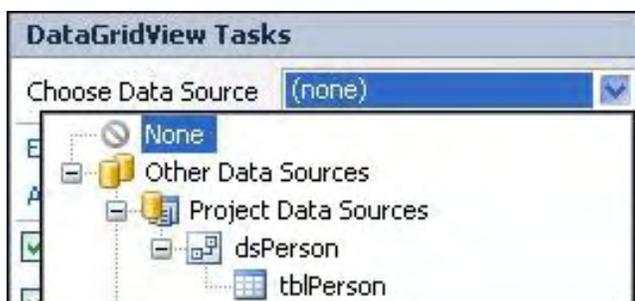

Figure 6. Connecting a data set to a Grid.

After selecting tblPerson (click on it), you'll see "TblPersonBindingSource" added to the previous dropdown list and to the controls tray below the form (along with something called TblPersonTableAdapter). The grid is now connected to the database, and you should see the fields from the table appearing in the grid.

Run the form (F5) and see how the grid tries to fill with the data from the table, if there is any. Since we didn't previously enter any, we only see default values as seen in Figure 7.

Figure 7. Run-time view of Data Grid.

Enter some data in the FirstName and LastName fields (but not PersonID, since that's an auto-number field), and close the form to return to Design view. At this point, we don't have code to save the changes, so they are lost. We'll explore that next time.

Meanwhile, notice the little button with an arrow in the top-right corner of the DataGridView. If you need to change settings, this is the button to click.

In the next column, we'll add the pieces necessary to make the form manage the data, including saving and retrieving it.

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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 *ComputorEdge* 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

Five Tips to Make Computers Kid-Safe—It's a wild, worldwide Web out there, especially for kids who aren't always aware where their information goes; Environmentalists and Consumer Groups Laud Dell's E-Waste Policy—Dell is prohibiting the export of toxic electronic waste to any developing country; On the Road with Joe—Joe Nuvolini's computer experiences on his annual trip to Italy; BenQ Joybee GP1 Mini LED Projector—A review of the palm-sized, pocket projector.

**Five Tips to Make Computers Kid-Safe**

The personal tech experts at BluePhone (*www.bluephone.com*) write in this week:

It's a wild, worldwide Web out there, especially for kids who aren't always aware where their information goes. It's important to know what steps you can take to protect your children, personal data, and computer hardware when surfing the Net.

Stories come out frequently about tweens and teens that place themselves in danger by revealing personal or sensitive information. They might accidentally tell the wrong person their name, what school they go to, their home address, or where they will be after school. They could also post that information into a public area like a social networking site where anyone could read it.

According to an April, 2007 Pew Internet & American Life Project report entitled Teens, Privacy & Online Social Networks, " . . . 32 percent of online teenagers and 43 percent of social-networking teens have been contacted online by complete strangers; while 31 percent of social-networking teens have "friends" on their social network profile who they have not met in person."

Here are five tips to consider to help get maximum value out of tech gear by eliminating the hassles, fears and runarounds by resolving problems with computers, peripherals and digital devices. Using these helpful tips, parents can help kids explore and get all of the information they need on the Internet, avoid the things that can be inappropriate or dangerous, and keep sensitive information safe at home:

1. Firewalls & Antivirus Software—Perhaps the most basic and universal rule, everyone should have current antivirus software running and make sure the firewall is enabled. This is as much of a protective measure for an adult user as it is for a kid. Viruses, spyware and malware lurk unseen anytime while browsing the Internet; if other safety measures present a weak spot, with a virus scan, an alert will be sent if there's been a breach of security. Popular providers include McAfee and Norton, but Windows does offer a built-in firewall that can be tailored for individual security needs.

2. Teach/Supervise—Consider having "Internet rules" posted at the family computer station. These could include reminders to never share personal information with a stranger online, lists of restricted sites, and

which search engines are parental approved, along with such practical items as time limits for using the computer, and "sharing guidelines" when another sibling wants to use the computer. These will create structure around the computer time, and lay out quality ground rules for safe computer use.

3. Internet filters—Internet filters block Web sites that have inappropriate content, or have been identified as inappropriate for young children and pre-teens. Internet filters have been around for a while, but they are much better than the overprotective filters of the past. There are many good options available for this type of software, and it will keep kids from mistyping Web addresses and clicking on bad links as well as neatly curb any planned mischief! Two well-known applications are Bsafe Online and NetNanny.

4. Block outgoing content—If there's a form to fill out, pictures to upload, a contest to win, or any number of other opportunities to share personal information, make sure it goes to the proper person. Some filters will even block outgoing content to ensure it gets sent to a "pre-approved" list or done with prior supervision only. To ensure that a computer can only receive content (and not send all over the world!), consider procuring software that will keep information "safe and secure at home." CyberPatrol, NetNanny, and iProtectYou all include the ability to block outgoing content.

5. Kid-Safe Search Engines—There are many search engines available that do not allow any lewd or adult content. With most of these options, every site that could show up has been screened for appropriateness (standard indexing that is done automatically could have some errant inclusions in its search results). There are many kid-safe search engines, such as Ask for Kids, KidsClick, and online encyclopedias like Encarta.

Many of these software programs and filters can be purchased at a local electronics store or purchased online, and some of the bigger providers like McAfee offer integrated safety and security packages. Additionally, the tech experts at BluePhone want us to pass along that they can ensure proper precautions have been taken, software is properly installed, and filters have been established.

## Environmentalists and Consumer Groups Laud Dell's E-Waste Policy

Environmentalists and consumer groups applauded Dell for its recent announcement of a policy that prohibits the export of toxic electronic waste to any developing country.

The Electronics TakeBack Coalition, which promotes responsible recycling and green design in the electronics industry, lauded Dell's e-waste policy as the highest standard in the industry.

"Dell's export policy sets the standard for others in the industry and should serve as the model for long overdue federal policy on e-waste export," said Barbara Kyle, Electronics TakeBack Coalition National Coordinator. "Unless a company has a strict program to prevent it, there is a high probability that their recycling vendors are exporting the e-waste they handle. Dell's policy goes beyond its competitors, some of whom are still exporting non-working products to developing countries."

Specifically Dell will not export (directly or via any vendors in its recycling downstream) any non-working electronic product from developed nations to developing nations for recycling, reuse, repair, or disposal. (The only exception is the export of products sent back to the original equipment manufacturers for warranty repairs).

"Even though U.S. laws don't restrict most exports, Dell has decided to go well beyond these inadequate regulations," said Jim Puckett, Executive Director of the Basel Action Network (BAN), a global watchdog group that has produced films and reports exposing the global e-waste dumping problem. "Dell deserves high marks for leading the way as a responsible corporate citizen with their new e-waste export policy."

An August 2008 report by the Government Accountability Office found that "a substantial amount ends up in countries such as China and India, where they are often handled and disposed of unsafely. These countries often lack the capacity to safely handle and dispose of used electronics if the units are not in reusable condition when received, and the countries' extremely low labor costs and the reported lack of effective environmental controls make unsafe recycling commonplace."

Many of these exports are sent labeled for reuse, supposedly to "bridge the digital divide." But a 2005 film and report by the Basel Action Network, Digital Dump: Exporting Reuse and Abuse to Africa, found that of the estimated 500 40-foot containers shipped to Lagos, Nigeria each month, as much as 75 percent of the imports are "junk" and are not economically repairable or marketable.

"We can easily fix this growing problem," said Barbara Kyle. "We urge Congress to pass legislation that slams the door on e-waste exports for recycling without loopholes allowing 'sham repair' exports. The Electronics TakeBack Coalition hopes Congress will craft an immediate legislative solution modeled on Dell's high standard."

More info at Electronics TakeBack Coalition (*www.electronicstakeback.com/problem/export_problem.htm*).

## On the Road with Joe

(Note: Dates in the parentheses refer to past *ComputorEdge* issues.)

Last year we published longtime *ComputorEdge* reviewer Joe Nuvolini's computer experiences on his annual trip to Italy. Let's see what's changed (and hasn't changed) this time around.

Well another trip to the land of my ancestors is history. There is quite a bit to report on. I used many of the things I have written about this year and in past years including my Acer Aspire One (04/24/09), Skype (07/04/08), my Ativa U3 flash drive applications (10/24/08), magicJack (04/10/09), and the USB-2-iGo Charging Cable (05/08/09). The last item was used to charge up my cell phone and bluetooth device.

To begin with, my flight from Denver to Atlanta had the airline's new wireless Internet service. Delta plans to have it in more than 300 aircraft this year through their relationship with Gogo Inflight Internet access. The first use is free, so I gave it a whirl. Normally it runs $12.95 for 24 hours.

E-mail and Web browsing worked fine. I streamed audio from some radio station Web sites. I had trouble with the audio when I tried Skype with magicJack connected. It worked fine when I unplugged the magicJack.

More information on Delta's Wi-Fi can be found at Delta's Web site (*www.delta.com/traveling_checkin/ inflight_services/products/wi-fi.jsp*).

Once in Atlanta, I bought a pass for Delta's Sky Club. They had free wireless there as well for members and guests. I used Skype and magicJack there.

During my one-night stay in Civita di Bagnoregio. I had no access to the Internet. While in Lucca, I was granted one free hour of wireless a day by the folks at the Ilaria Hotel.

Both Skype and magicJack worked fine on "Aspy," my Aspire One netbook. On a day trip to Florence, I used a cyber room. The cost was reasonable, about 1.5 euros for 30 minutes as I recall.

Cyber Room in Florence.

I found magicJack to work well on the cyber room computers, even when they were tightly secured. In Assisi there is a pub, the Cafe Duomo, which offers free Wi-Fi as long as you order something to eat or drink. This worked fine, but when their service went down after a couple of days, I was forced to use cyber rooms. They were a bit pricier—one running two euro for 15 minutes and three for 30. Another was about two euro for 30 minutes.

Without my netbook, I had to use my Ativa U3 drive to check my e-mail with Mozilla's Thunderbird and use a U3 FTP program to do some Web site maintenance. Once in Rome, the Alimandi Hotel had free Wi-Fi for their guests. They would issue a user name and password good for 24 hours for each day you were there.

I was going to see how many of the computers I used were still running XP, but I forgot to do so. However most had the feel of XP.

I had some problems with my Olympus C-5050Z camera I have been using for the last seven years. Apparently, a capacitor had failed and the camera would set to defaults whenever I changed the batteries. I was thinking of replacing it, but after looking at what is available, I think I will keep it and work around the problem. It has taken some exceptional pictures over the years and at least one award winner.

On trips, I will take my Canon PowerShot A590 (05/08/09) I bought earlier this year as a secondary camera. It has a small footprint and will be useful taking pictures in low-light conditions, as it has image stabilization.

That's about it for this year's Italian "food fest." Hope to do it again next year. More then!

## BenQ Joybee GP1 Mini LED Projector

The BenQ Joybee GP1Mini DLP LED projector (*www.benq.com/products/Projector/?product=1493*) is a palm-sized, pocket projector. And I mean palm-sized (see pic). If you're used to regular projectors, it might not at first seem possible to get good images out of a unit this small and light—just 1.4 pounds. But if you understand what it can—and can't—do, and you're likely to be in for a pleasant surprise.



Joybee GP1Mini DLP LED Projector.

The Joybee GP1 lets you plug in most personal media devices that have standard RCA or computer 15-pin D-sub connectors. Just find a blank wall or screen, and you're all set to watch downloaded movies, music videos, home video or personal photos, from 15 to 80 inches. I thought 80 inches was pushing it a bit in all but the darkest rooms. The unit also has a built-in USB reader so you can easily load up a thumb drive and take your show on the road without needing to connect a computer or DVD drive.

Joybee GP1Mini DLP LED Projector with thumb drive.

The Joybee GP1 displays 800 x 600 SVGA (4:3) native and has a contrast ratio of 2000:1 and 100 lumens of brightness and 16.7 million colors. An aspect ratio of 16:9 is user selectable.

The included cable includes standard RCA inputs for cable boxes and just about any other type of electronic device. Outputs include a stereo mini jack and a two-watt speaker that will get you by in a pinch. An Apple iPod dock is also available as an option. Connectivity also allows direct connection of a PC as well.

A nice feature on the underside is a standard tripod screw hole. This will really come in handy with a unit this small.

Another big plus: Do you worry about eventually having to replace your expensive conventional projector bulb? The GP1's LED bulb will last tens of thousands of hours. In other words, forget about it.

I like a lot of things about the GP1. It's just important to remember that this is not meant to compete with most large projectors. Its 100 lumen brightness rating seems puny in a world where entry-level conventional projectors burn at often 15 times that. That said, it's much brighter that the 100-lumen rating would suggest. Consider this a personal device for small group viewings, and you'll be OK.

The BenQ Joybee GP1 lists for about $750, but you can find one new for about $600.

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In addition to being an editor and columnist for *ComputorEdge* 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*.

**ComputorQuick Reviews**

**News and Reviews from Readers and Staff**

**ComputorQuick Tips**
**"Real men don't erase hard drives: They destroy them."** by ComputorEdge Staff

A reader offer his "quick-and-dirty" and "sure-and-secure" methods for destroying a hard drive. Also, a call for our readers' cloud-computing experiences.

**Disposing of Hard Drives**

As far as disposing of hard drives, I just drill a hole through the case in several places, and then take the destroyed drive to a e-recycle place.

Paul Schankin

Depending on what was on the hard drive, there are two methods I use:

1. The "quick and dirty."

2. The "sure and Secure."

*Method 1—Quick and Dirty*

Tools: Hammer or heavy, blunt object.
Safety Recommendations: Use safety glasses and a pair of sturdy gloves.

Instructions: Hold the hard drive in one hand with the green circuit board facing up. Take your hammer or blunt object in the other hand. With a fair amount of force, strike the circuit board with the hammer or blunt object until it breaks, using caution not to hit your fingers, as this will cause a great deal of pain.

Notes: Breaking the hard drive circuit board will render the hard drive completely useless. At this point, the only way to retrieve any data would be to take the drive into a professional data recovery center that has a clean room where they would remove the platters and attempt to retrieve data from the platters in a clean environment. This would be very expensive, and unless the hard drive had specific data that a would-be thief had foreknowledge about and would be willing to pay a high price to obtain, the likelihood that anyone would ever attempt to retrieve any data from a hard drive rendered useless in this way is extremely low.

Method 2—Sure and Secure

Tools: Screwdrivers, pliers and wire cutters

Safety Recommendations: Definitely use safety glasses and gloves. Keep children away from material.

Instructions: Using the screwdrivers and cutters, begin taking apart the hard drive. You will know that you have broken the seal of the drive when you hear a small "whoosh" as the vacuum seal breaks. Using the cutters, cut off the extremely sharp read/write heads. Use caution; this can cut your fingers. Using the pliers, screwdrivers, and cutters (or any other necessary tools), remove the platters from the device. Do not worry about damage, as this is the whole objective of what you are doing. Use extreme caution, however, as some platters are made of glass and can shatter, causing flying shards of glass and debris. Remember, this is not meant to be a user-serviceable device.

Notes: This is a more sure way of disposing of your data because once the platters are removed, they are now useless. Any amount of minuscule debris that lands on them renders them unusable. You can keep them as mementos or throw them away, but any data on them is now irretrievable.

Pete

<div align="center">*       *       *</div>

### *Next Week: Does anyone actually use Google Apps or other online programs?*

*Next week,* ComputorEdge *will be talking about Google Apps and other cloud computing software. If you use one of these program, tell us about it. Your comments will appear right here in ComputorQuick reviews. Send your thoughts to ComputorQuick Google Apps or other (*ceeditor@computoredge.com*).*

### We Want Your Opinions About Hardware, Software and Web Sites

Over the years, *ComputorEdge* has had great input from our readers. In particular, people have submitted short reviews of equipment, software and Web sites that they really like. In some cases readers have offered tips (such as avoiding flakes on Craigslist). ComputorQuick Reviews is our column dedicated to highlighting those things that you most like and want to recommend to others. The problem is that if this column doesn't appear, it becomes forgotten and less likely to receive input from you.

We have decided to include this feature in every issue as a reminder that this is your magazine—even if we don't have any new reader reviews. If you would like to see the type of reviews that we have run in the past, then check out ComputorQuick Reviews (*webserver.computoredge.com/sitemap.mvc? feature=Columns&columnedcode=persrev&column=ComputorQuick%20Reviews*) in the *ComputorEdge* Site Map. You will find that they are quite varied. We would like to see more. Consider this column a gentle prod saying that we would like to hear from you.

You can send us an e-mail at ComputorQuick Reviews Submissions (*ceeditor@computoredge.com*).

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*The purpose of this column is to give our readers an opportunity to express their opinions about products and services that they have found particularly useful. If you have had experience with hardware, software or a Web site that made you say, "This is really great! I want to tell everyone about it," then this is a good place to do it. While we do want to post warnings, we are not interested in slamming the obscure bad products, because there are too many of them. We would like to hear about those things that you would recommend to your best friend. The only caution is to please use proper capitalization (do not use all caps) and complete sentences. If it takes us too long to edit the piece, it may be a long time before it's published on this site.*

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ComputorEdge *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 "ComputorQuick Review", or yell at us, please e-mail us at* ceeditor@computoredge.com.

**Spam of the Week: Microsoft Outlook Update**

**"The latest in annoying and dangerous e-mail currently making the rounds."** by ComputorEdge Staff

A false Microsoft update e-mail is making the rounds. Don't fall for it!

It's back! Widely circulated last June, this phishing attack looks like a Microsoft update. It may have any of the following subject lines: "Update for Microsoft Outlook," "Install Update for Microsoft Outlook," or "Critical Update for Microsoft Outlook."

Within the e-mail will be found something similar to:

*"Update for Microsoft Outlook / Outlook Express (KB910721)*

*"Brief Description*

*"Microsoft has released an update for Microsoft Outlook / Outlook Express. This update is critical and provides you with the latest version of the Microsoft Outlook / Outlook Express and offers the highest level of security and stability."*

*The e-mail will look like the following graphic:*
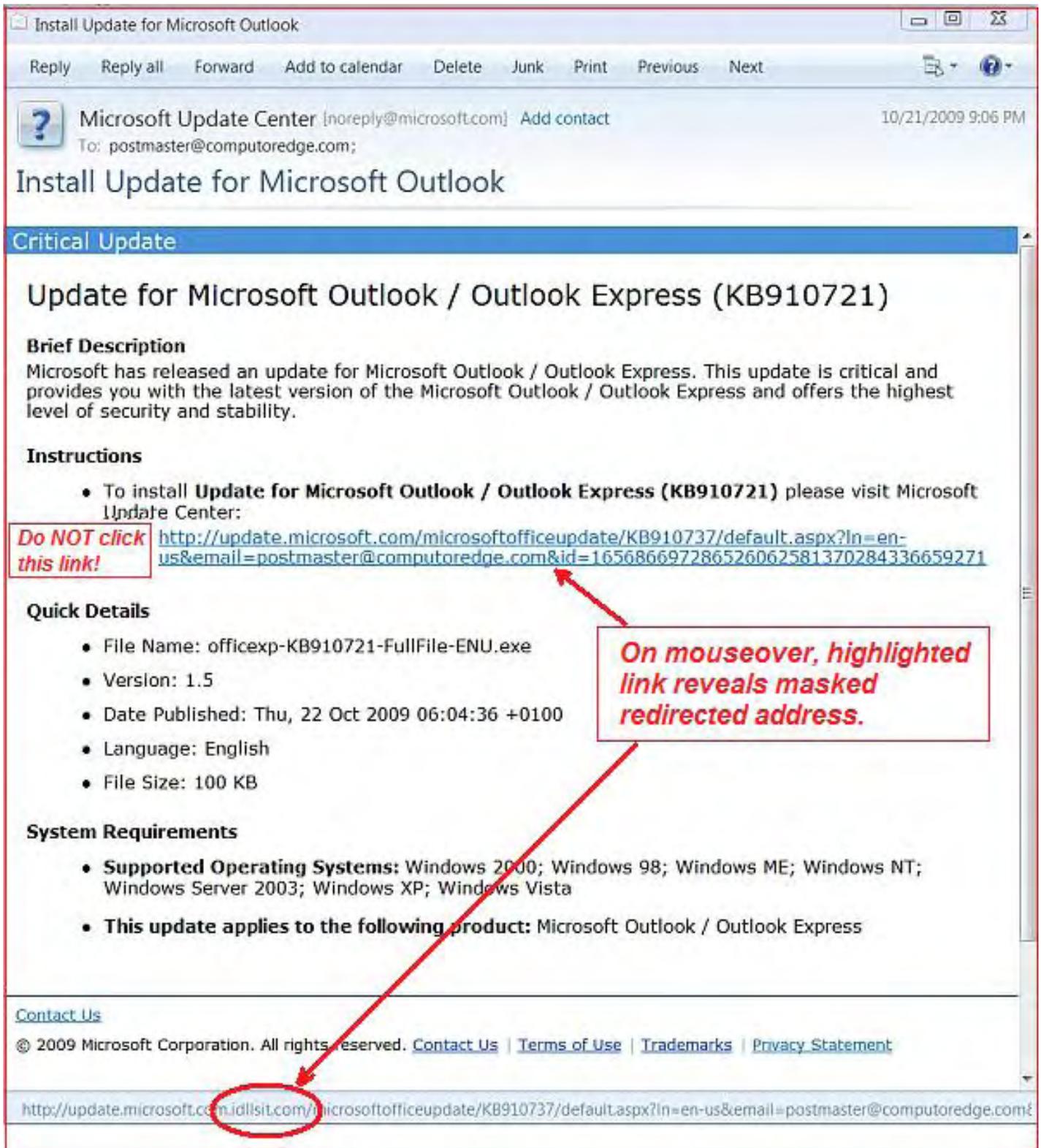
*"Update for Microsoft Outlook / Outlook Express (KB910721)" Spam*
*showing masked link that will download a Trojan horse to your computer.*

*If you get one of these false Microsoft e-mails (now or ever again), delete it! Do* not *download the file. The link will redirect you to the dangerous site. They are looking for your accounts and passwords.*

*They have released a ton of these e-mails this week.*

# EdgeWord: What Reformatting Really Means

**"Hard Drives, Reformatting and Data Recovery"** by Jack Dunning

There are a few things we should understand about drive reformatting, especially if we are replacing a hard drive or trying to recover from a hard drive crash.

*Since the invention of the hard drive, one of our constant fears is accidentally reformatting the drive. (Some of us may have done this once—20 years ago.) We know that reformatting will delete all of our files. Once this happens, although not impossible, it can be very difficult to get the files back. Therefore, we generally save reformatting a hard drive for new and subsequent installations of the operating system. There are a few things that we should understand about drive reformatting, especially if we are replacing a hard drive or trying to recover from a hard drive crash.*

*Many people think that reformatting a hard drive actually deletes all the data on the drive. While it is true that after reformatting you will no longer be able to call up the previous files within Windows, the surface of the hard drive has not been cleared of all the data. The reason for this is to save time. The actual process of writing zeros to an entire drive is quite time-consuming—especially in these days of 300- to 500-gig drives. It is much quicker to merely reformat the drive than to erase it.*

*When disposing of old hard drives, many people will merely reformat the drive before recycling it, thinking that the data has been removed. The data has not been removed, but it has been hidden from the operating system. If the drive is attached to another computer, nothing will appear to the average user. However, people with data-recovery tools could conceivably read the previously stored files.*

*If there is no sensitive data stored on your hard drive, then there is little risk of crucial data being compromised, even if it's uncovered. Part of the decision on how far you should go in cleaning and/or destroying hard drives depends upon the potential risk if the data happens to fall into other people's hands. If you're concerned, then adding the physical destruction of the drive suggested in this week's ComputorQuick Tips is a good step. Most scoundrels who mine for valuable data on old drives are not going to bother with a hard drive that won't operate due to being smashed to pieces.*

*If you want to recycle your drives for further use by others (charities), then running drive-scrubbing software is the best alternative. If you merely reformat before allowing someone else to use the drive, then it's a roll of the dice. Over time, if you know the drive is in a safe environment (one of your kids is using it), then the risk will continue to drop. Once attached to another computer, the more the drive is used by the third party, the less likely that any of your data will be recoverable. (As new files and programs are written, your old data will actually be overwritten.)*

### The Hard Disk Crash

*One of the most common computer failures is the hard drive crash. This usually occurs when physical sectors on the drive fail in the operating system area of the drive. Since that portion of the OS can no longer be read, the system fails with an unrecoverable error. Most operating systems will have tools for recovery, but often this type of failure requires reformatting the drive and reinstalling the system.*

*At this point many people assume that the hard drive is no longer useful, and there are many merchants who are all too willing to help you buy a new drive. Sometimes a hard drive may be tossed assuming—since it crashed—that it is no good to anyone. Even if you get a new drive, don't allow the old drive out of your hands. It could be that the drive is beyond recovery, but more likely it just needs a little work before it will be almost as good as new. It is also very likely that all of the data on the drive can be read almost immediately.*

*The first step is to retrieve crucial data from the old drive. (If you've been doing automatic backups to other media—such as an external drive—then you won't need to worry about this recovery.) The easiest way to recover your data is to get a "USB 2.0-to-IDE/SATA Converter Cable" discussed in the December 19, 2008 Edgeword column. When you plug in the drive to another computer with this cable, the operating system (and associated problem on the drive) is bypassed. You will be able to either copy files to new media or determine that there is another more serious problem with the drive. Once you have copies of your data files, you are ready to renew the drive.*

*In Windows when you do a clean install, you are asked if you want to do a "Quick" or full format of the partition. The "Quick" format only resets all of the directory structures on the drive while deleting the filenames from the directory. The full (or regular) format does the same, but adds a process that checks every sector of the drive for errors. (This takes considerably longer to complete than the "Quick" format.) As physical errors are encountered, the sectors are marked as bad. That way those damaged sectors will not be used when the operating system, programs and files are added to the drive. (This sector scanning can also be done by running chkdsk from the command prompt using the /r parameter. Chkdsk can be run anytime after the OS is installed.)*

*If you are able to do a regular format and reinstall the operating system, then you could get many more years of use out of the hard drive. However, if more errors keep cropping up, you may want to consider replacing the drive completely. Then one of the safest things to do with the old drive is to put it in a box in your desk—at least until you have time to reformat it, scrub it, smash it, and recycle it. I have a whole box of old hard drives in the garage awaiting their fate.*

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*Jack is the publisher of* ComputorEdge *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. *He can be reached at* 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 ComputorEdge Staff

"Visual Basic 10 Tutorial," "Timely Info on Digital Cameras," "XP-Only Applications," "Wally's Computer Loss"

## Visual Basic 10 Tutorial

[Regarding the October 9 Rob, The ComputorTutor Does VB.Net 2010 column:]

Rob needs more column space so he can teach more in each lesson. The lessons are great. They just don't cover enough.

-Arch Hughes, San Diego, CA

## Timely Info on Digital Cameras

[Regarding Pete Choppin's October 9 article, "Digital Cameras: Where to Start":]

Your article is very timely. I have been researching digital cameras until I have paralyzed myself into not clicking on the "proceed to shopping cart" to make the purchase. Consumer Reports thinks Canon is the huckleberry, but Nikon has been recommended too—hence my dilemma.

Here is where I am at:

• Canon EOS Rebel XSi 12.20 MP
• Nikon D5000
• Nikon D3000

Also interested in the Canon SX1i (point and shoot).

I want to purchase a zoom lens—Canon EF-S-55-250mm. I'm not sure what Nikon offers in a zoom lens; I couldn't find any data. If you know of a Nikon zoom lens, please let me know.

I think newegg.com has the best prices and does not charge tax. I checked Amazon.com too, but I think they charge tax and shipping. Plus, if you don't click on the right hyperlink you could get a camera from who knows where. I have also checked with local camera shops in Dallas, and their prices are higher than newegg.com.

The reason I want to get into photography is because I recently rescued three dogs (momma and her pups) and want to capture how they "live in the moment." With any luck I will put together a calendar to raise money for the Dallas Animal Shelter.

Please let me know your thoughts. Your guidance is much appreciated.

*Thanks,*

*-Kathee, Dallas*

Kathee,

Thank you for your kind words. Here are my thoughts.

I looked at all three of your choices at DigitalCameraReview.com (*www.digitalcamerareview.com*) and according to what they say, they are pretty much in agreement with what you have found at Consumer Reports. Of the three, their choice would be the Canon.

However, I would personally not go with the Canon, and here's why. I prefer Nikon because they have been the camera of choice for serious photographers for many years—long before digital cameras came on the scene. Nikon is a leader in all areas of photography, including image quality, equipment and technology. Anyone I have talked with, from the amateur to the professional, has recommended—hands down—that Nikon is the best choice in photography.

Now this is purely a personal choice and not based on any side-by-side comparison of camera models or specs. I highly recommend that you actually go to a store and take a look at these models. Try the Canon and the Nikon. See which you like the best. After all, you are the best judge. No salesman, Web site, or consumer review will be better at determining what your own personal choice is than you.

As far as the difference between the two Nikons, the D3000 appears to be slightly more of an entry-level camera to me. In fact, the review on DigitalCameraReview.com uses the term "beginner-friendly." This may have some good points or bad, depending on your prowess as a photographer.

I hope this helps. Good luck in your endeavors as a photographer.

*-i#Pete Choppin#*

## XP-Only Applications

*[Regarding the October 9 Digital Dave column:]*

*Another possibility is to install XP in a virtual machine running under Vista. On the new Win 7, that capability is built-in, but there are other solutions available for Vista.*

*-Ray Gill, San Diego, CA*

[The XP compatibility mode is not available in the Home Premium version of Win 7, but is included in Professional. —Editor]

## Wally's Computer Loss

*[Regarding the October 2 Who Stole Wally Wang's Apple Farm? column:]*

*As usual Wally is right on! Always smart, funny and informative. This article will help thousands (if people pay attention).*

*-Ramona, Escondido, CA*