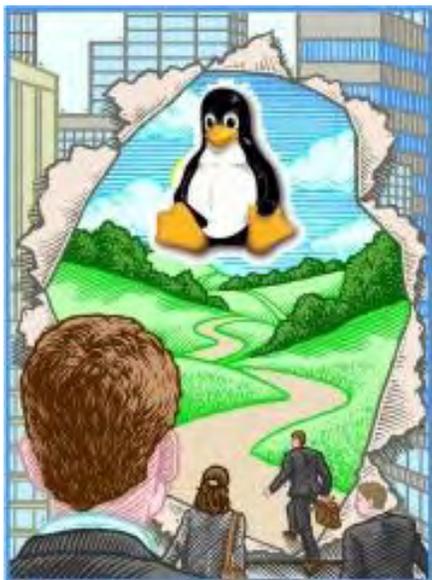# *ComputorEdge™ Online — 06/12/09*

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Living in the World of Linux

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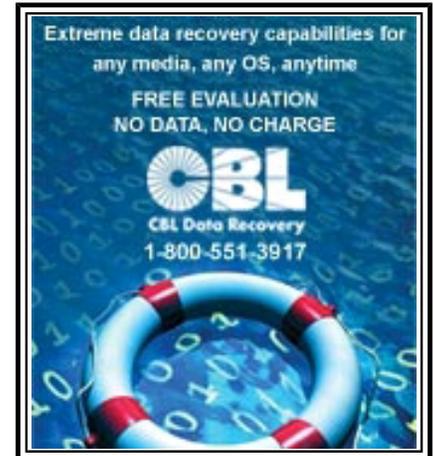
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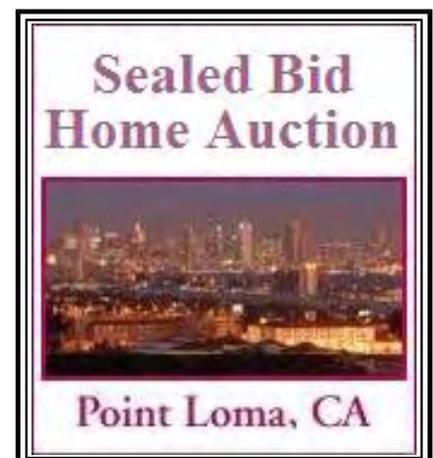ComputorEdge Magazine, P.O. Box 83086, San Diego, CA 92138. (858) 573-0315

Digital Dave

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

Dave delves deeper into the recurring question of 32-bit vs. 64-bit computing, with a little history, a look at some myths, and how to make the best decision for you.

A Closer Look at 32-bit Versus 64-bit

A recurring question is "32-bit or 64-bit?" I addressed the issue last week, but feel that I should have offered a more complete discussion. As I stated last week, for the vast majority of computer buyers, there is no reason not to move to a 64-bit system. However, there are specific situations where it may be better to stick with a 32-bit system.

In the 1980s, the Intel 80386 was one of the first 32-bit processors developed. (In later years, the 80386 evolved into the 80486 and the Pentium series of CPUs.) In the years since, 32-bit systems became the standard. (Prior to 32-bit, it was 16-bit, and 8-bit before that.) The major advantage to the 32-bit system was breaking the old memory limits with up to four gigabytes of directly addressable memory. At the time, four gigabytes seemed like an astronomical amount of memory—16 megabytes had been considered plenty of memory.

As memory improved and dropped in price, computers started to approach that four-gig memory limit. Looking like the next logical step, 64-bit processors were introduced in the early 90s.

By that time, most programs were being compiled as 32-bit software to run on the 32-bit machines—as remains the case today. For compatibility reasons, the 64-bit processors were built to run both 32-bit software and 64-bit software. However, to be a 64-bit computer, the operating system must also support 64-bit computing, which was not the case in the early days. Therefore, since most people were using a 32-bit operating system, they didn't even know that they had a 64-bit processor in their system.

Eventually, the 32-bit processors were phased out, although most computers were still regarded as 32-bit—based upon the operating system. Today's new CPUs will operate with either 32-bit or 64-bit operating systems. You will find 32-bit (or less) only CPUs on older machines.

The determination of a 32-bit or 64-bit system is based upon more than just the processor. The motherboard, the operating system version (as mentioned above), and the chosen application software are all part of the system. Today's new CPUs are 64-bit processors that can run 32-bit software in a 32-bit mode.

The motherboards are designed to match a processor; therefore they are not the issue when choosing a 32-bit or a 64-bit operating system. However, depending upon the motherboard, there may be physical limitations associated with both memory type (DDR2 or DDR3) and capacity that could affect the long-term expandability of the system as a 64-bit machine. If the motherboard, depending upon the type of memory and number of slots, will support only eight gigs of addressable memory, then you will not be able to expand beyond that memory limit.

Although there are processing advantages for specific types of special applications, the major gain with 64-bit computing is the amount of addressable memory. As I mentioned before, 32-bit computing is limited to four gigs of addressable memory. With a 64-bit system, you get a theoretical limit of 16 exabytes, or 17.2 billion gigabytes. That's a lot of memory.

However, physical restraints of the processors and motherboards, plus the operating software limitations, keep the actual possible installed memory much lower. (Windows 7 limits memory to 192 gigs in the most expensive 64-bit versions. You'll see that only if you spring for a $1,000-plus server motherboard that also supports multiple CPUs.) When running 32-bit software, the memory limit will remain at four gigs.

Since the CPU and motherboard must be matched (ergo 64-bit), the primary question of determination for 32-bit versus 64-bit is the operating system. In the case of Windows, this is one of the choices you make when building your own system. Which way you go is dependent upon how you need to use the computer.

One year ago, I would have told you to avoid 64-bit systems until you know that all your software and devices will work with them. Although this is still an issue for some software, most of the major programs (and hardware devices) have resolved their 64-bit issues. Most 32-bit programs will run on 64-bit systems.

There are a few myths about 64-bit computing. The first myth is that 64-bit means better. A 64-bit program will not necessarily run faster (or better) than a 32-bit version on the same system. In fact, it could be slower, although you may not notice the difference. When addressing the greater amount of memory in 64-bit computing, there is more overhead to track. This creates more bloat than will be found in 32-bit software, thus slowing things down.

The second myth is true 64-bit addressing by the processor. The 64-bit processors do not actually address 64-bits. For physical reasons, most CPUs are limited to 48-bits of the addresses. Although, this is not much of a limitation, since the motherboards and operating systems support far less than can be supported by the 48-bits.

The third myth is that users will experience a leap in performance from 64-bit systems. People think their applications are going to see some great advantage from 64-bit systems, and it's generally not the case, since most of the apps are still 32-bit. The increase in speed and power in today's systems is based upon the new, faster dual-core and quad-core processors that pack multiple CPUs into one chip.

These limitations have led many people to think that there will be no benefit to 64-bit systems, especially when there are only four gigs of memory installed in the computer. In many cases, there may not be an advantage, but if you're working with large databases, must manipulate files in the multiple gigabyte range, do extensive multitasking, or are running 64-bit mathematical or encryption programs, then you may find significant improvements. Real-time video editing and other memory-intensive applications may also benefit from 64-bit systems even if running a 32-bit application.

The 64-bit operating systems do a better job of handling memory, even with only four gigs of memory. In 32-bit operating systems that set aside memory addresses for devices and drivers, the available memory is reduced to less than the four gigs. This has been effectively eliminated as a problem with 64-bit operating systems.

When you make a 32-bit versus 64-bit decision, you are making an operating system decision. The primary reason for sticking with 32-bit operating systems is legacy software or hardware. (That's a fancy way of saying old software and hardware.) You may have some applications that are crucial to your work, yet they will not run in a 64-bit environment due to compatibility or driver issues. It may be cost-prohibitive to rewrite the software—or it may just not be available. (This is not uncommon in scientific and technical organizations.) In these circumstances, you need to make a point of staying with the 32-bit systems.

It is true that the vast majority of today's software will not take advantage of 64-bit computing because it runs in the 32-bit environment—which is more efficient. Yet, the majority of that software will run without a problem on a 64-bit machine. It will probably be decades before 32-bit is relegated to the past, as is now the case for 16-bit and 8-bit (with the exception of special applications).

The primary reason for going to 64-bit systems is more memory (RAM). Today, the applications that truly take advantage of 64-bit are limited and not likely to be used by the average person. Big, memory-intensive applications and servers will be the greatest beneficiaries. In spite of all this, unless you have a compelling reason to stick with 32-bit systems, I see no reason to avoid a 64-bit computer system.

Digital Dave

Linux: The Good, the Bad, and the Confusing

"For many people, Linux is an enigma." by Jack Dunning

> In spite of the fact that Linux is considered technically superior, more reliable software, it has remained an alternative to Windows—although an important alternative. How do you know if it's right for you?

Linux and the other Unix-like operating systems, such as FreeBSD, are an integral part of the world of computing. For many people, Linux is an enigma. They've heard the name and know that it's free, but they have never taken the steps toward using one of the many flavors of the open-source software. For many years, fans of Linux have predicted that it would eventually displace Microsoft Windows as the operating system of choice—it is certainly *their* choice. However, in spite of the fact that Linux is considered technically superior, more reliable software, it has remained an alternative to Windows—although an important alternative.

"Now that I'm a Linux user, my Windows friends just don't understand me anymore."

In the past few months, we solicited input from *ComputorEdge* readers about their Linux uses, thoughts and opinions. The object was to put the arguments into perspective and help the uninitiated to determine if Linux could be right for them. Cliff, David, Ed, Joe, John, Julio, Mac, Ted and Sol responded with their perspectives. A couple of people in the group seem to have extensive experience with Linux, while others are still sitting on the fringes. Three people are currently using Ubuntu, while the others either didn't mention their flavor or may have been using a couple of different

"Now that I'm a Linux user, my Windows friends just don't understand me anymore."

distributions. I've integrated their thoughts and added in my own opinions, reflecting my experience with both Linux and FreeBSD.

It was fairly easy to break out the perceived advantages and disadvantages of Linux. You may either agree or take exception, but in either case we would like to hear your comments.

Advantages of Linux

Linux is a lightweight operating system without all of the bloat found in Windows software—especially Windows Vista. That means it can be loaded on older computers that won't take software as fat as Windows Vista.

Sol says, "On my tiny 'fit-PC' (AMD Geode 500MHz, 256MB RAM, 60GB HDD), I run Gentoo Linux. Given the lowly specs, I needed something without all the bells and whistles. Linux is great if you have a less powerful system. It's even better on anything that came out in the last couple of years, but it really shines when you have computers that were not meant to run today's heavyweight OSes."

Plus, Linux loads much faster than other operating systems. Ted stated, "Windows takes so long starting. For example, it takes Ubuntu 1.75 minutes to be up and running well." Many older computers are continuing to give good service to owners who have installed Linux.

Linux Is Free

The fact that Linux is open source has always been a major attraction of the operating system. Any computer can be made functional without paying money (or homage) to Microsoft—the major target of scorn for many Linux users. Although, price (free) is considered a major factor in the popularity of Linux, it was not emphasized by our readers. In fact, many of them were still using Windows for certain applications—which they would have been forced to buy at some point.

Most of the numerous Linux application software is also free—which in many cases could save hundreds of dollars. Of particular note was the OpenOffice suite. Ed says he runs "all sorts of programs under Ubuntu, including the regular office programs (usually under OpenOffice), e-mail programs (Thunderbird) and big number crunchers such as Mathematica." As Julio remarks, "There are a lot of very good programs out there for Linux that will fulfill most any kind of need."

Sol is making the most of his "fit-PC." "It's my fileserver, e-mail server, Web server, BitTorrent, proxy server, OpenVPN server, and firewall/router for the rest of the computers at home." Sol is making maximum use of his little computer, plus all of the software is free.

Julio offers his appreciation with "*Thanks* to all the Linux community for such a great operating system at such a wonderful price: *Free!*"

Linux Is Reliable

Linux computers, discounting hardware problems, have the reputation of running for years without crashing. Their stability is well known, which has made them ideal for applications that require continuous operation of computers, such as Web servers and e-mail servers.

Sol offers this fact about his Linux computer: "The system is always on and hasn't crashed yet. The only time I shut down the system is when I feel like upgrading the kernel."

Ed states, "I think Ubuntu works much better than Windows."

Computer Virus Problems Are Rare

While it's theoretically possible for any computer to be infected with malware, Linux systems seem to be virtually immune to problems. I don't know whether most people who write viruses prefer to attack Microsoft or if Linux is more bulletproof. I suspect that it's a little of both.

Julio says, "I found that [Linux] is safer than Windows, at least for now, and yet, you can use antivirus protection that you can install on it for free as well. So, even if there are some viruses out there trying to bug Ubuntu, you can get protection."

With all of the advantages of Linux, why wouldn't everyone want to install it? The discussion of disadvantages is a little more complex, involving the psychological makeup of the individual user.

Disadvantages of Linux

There is a learning curve for Linux. While people who came from the world of Unix, or even MS-DOS, may be comfortable with Linux, there always seems to be a bit of an adjustment. A number of years ago, I realized that I needed to learn about FreeBSD to run and support the *ComputorEdge* Web and e-mail servers. I was a regular with MS-DOS and had worked with an older Red Hat Linux server, but I was still intimidated by the fog of a different way of working. Even with a few books and all the online resources available, it took me a few weeks before I started to become comfortable. This is not an unusual problem.

Julio notes, "I started using Linux about eight years ago; at that time, it was a little troublesome to get my computer running smooth. The first problem was to get the system installed. Then, sometimes after an update, my display was somehow changed and I was unable to fix it myself. Fortunately, most of the time, it took another update to get fixed. Plus, ignorance of the operating system's inner workings gave me a bit of a bad time. I must state with some pride, however, that nowadays I'm using Ubuntu Linux and find it to be the easiest system to install. It provides an extremely wide range of hardware support."

John has "been 'lurking' on the fringes of Linux for more than 15 years, but "every time I start to try to make use of one or another variation of Linux, I find myself back in the MS-DOS days of command lines with the need to know, definitely, how to structure the commands to work right the first time." John is quite comfortable with Windows and "had some glancing acquaintance with Unix in my early days of technical support and technical sales, but never had the actual need to be fully capable." He continues, "I have looked at several Linux releases, but always find myself intimidated by the shadow of Unix. Finding drivers (more properly the right driver) and knowing when to compile and how to properly implement the process has always been in my way."

John gets agreement from David. "I have been playing with Linux for over 10 years, but I still get lost. I don't consider Linux to be 'user friendly,' but neither is Windows all of the time (at least not to me)."

Talking about his Eee PC that came with Linux installed, Bob adds, "To me, Linux is not user friendly to the casual computer user, even though the machine was touted as so easy to use, and they sold lots of them. I know now why so many people have installed XP on these machines. Taking some of the mumbo-jumbo

out of the Linux operating system would be beneficial to the casual user."

As John noted above, the command-line prompt often becomes an important part of dealing with Linux. While there are a number of user-friendly interfaces, when new software needs to be installed or there are other issues to deal with, knowledge of the command line is required. Regular Linux users are accustomed to bypassing a "user-friendly" interface and working directly with the system.

Mac "bought an Eee PC with a Linux operating system a couple of years ago. I am not Linux savvy and just want to be able to use it without tinkering under the hood."

On the upside, Julio says, "I had some hard times at the start, but now, even my wife—who barely knows how to turn on the computer—will move in it with little effort, if any."

Cliff disagrees that Linux is difficult to learn. "Anyone, with no computer experience, can jump right into using Linux. Someone who already knows how to use a Windows or Mac computer must have the desire to relearn everything they know about computers on the new platform. Granted, there are similarities between the three, but there are some fundamental differences as well."

I agree that new Linux users "must have the desire." However, I've worked with far too many people on computers to believe that "anyone" can jump right in. Not everyone's mind functions in the same manner. What makes perfect sense to many people is clear as mud to others. I'm in total agreement when Cliff says, "The number-one skill that a Linux newbie (or Windows newbie or Mac newbie) can possess is patience, and an unlimited hunger for learning their new platform."

As Sol points out, resistance to change is a major problem for Linux making further inroads into the Windows user base. "Recently, I was rather surprised when I learned that most people around me haven't installed any OSes in their entire lives, even though they use computers to get their work done all day. When they get a new computer, they just use whatever is already preloaded. They rolled their eyes when I told them they can boot from an Ubuntu CD and can try it out without touching anything in their precious laptops. If the computer people are like this, I don't have to think very hard about what the rest of the population would be like."

Hard to Find and Install Software and Device Drivers

When it comes to software and device drivers, Linux is not plug-and-play. Mac states, "My gripe with Linux is that getting downloaded updates and programs to work is almost impossible for me. I update these programs, and then, when I attempt to run them, it almost always fails."

Some of the greatest difficulties are associated with lack of support for hardware. Julio notes, "[Linux] still needs some better printer support (especially for more recent models). The display drivers sometimes don't let you use the full capabilities of video hardware. My advice: If you plan to add some new hardware, try to find out what is compatible with Linux before buying it." Julio goes on, "Very few hardware vendors will bother to make or provide drivers to be used in Linux."

Joe, who has encountered these issues while using Linux for more than 12 months now, says, "I believe that when OEMs commence to enable one to purchase [any] hardware that can be 'plug-n-play,' then I believe that Linux will really come of age."

John is being held back by these same concerns. "I have looked at several Linux releases, but always find

myself intimidated by the shadow of Unix. Finding drivers (more properly the *right driver*), knowing when to compile, and how to properly implement the process has always been in my way."

Finding Support Can be Complicated

Although there are numerous Linux forums and user groups, finding answers for a specific flavor of Linux can be difficult. There is no *one* place to go. Since most distributions of Linux are non-commercial, there is no unique group that has a vested interest in promoting and supporting their favorite version of Linux. There are many people who freely help others, but they are not always available.

Linux offers almost all of the same type of apps that you will find with a commercial operating system. However, even if you buy a computer, such as the Eee PC, with Linux preinstalled, you are not necessarily out of the woods. As Mac points out, many people have installed Windows XP over the original Linux installation.

Not Free of a Need for Windows

Most of the readers who responded still kept Windows available for specific applications. They either ran one operating system (either Linux or Windows) as a virtual machine or installed it on a separate partition of their hard drive.

Ed has two Linux computers. "On my desktop I also use VMware for the rare occasions when I need to operate a Windows program. On my laptop, due to more limited computing power, I use a dual boot of XP when I have to run a Windows program."

Sol offered this as an example: "I recently built a new budget system with an Athlon X2, intending to go 64-bit Linux all the way. I still needed Windows, so I was fully prepared to take advantage of VirtualBox. I carefully investigated all the things I needed to consider beforehand to minimize any impact when I finally switched over. To a certain degree, it worked as planned. But I found myself spending more time with Windows as a VirtualBox client than the Linux host. I needed Windows apps that didn't have an equivalent in Linux, some of the devices worked with Windows only, and the files that I needed to work with were Windows specific. I ended up switching back and now use Windows as a host and Linux as a VirtualBox client."

Is Linux Right for You?

Based upon the input from our readers here and my experience, there are a number of issues that should be considered before taking the plunge into Linux. The first is motivation.

Have the Right Motivation

Cliff says, "Linux should *always* be the first choice. Linux does things every bit as good as any of its competitors. The only thing that should stop a Linux system from being used is if your company or customers require interfacing to a non-Linux system. This is rare, because many applications on Linux platforms can convert to and from Windows files."

For many applications, I would certainly agree with Cliff. With Web server, e-mail servers and servers in general, Linux or a Unix-like OS is the only choice I would make. Linux computers are stable, reliable systems that are not bloated with the unneeded add-ons that come with an operating system like Windows. However, if there are applications that you need to run that are available only in Windows, it may not be

personally worth the savings or new learning curve for you to get involved with Linux.

You need to have a Linux motivation strong enough to keep you going until you reach the point where you're comfortable with the environment. Whether your drive is caused by economics, getting the right applications, or a desire to learn, it must be powerful enough to keep you going in the foggy times. Once you're comfortable with Linux, it is remarkably easy.

This is the major reason why Linux, while it has a firm grasp on its portion of the computer market, will never displace Microsoft. The Linux aficionados are comfortable with the command prompt. In fact, they prefer it to those GUIs. The command prompt gives a sense of control and access that can never be found in a "user-friendly" Windows-like environment. However, the average computer user does not have the motivation to go over any extra hurdles when computing. If the process is more complicated than a point-and-click, then forget it.

A Linux Aptitude

There is no doubt in my mind that some people have a natural aptitude for computers. They are the ones who make it easier for everyone else to use their computers. Linux is an operating system for the naturals—and that is who composes the majority of Linux users. If non-naturals are using Linux, it is usually because a natural has set up the Linux system for them.

Setting up computers for non-naturals is what the commercial computer companies attempt to do for their users. They try to make their operating system so easy to use that anyone can do it. This motivation does not exist in the Linux community. Linux means quality and reliability. Bells and whistles (graphical user interfaces) are low priority.

The only way to find out if you're a natural with computers is to give something like Linux a try. You may feel like a fish out of water for a while, but if it starts clicking for you, then you know that you have that Linux aptitude.

Persistence

As with some other elements of life, persistence is key to Linux success. If at first it doesn't install—install, install again.

Willingness to Change

If you grew up with Windows or the Mac, then the command prompt is a different way of doing business. You need to hold a map of the file structure in your head while you navigate the system, entering commands at the prompt. If you've worked in the old MS-DOS environment, then it will be familiar. When people are looking for solutions in Linux, invariably the answer comes from the command prompt. You need to put away your point-and-click and learn to type.

The Future of Linux

Look to the past and you will see the future. Linux will not overwhelm the consumer market because that is not its purpose. It has a very strong hold on that portion of the market that is driven by reliability and continuous operation. Linux and Unix-like operating systems are the choice for those areas that require continuous capability without wasted bloat.

The place for Linux in the market is secure because of the many people throughout the world dedicated to improving it. Linux keeps the pressure on all other commercial operating systems. Linux is also a symbol. For Sol, "Linux is about freedom and choice."

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*

Hubris and the Linux Installation

"With Linux, don't ever think, 'How hard can that be?'" by Dawn Clement

> A Linux article deadline turns into a personal quest for a working Linux machine, after a series of bad choices and a little hubris.

The first computer I ever touched was a Tandy, and I learned to program in BASIC. Obviously, this was a very long time ago—1979 to be specific. At the time, I thought the whole thing was kind of boring (I was just a kid after all!).

My next encounter with computers was in 1982 when I began using an Apple at school. The Apple had a GUI (graphical user interface) and was much easier to use. However, back then, there weren't many programs available for use with an Apple, and I quickly grew bored again. When I got to college I discovered PCs, the Internet and Bulletin Boards. This was interesting and fun! Since that time, I have acquired more than 10 cumulative years of job experience in computer-related fields, I have become the personal tech support for friends and family, and have built countless computers from the ground up—including installation of the OS (operating system). The reason why I'm telling you this is so that you understand that I'm a reasonably competent computer user. As such, I'm fairly embarrassed to report my recent failed Linux-installation experience.

Hubris. The ancient Greeks used this word to describe actions performed out of arrogance that led to a downfall. While it is not a common term today, I must admit that I, too, am guilty of hubris every now and then. There was the time I thought I could cut my son's hair myself, the time I thought I could replace the spark plugs in our car by myself, and the time I thought I could learn to install Linux and write an article about it in two weeks. I should know by now that every time I ask myself, "How hard can it be?" that I may be in over my head.

A while back, I got an old Gateway laptop off Freecycle (an awesome organization—if you haven't done so yet, check it out at *www.freecycle.org*). The person who had offered the computer said that it had been sitting around for a year waiting to have Linux installed, and that it wouldn't boot from the hard drive. I opened it up and found that the hard drive wasn't connected, and thought "I can fix that!" Originally, I had planned to perform my first Linux install on this old Gateway laptop so that I wouldn't get upset if something went wrong.

So I asked my dad (who lives near Silicon Valley) to pick up a ribbon cable for me. Turns out, Dad didn't know what kind of cable I needed, so he brought another old Gateway with a missing power cord instead. However, the Gateway didn't have a power cable, and I'm too cheap to pay the $40 to get one in person when I can order one off of eBay for $25. A week and half later, I still didn't have a power cable, and still hadn't begun the Linux installation. With my deadline approaching, I decided to move on to my son's Sony Vaio (which at least works) with no CD drive and no Internet connection. I thought, "I'll install Linux from a USB flash drive. How hard can it be?"

I happily began researching different flavors of Linux. I began at *www.linux.com* and decided to use Debian, for no particular reason. Next, I Googled Debian and ended up at *www.howtoforge.com*. They have a nice article with detailed instructions (including screenshots) on installing Debian. I located a flash drive and downloaded the .iso file. It wouldn't fit on the 1GB flash drive, and I got a funny feeling. The .iso

files are no bigger than 650MB and should have fit nicely. Turns out that the flash drive I was trying to use was partitioned. Rather than deal with that, I grabbed a different flash drive, formatted it, and got the .iso downloaded.

Unfortunately, the Sony would not boot from the flash drive. At first I thought it was a simple matter of changing the BIOS, but when I got into the BIOS, there was no flash drive listed on the boot screen. By this time, my article deadline was looming large ahead of me, and I still didn't have a computer running Linux to write about. In desperation, I tried booting from every device listed, and still kept getting Windows. I gave up. The Sony was just not going to boot up from the flash drive.

After realizing that there was no way I was going to be able to use the flash drive to install Linux on the Sony, I looked at the shiny new Dell in the bedroom. The same shiny new Dell that had malware problems a few months back. The one that still had some remnants of malware that just won't go away. The one that runs fine, is online, has a CD-ROM drive and a USB port or two. The shiny new Dell that the kids aren't allowed to touch. I said to myself "How hard can it be?" as I slid the flash drive into the computer.

By now, I knew that I was going to have to go in and edit the boot order in the BIOS. No problem. The flash drive was right there, and all I had to do was move it up to the first position. I rebooted the computer and was thrilled to see Debian begin installation. I followed the instructions on the screen, and got the "Installation Complete" message at the end. Only one more reboot, and I would have my Linux machine! But something strange happened when the computer booted back up. Two words, and my heart sank.

"Bad PBR"

I have since learned that PBR stands for Primary Boot Record, and that a bad PBR message is a very bad thing. Basically, I took a working computer and turned it into a non-working computer. The absolute best places to go for information on computer problems are the forums online. Whatever problem you may be having, I guarantee that someone else has had the same problem. Hopefully, there is a solution posted somewhere that will tell you the fix. So, when I got the bad PBR message, I turned to the online forums for clues as to how to proceed next.

I also learned that the particular message I got appears to be a common Dell problem. Apparently, Dell come with three partitions on the hard drive, and if you don't delete all three prior to attempting the Linux install, this is what you get. One forum poster suggested using a program called Gparted (Gnome Partition Editor) (*gparted.sourceforge.net*) to clean everything up, and I think that's what I'll try next.

You see, I still haven't given up—but now it's a personal quest. Hubris may have gotten me into this situation, but humility will get me out. I'm ready to admit that I have no idea what I'm doing, and that perhaps I need just a little bit more research before I can get a running Linux box. I will get Linux installed, but not tonight, not before the deadline. I'll keep you posted!

Dawn Clement is a freelance writer, domestic engineer, and mother of three with a Masters of Arts in Philosophy and over nine years experience in technical support.
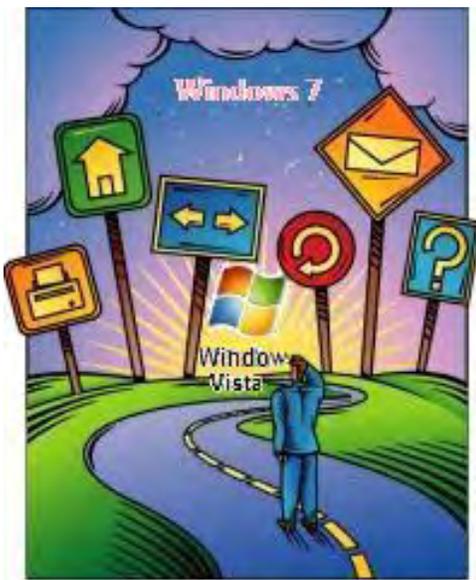
Windows Vista (and Windows 7) Tips and Tricks

"Windows Live Mail Has More Benefits" by Jack Dunning

> With Windows Live Mail and an online account, there are some nifty integration and synchronization possibilities for your contacts and calendars.

I only just started to explore Windows Live Mail, which is Microsoft's replacement for all of its earlier e-mail clients, like Outlook Express, Windows Mail in Vista, etc. (See "Windows Tips and Tricks" dated May 22, 2009.) As I mentioned at the time, an e-mail client doesn't come as part of the Windows 7 installation, but needs to be downloaded. There is no doubt that Microsoft wants people to migrate to the program.

One of the reasons for forcing a download is to introduce people to Microsoft's form of cloud computing with Windows Live. Microsoft wants you to use its services for your contact lists and calendars—as well as many other things. (Some people will question Microsoft's motives. "Do they want to steal my personal information?" I see it as merely a response to Google and others who are aggressively pursuing hosting these types of online services.) By downloading the software, you are given an opportunity to open an account. (Despite comments by others, a Hotmail e-mail account is not required to get a Windows Live account. Any e-mail address will do.)

One of my aggravations with e-mail has been needing to jump between computers. If I'm working on one machine and save a new contact, it won't be on the other computer(s) that I may be using at a later time. I could be using a Web-based e-mail service, but many of my accounts are on the *ComputorEdge* e-mail server, which only complicates the problem. Before I started using Windows Live Mail with an online account, I didn't have a good solution for the problem of synchronization. (I haven't yet put all of my machines on Windows Live Mail—I'm still in a testing phase. But I have installed it on my Vista desktop and the Windows 7 RC laptop.) I'm starting to see some of the benefits that will come from Windows Live Mail when handling the Contact List.

Another issue that was a bomb in Vista, and now appears to be handled in Windows 7, is the calendar. The calendar is now integrated with Windows Live Mail. I had imported and created a few calendars in Vista, just for testing, but abandoned their use when they didn't seem to integrate with anything else. That has changed in Windows 7.

To view the calendar(s), click the Calendar button in the lower-left navigation menu. The current month will pop up (see Figure 1). On the left side are the calendars that were imported from Vista's Windows Calendar. All of the checked calendars will display any current entries in the calendar view.
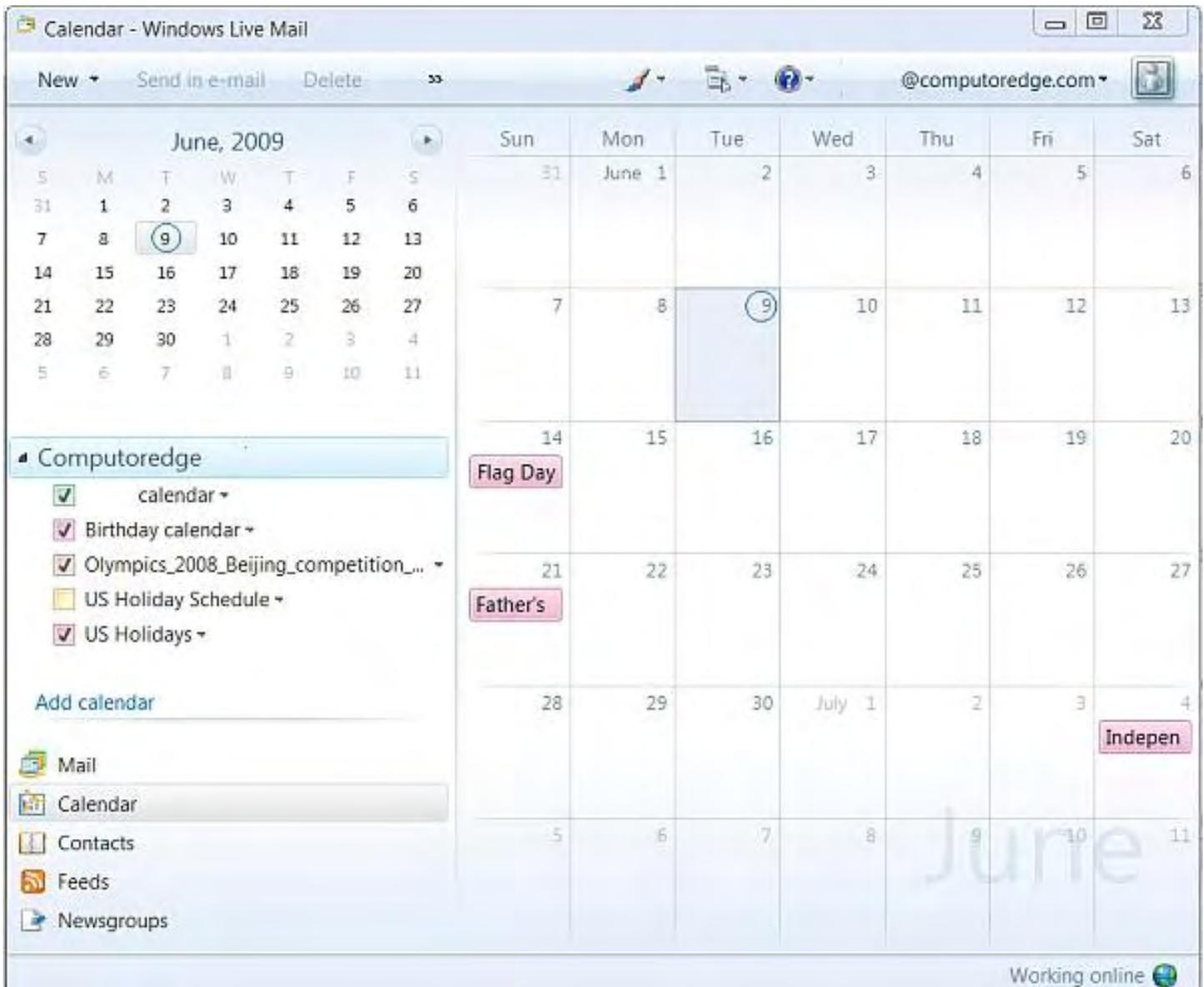
Figure 1. Windows Live Mail Calendar.

My question was, "Will this calendar integrate with the Contact List and do automatic updates?" Vista doesn't. I then noticed the Birthday calendar. I didn't create this one.

The Birthday calendar is for displaying your important birthdays. It is created by default when Windows Live Mail is installed. You can either enter birthdays directly, or fill in someone's birthday in your Contact List. Either way, the birthdays will eventually appear on the calendar. (If I wanted to force a quicker update of the calendar with the birthdays from the Contact List, I would log onto my Windows Live account. The synchronization seemed to do the trick, both online and on my computer.) At least to the extent of showing birthdays from the Contact List, the calendar was integrated.

The advantage of having a Windows Live online account wasn't limited to updating the calendar with birthdays. The entire calendar and all of my contacts were uploaded to my account. I could access both the calendar and contacts from anywhere on any computer. If I made a change on the computer, it was reflected in the online account. If I made a change online, it was reflected on the computer. The synchronization seemed to be automatic and operating in the background. (To tell the truth, I don't

remember if I initiated any kind of syncing between the two. If I did, it was fairly obvious.)

As one of my Windows 7 tests, I downloaded and installed Windows Live Mail on the old laptop that I used for the Windows 7 RC installation. It was great to see that when I logged into my Windows Live account, the calendars and contacts were downloaded into the new system (see Figure 2). The Contacts List is opened by clicking the Contacts button in the lower left.
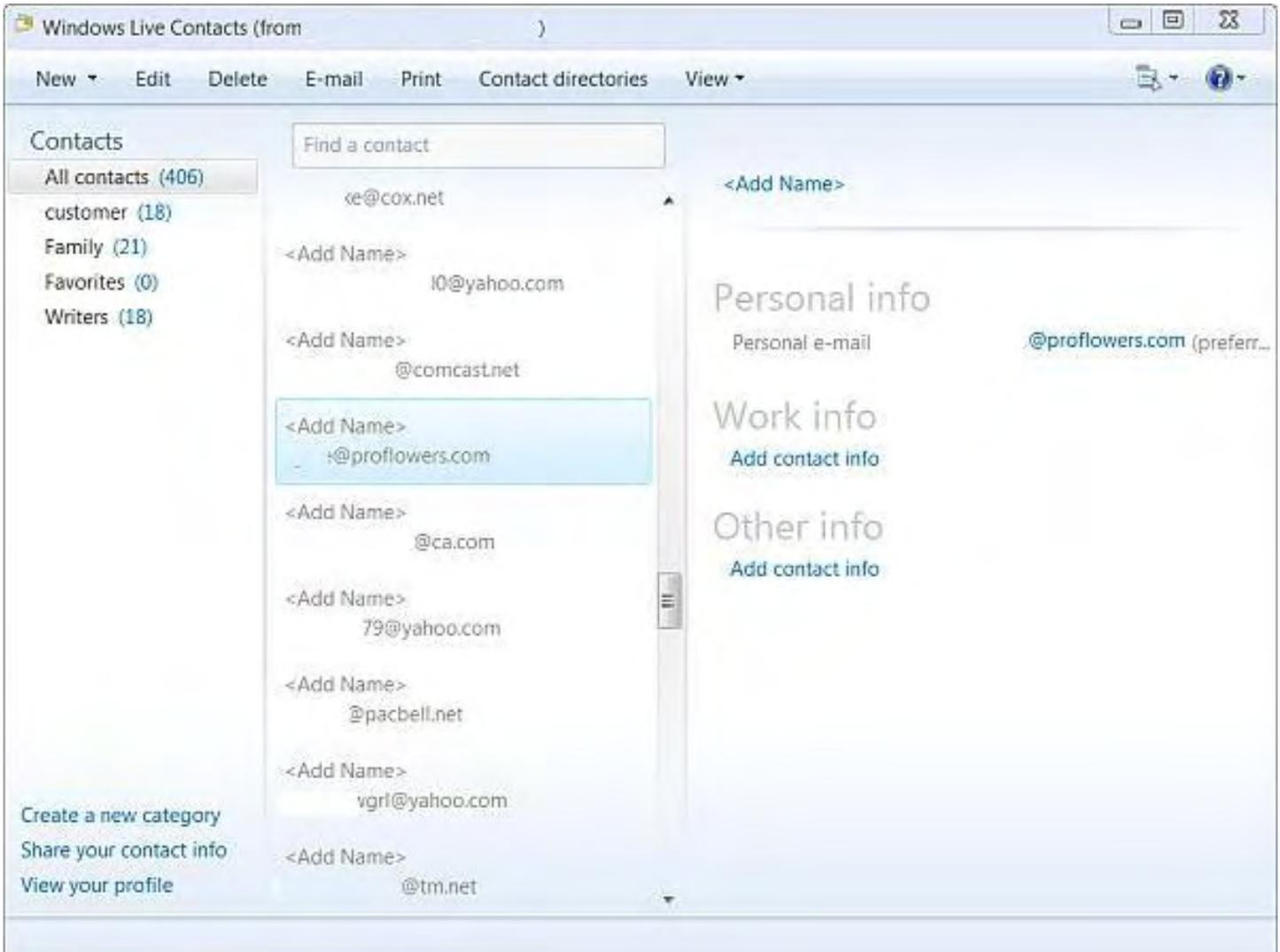

Figure 2. Contacts List in Window Live Mail.

The Contacts List also appears online and synchronizes with any computer also that's using Windows Live Mail with the same account. I can immediately see the possibilities. The online list of contacts and set of calendars are the master, accessible from anywhere. I can make changes on one computer, update online, and then later use any other computer with Windows Live Mail to view or update from the master.

Another integration feature that I found useful was how easy it is to put e-mails into the calendar. If I wanted to schedule a time to deal with a particular e-mail (or its subject), I could right-click on the e-mail and select "Add to calendar." The e-mail itself would become an event in my calendar for the selected day. If I double-clicked on that event in the calendar, the link would open the target e-mail. Maybe all I would want was a reminder to respond to an e-mail on any given day. Of course, the e-mail also appeared on the online calendar, but rather than linking to the original e-mail, it displayed the text of the e-mail in the event.

I noticed that I can create a network of people with Windows Live, but I haven't played with any of that yet. There are ways to share calendars and contacts with people in your network, but again, I haven't tested those features (see Figure 3).
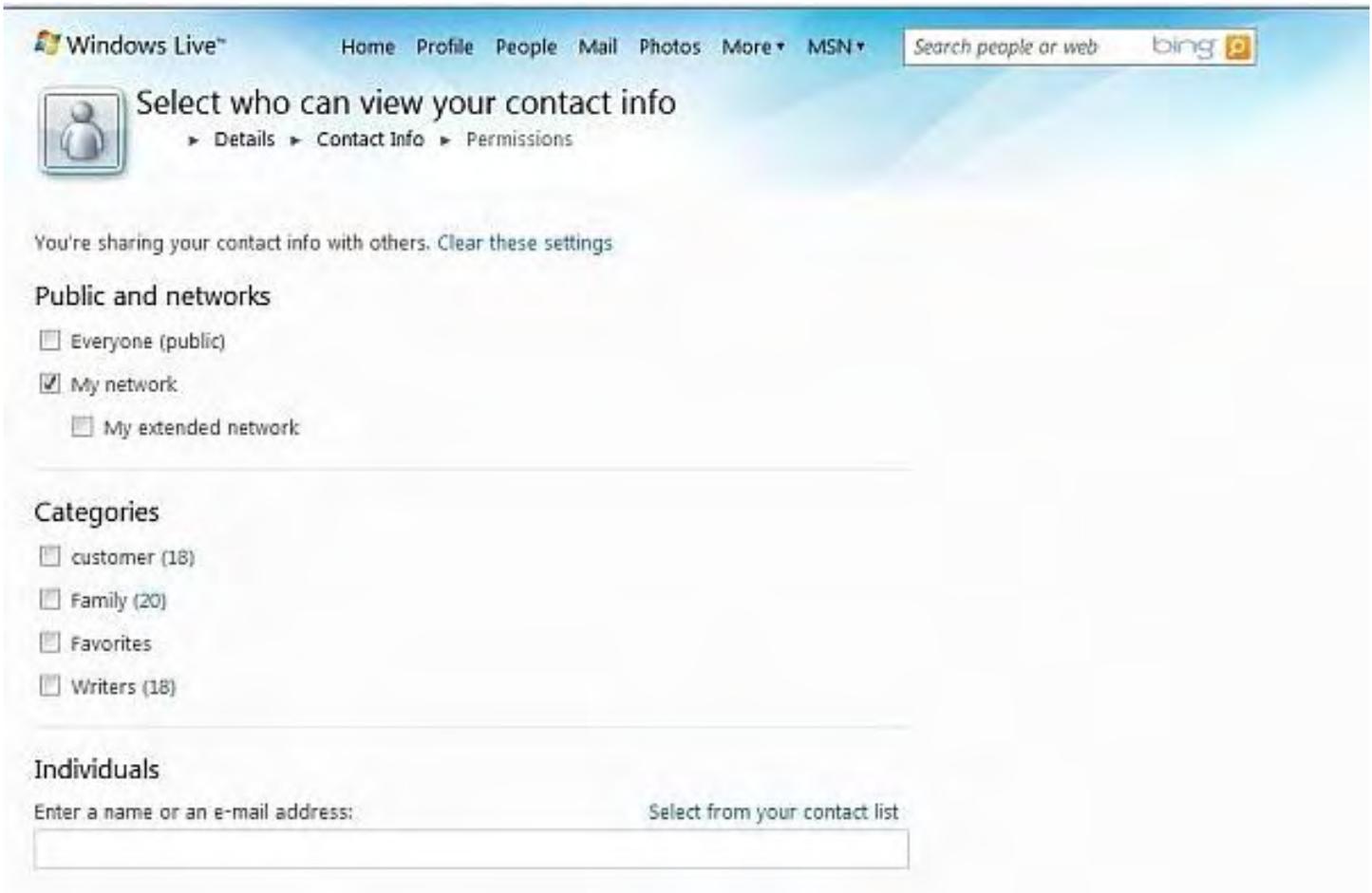

Figure 3. Windows Live Sharing window.

I'm not counting Microsoft out of the battle over cloud computing. The company seems to have some useful tools that, once you start using them, it could be hard to stop.

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*

Wally Wang's Apple Farm

"Running Linux on a Macintosh" by Wally Wang

While there's little that Linux can do that Mac OS X can't do as well, you might want to load Ubuntu Linux on your Macintosh using Parallels or Fusion just to see what Linux is all about. Also, to give you a hand learning Photoshop, Wally offers a few basic tasks you need to know to get started. Finally, a tip to help you define the programs to run for an audio CD, a picture disc, or a DVD.

Linux has always fascinated me. It's a stable operating system that has proven its reliability over the years, yet it has always been more of a techie's operating system. Linux is no harder to use than Windows or Mac OS X, but where Linux really comes up short is the ease of finding and installing programs.

First of all, there are dozens of different Linux versions (known as "distributions") such as Debian, Fedora and SUSE. They all work alike, yet you can't just install a Linux program on Fedora and expect it to install the same on Debian. By making Linux programs hard to install between different Linux distributions, Linux tosses one more barrier to drive novices away.

Another problem with Linux is finding software. As Linux supporters correctly point out, there are probably more programs available for Linux than Windows and Mac OS X combined. Ironically, that's also its downfall.

Most novices don't want to waste time wading through a dozen or more programs of varying quality and dramatically different installation procedures. Until Linux can make finding and installing software as easy as Apple's App Store for finding and installing software for the iPhone, Linux will likely remain a great tool for techies, but an overwhelmingly complicated one for novices.

If you're curious about Linux, grab a copy of Parallels (*www.parallels.com*) or VMware's Fusion (*www.vmware.com/products/fusion*) and then download your favorite Linux distribution. Since Linux is absolutely free to copy and use, try different Linux distributions until you find the one you like best.

For me, I've tried SUSE, Mandriva and Fedora, but I prefer Ubuntu (*www.ubuntu.com*). Where most Linux distributions offer free versions, but charge for other versions, Ubuntu is dedicated to giving away all versions absolutely free forever. As a result, Ubuntu Linux is slowly evolving as a de facto "standard" for Linux.

While there's little that Linux can do that Mac OS X can't do as well, you might want to load Ubuntu Linux on your Macintosh using Parallels or Fusion just to see what Linux is all about. For absolute protection, use Linux to browse the Internet and use your Macintosh for everything else.
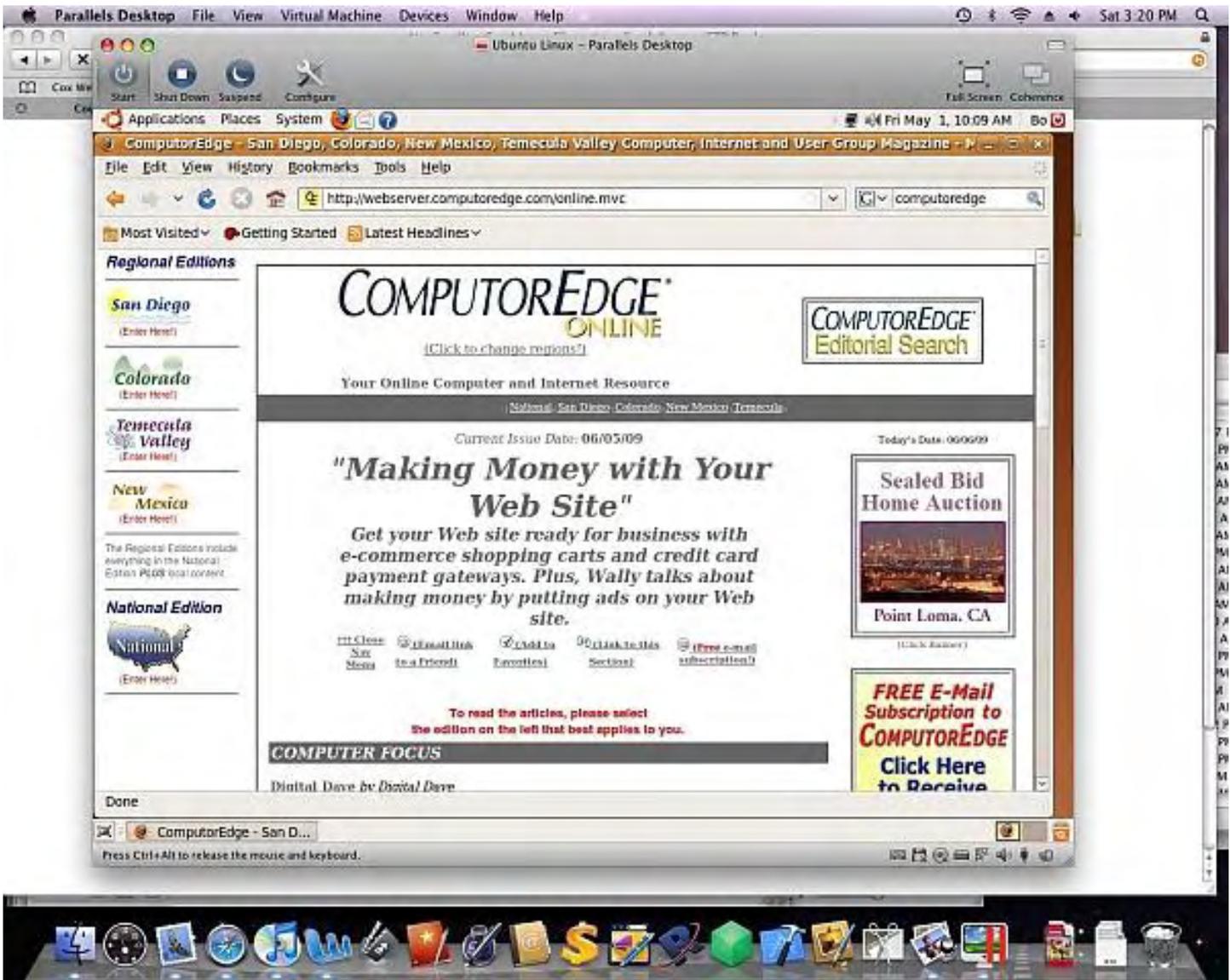
Figure 1. Running Ubuntu Linux on a Macintosh through Parallels.

By avoiding direct contact with the Internet on your Macintosh, you'll eliminate any remote chance that Macintosh-malware could possibly infect your computer. Since the threat of malware on Linux is even lower than on Mac OS X, browsing the Internet through Linux can keep your Macintosh (or any computer for that matter) free from viruses, Trojan horses, worms and spyware.

Getting to Know Photoshop

For anyone not familiar with graphics tools, Adobe's Photoshop has long ago defined the standard. If you're an aspiring graphic artist, professional photographer or artist, Photoshop is your only real option. Of course, there are other graphics editing programs like Corel Painter (*www.corel.com*), which lets you mimic different brush types and paper surfaces, but anyone working with graphics needs to learn Photoshop.

Unfortunately, Photoshop is a huge, complicated program that's likely to intimidate most people from using it without instruction of some sort. While most people can load a word processor and start doing something useful right away, few people can start up Photoshop and do anything on their own.

To give you a hand learning Photoshop, here are a few basic tasks you need to know to get started. First, you need to learn how to select all or part of a picture. Unlike a word processor that lets you select entire words or individual characters, selecting part of a picture isn't as intuitive.

Selecting Images

Before you can select anything in Photoshop, you must choose a selection tool, which appears as an icon in the Toolbox. The simplest selection tool lets you select rectangular or elliptical parts of an image.
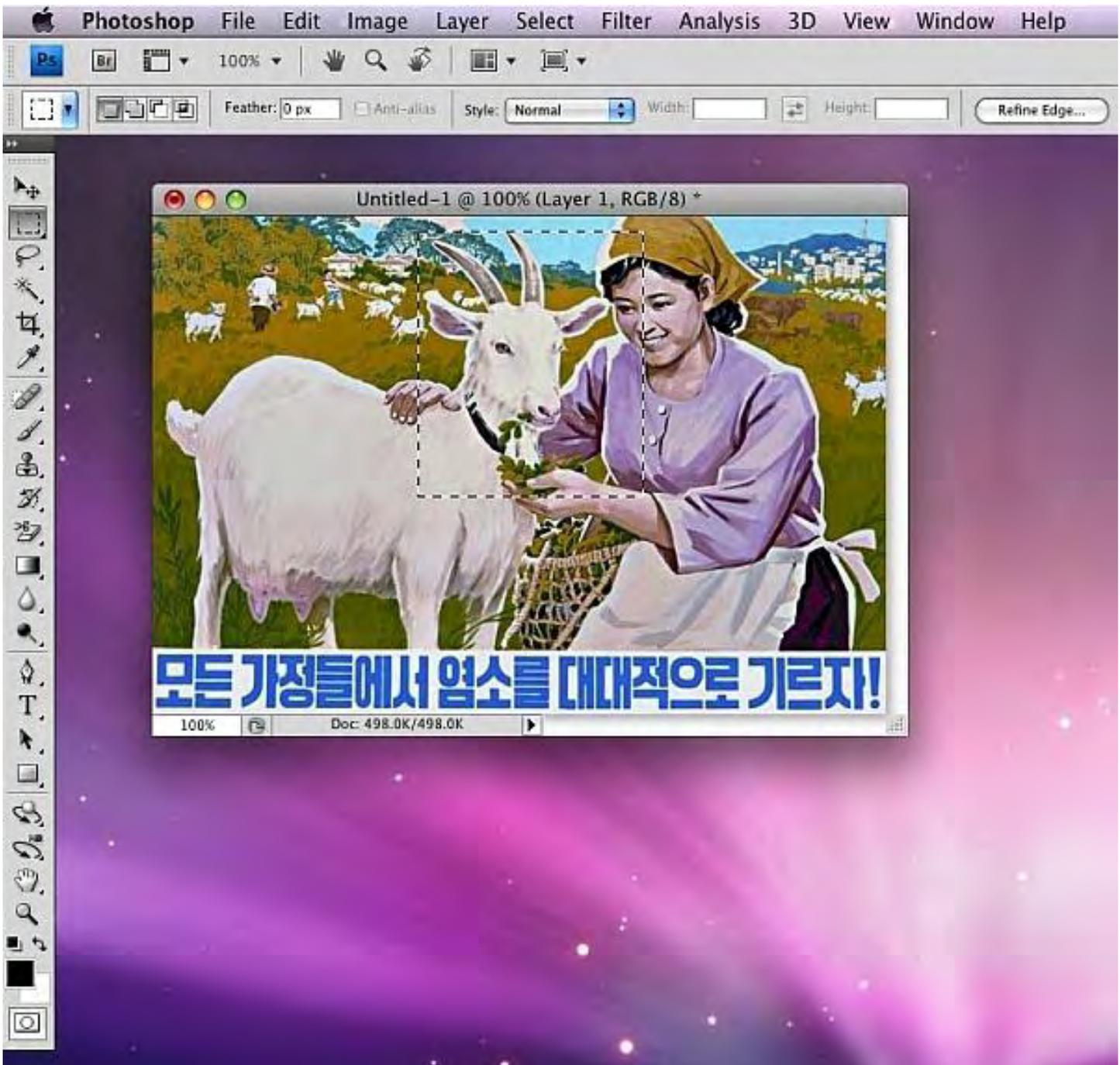

Figure 2. Selecting rectangular parts of an image.

Of course, few people need to select rectangular or elliptical parts of a picture, so a more common selection tool is the Lasso Tool, which lets you drag the mouse to select a part of a picture. While this lets

you draw around irregular-shaped objects like a person's hand or the shape of a car, it's not easy to select the part of a picture you want without accidentally selecting unwanted portions of a picture.
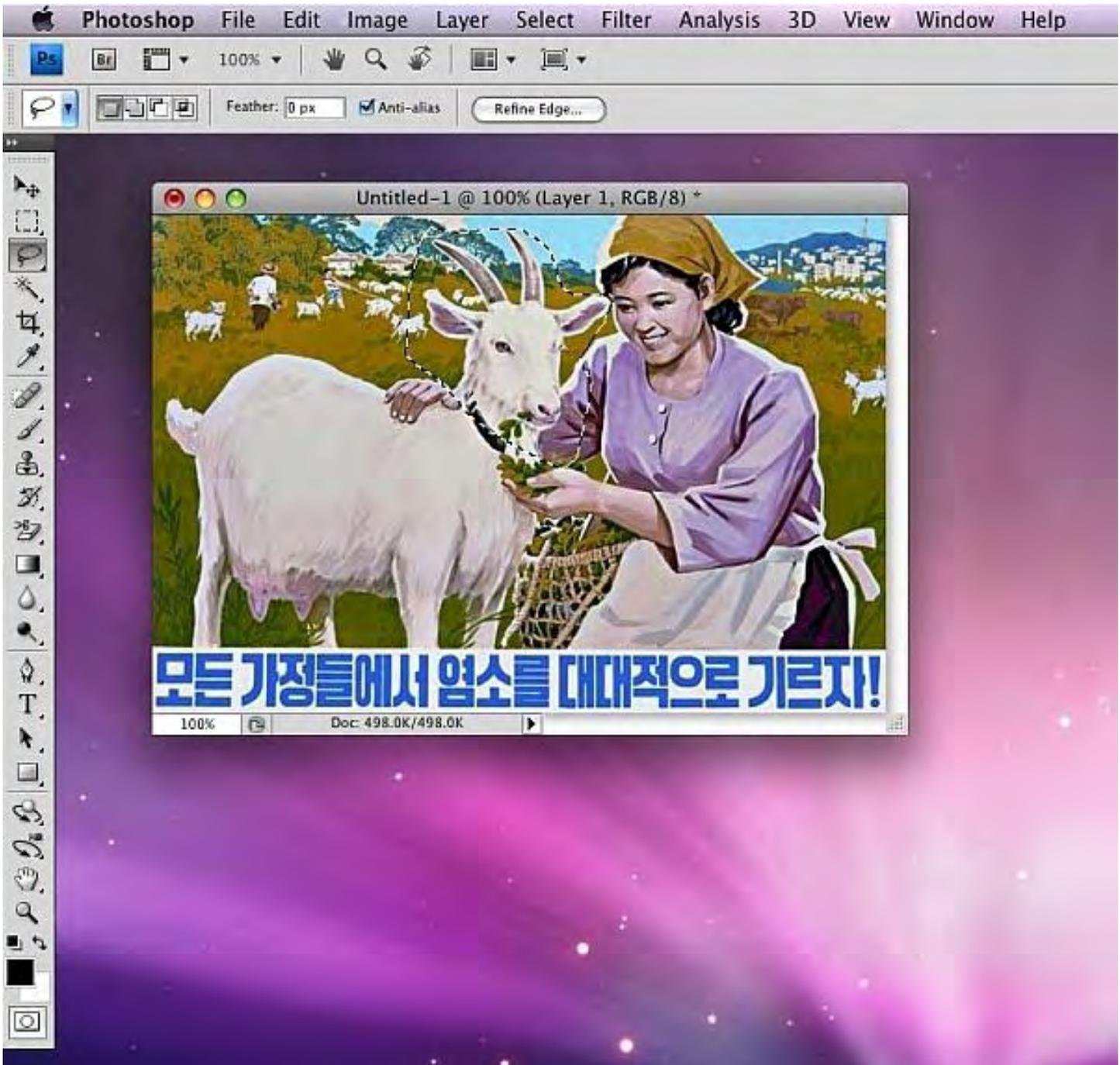

Figure 3. The Lasso Tool lets you select an irregular shaped object.

Since trying to precisely select portions of a picture can be nearly impossible, Photoshop offers two additional tools:

The Magnetic Lasso Tool

The Magnetic Lasso Tool works by automatically detecting color changes that define the boundary between two objects, such as the color of a car against the background of a city. The more distinct the colors are, the more accurate the Magnetic Lasso Tool will be.

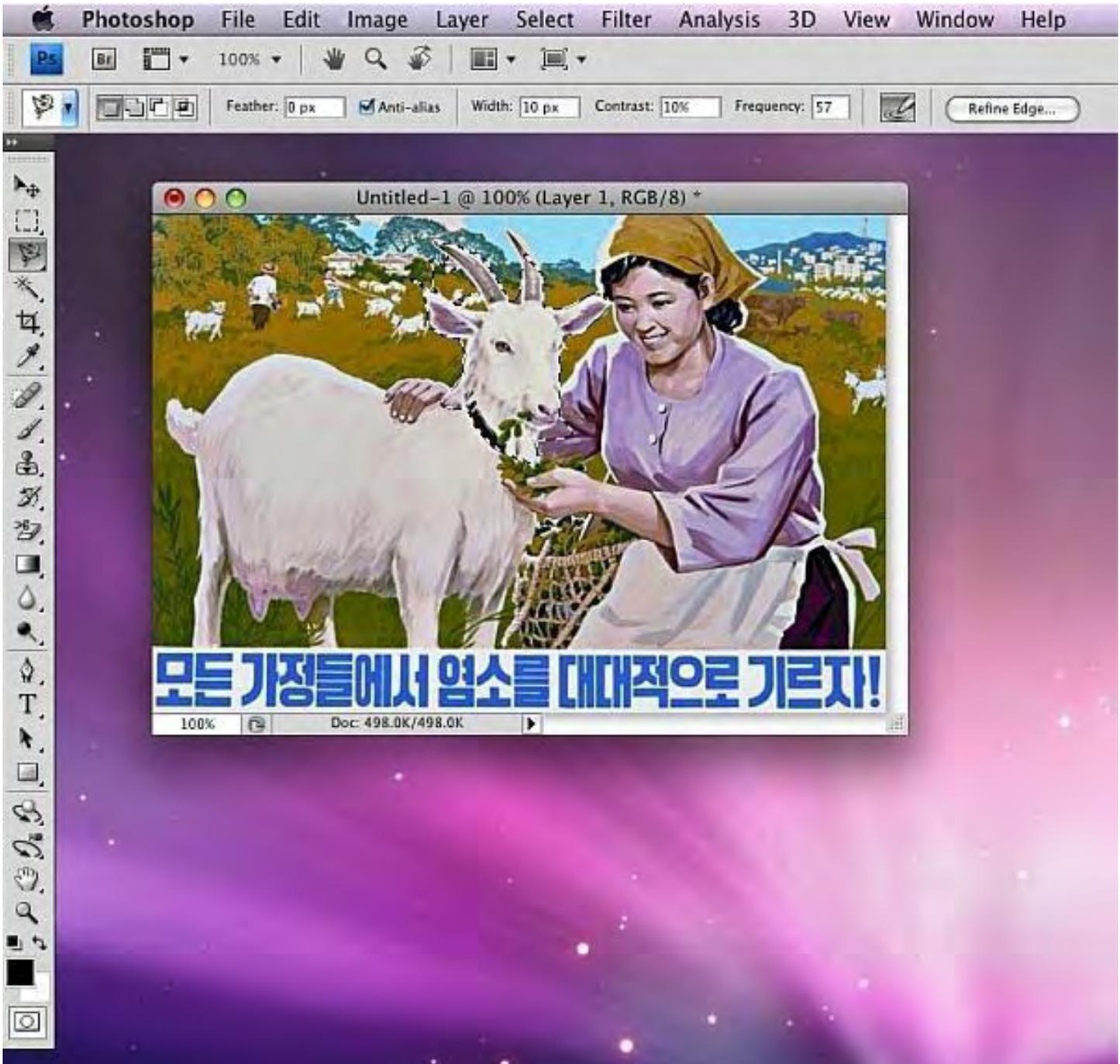Figure 4. The Magnetic Lasso Tool tries to identify boundaries between different objects.

The Magic Wand

Where the Magnetic Lasso Tool identifies color boundaries, the Magic Wand simply identifies color differences. Rather than selecting the outline of an object, the Magic Wand lets you select an object by color. The more distinct and uniform an object appears, the more accurate the Magic Wand will select that object.
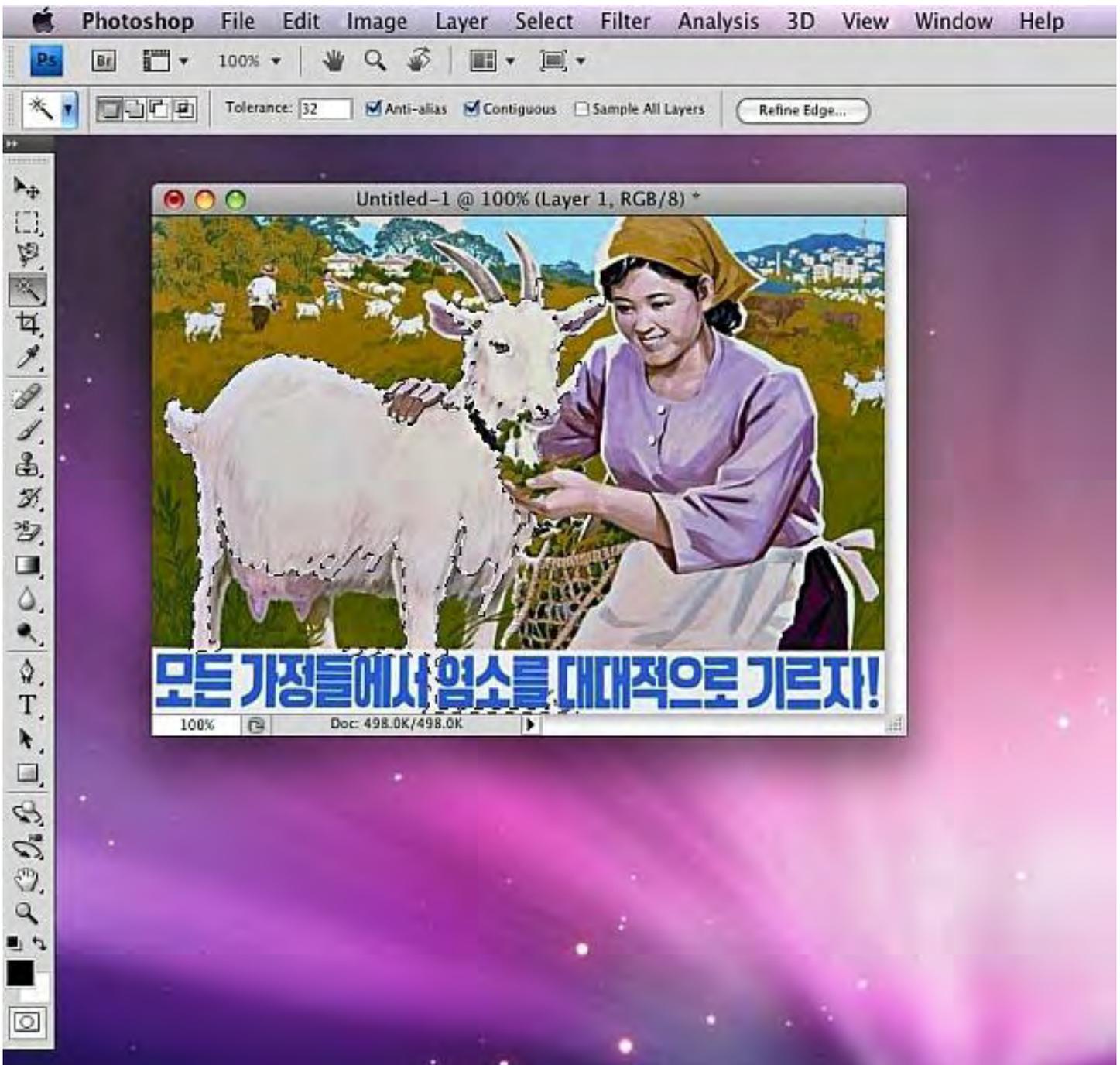
Figure 5. The Magic Wand can select objects based on color.

By learning all the different ways to select parts of a picture, you can manipulate all types of pictures using Photoshop. Photoshop may come loaded with dozens of features, but all of them are useless if you can't select which part of a picture you want to change.

*   *   *

By default, your Macintosh automatically runs iTunes if you insert an audio CD, the DVD Player if you insert a DVD, or iPhoto if you insert a disc that contains pictures. Normally this might be convenient, but if you want to turn this feature off or define a different program to open a CD/DVD, click the Apple menu and choose System Preferences to open the System Preferences window.

Click on the CDs and DVDs icon under the Hardware category to open a dialog where you can define the programs to run for an audio CD, a picture disc, or a DVD.

Figure 6. Defining how to handle CDs/DVDs.

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/*).

Hot on the Web

"Can AOL Reinvent Itself as a Social Networking Site?" by Jim Trageser

> At a time when MySpace and Facebook are two of the most popular Web sites in the world, a company that pioneered the concept of an online social network is searching for a successful business plan.

Now that Time Warner has announced it is going to spin off AOL into a separate entity, ending one of the great upstart-gone-bust tales in corporate history, the question becomes whether AOL (which bought Time Warner in 2001 when AOL's fortunes were at their peak) can even survive.

The irony here (outside of the irony of Time Warner, which was purchased by AOL, spinning off its once-parent company) is that, at a time when MySpace and Facebook are two of the most popular Web sites in the world, a company that pioneered the concept of an online social network is searching for a successful business plan.

The whole business model of AOL in the 1990s was as family-friendly environment where parents could trust that their children would be safe.

AOL once stood for America Online, and in the mid-1990s it was the most popular online destination by far. In a bit of further irony, some of the earliest criticism of AOL was for trying to be a comprehensive one-stop online portal: You could check e-mail, play games, browse the news, interact with your friends.

This all-in-one approach led to the second major firestorm of media criticism against AOL: That it wasn't fully integrated into the Internet, at least not soon enough to satisfy the company's critics.

When the World Wide Web began to grow in popularity in the mid-'90s, AOL began offering limited access to the Net via its own dial-up interface. AOL subscribers didn't get a full gateway to the Web, but using AOL's proprietary browser, they could visit much of the Web (albeit not porn sites or online gambling halls, consistent with AOL's family-friendly business model).

But AOL's roots go back to the early 1980s, when there was no public Internet to compete against or integrate with. When AOL began life—first as a dial-up download service for the Atari 2600 game console and then, after its first reinvention in 1985, as the Quantum Link dial-up service for Commodore 64s—what we know as the Internet was still the DARPAnet, a closed research network reserved exclusively for the government and select universities.

In fact, Q-Link, as it was popularly known, was competing more with free dial-up bulletin board systems, or BBSs, than it was with anything like the Internet.

By the late 1980s, America Online was supporting Windows, Mac and other popular platforms, and was in full-blown competition with other subscription online services such as CompuServe, Prodigy and Genie.

All of them resembled today's Facebook or MySpace Web sites more than they did anything else available back then.

As mentioned, all of these dial-up subscriber services marketed themselves as online communities more than a service or product. You went online to hang out—not merely to play a game, download shareware or demo software or get e-mail.

Sociologists at the time were writing articles on the appearance of what they called "virtual" communities— social circles of people who knew each other only via their online interactions.

The Web's Time Lag

What's interesting in all this is that, while free local dial-up BBSs (basically a smaller, slower version of CompuServe, AOL or Prodigy running on someone's personal computer at home, and accessed by dialing the phone number of their modem, which was generally posted on other BBSs in an early form of viral marketing) emulated the online-community model of the subscription services, when the first Web sites appeared in the early '90s, technical issues led to most Web sites being static destinations: You went there and read, viewed or listened to the files they had posted there—but generally had little to no interaction with other visitors to that site.

The emphasis on Web sites for the first 15 years of the Web was on updating content to lure visitors back for repeat visits. It's only in the last few years that we're seeing wide-scale adoption of feedback and interactivity tools on Web sites.

Today, we expect Web sites to allow us to post comments to static content, and increasingly to offer some forums where we can engage in longer conversations.

Both MySpace and Facebook allow us to have our own private e-mail (rather like AOL and CompuServe once did) that works only on that site—and yet, despite the lack of universal Internet e-mail functionality, both MySpace and Facebook are hugely popular.

More than a revolution in Web functionality, both MySpace and Facebook seem to be the logical Web-based extension of AOL, CompuServe, Prodigy, Genie and all those hundreds of thousands of dial-up BBSs that we thought the Web would turn out to be.
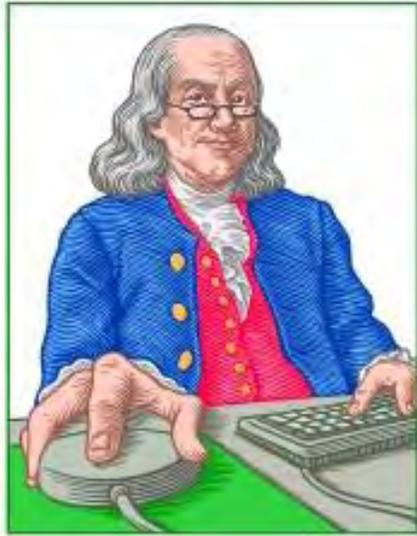
We just didn't know it was going to take 17 or 18 years to create the same sort of online community that we'd gotten used to with dial-up.

AOL's Future

Whether AOL can reposition itself again remains to be seen. But it has already successfully adapted from a dial-up destination to a dial-up Internet provider. Giving MySpace and Facebook a run for their money doesn't seem out of the realm of possibility.

Jim Trageser can be reached via his Web site (*www.trageser.com*). Jim is the Publisher/Editor of *Turbula. net*, an odd little online publication to which truly talented people seem strangely compelled to send interesting works for others to enjoy. Visit *www.turbula.net*.

Little Linux Lessons: Tips and Tricks from Users

"Linux users share ideas and ask for help." by ComputorEdge Staff

A tip on burning your ISO to a CD-ROM with cdrecord; a reader wonders about a Linux program for income tax calculations; a reader observes that Linux awareness is growing.

Burn Your ISO to a CD-ROM with cdrecord

An ISO image is used to make an installation or run-time CD-ROM. You can record an ISO to disc by running cdrecord from the command line. First you need to identify your CD-ROM burner with the -scanbus parameter:

```
~$ cdrecord -scanbus
scsibus1:
    1,0,0    100) 'ATAPI   ' 'DVD D  DH16D2S  ' 'EH33' Removable CD-ROM
    1,1,0    101) *
    1,2,0    102) *
    1,3,0    103) *
    1,4,0    104) *
    1,5,0    105) *
    1,6,0    106) *
    1,7,0    107) *
```

Select the one with your recorder. In this case the location is 1,0,0. Then run cdrecord with the name of your ISO file in place of MYCD.iso as follows:

```
~$ cdrecord -v dev=1,0,0 "MyCD.iso"
```

That's it! Your disc will record! "man cdrecord" for more options.

This Linux tip was contributed by Gary Danko

A Question of Taxes

I come from the early days of CPM and DOS 1.0 and would prefer to go with a current version of Linux. I use TurboTax for making my 1040 and state 540. Is there software for a version of Linux I could use for the income tax calculations? I use the MS Office substitutes with Knoppix with ease, and would like to abandon Microsoft.

VG Townsend

Any thoughts can be addressed to .

Is Linux Growing?

As you know, finding raw numeric data on how many people use Linux is nearly impossible. I am a Linux nut and like to share what it is with people I run into. (Fanaticism?) By talking to people about it, I've made this observation. About five years ago, if I would have told someone that I used Linux, they would have gotten glassy eyed and said, "What's that?" thinking that it was a new computer gadget at Geeks-Only Warehouse.

Now, I either get a blank stare, as if to say, "I've heard of it, but haven't a clue on what it is," or "Oh, OK, cool," an acceptance of the idea of another computer OS even though they'd never used/seen it. On the rare occasion, I've been getting, "Oh, I have a friend that uses that." So, albeit not a scientific or quantitative study, I can say undoubtedly that Linux awareness is growing.

Another indication that the usage is up is this very column. If Linux usage were only at 1 percent, as some people have reported, a column like this would be almost unheard of.

Linux is definitely becoming a mainstream alternative to the more commercialized OSes.

Richard "Rich" Norman

Another indication that there is growing interest is that ComputorEdge *gets about the same number of people visiting this column as visit the Wally's Mac column. I don't know whether Linux people (or wannabes) are more curious or if Linux usage is starting to compete with Mac usage.*

Jack Dunning

Give Us Your Linux Tips and/or Questions

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

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

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.*

Rob, The ComputorTutor Does Microsoft Access

"Access Headers and Footers" by Rob Spahitz

This week, Rob explores the Access header and footer features from within the recent Mailing List application.

This week, we will explore Access' header and footer features. We'll examine them from within the recent Mailing List application that we've been working on. However, you can experiment with this in any form or report.

As usual, if you'd like to see previous version of the database, look for them at *www.dogopoly.com/ce*.

Form Sections

When you work in an Access form or report, you may notice a few sections within the container. In our database, we don't have any reports, and all of our forms currently show only one section: the Detail section (where the grid appears and a bar above it indicates the section).

Suppose that you had a form that needed a Close button. You could put that directly into the Detail section and everything would work just fine. Let's go set that up in our State form so we can see how this works. If you are working on your own database, simply make a form from any table you have.

In Design view, near the bottom-right corner, add a button from your toolbox. You may have to scroll, enlarge or maximize the form in order to get to that corner. If you have the wizard feature enabled in your toolbox (second item across on the top row), the Command Button Wizard should launch and a button should be added to that spot on your form, which may in turn enlarge the size of your form.

As we've done in the past, run through the wizard and select the following: Category/Form Operations, Action/Close Form, default picture, name cmdClose.

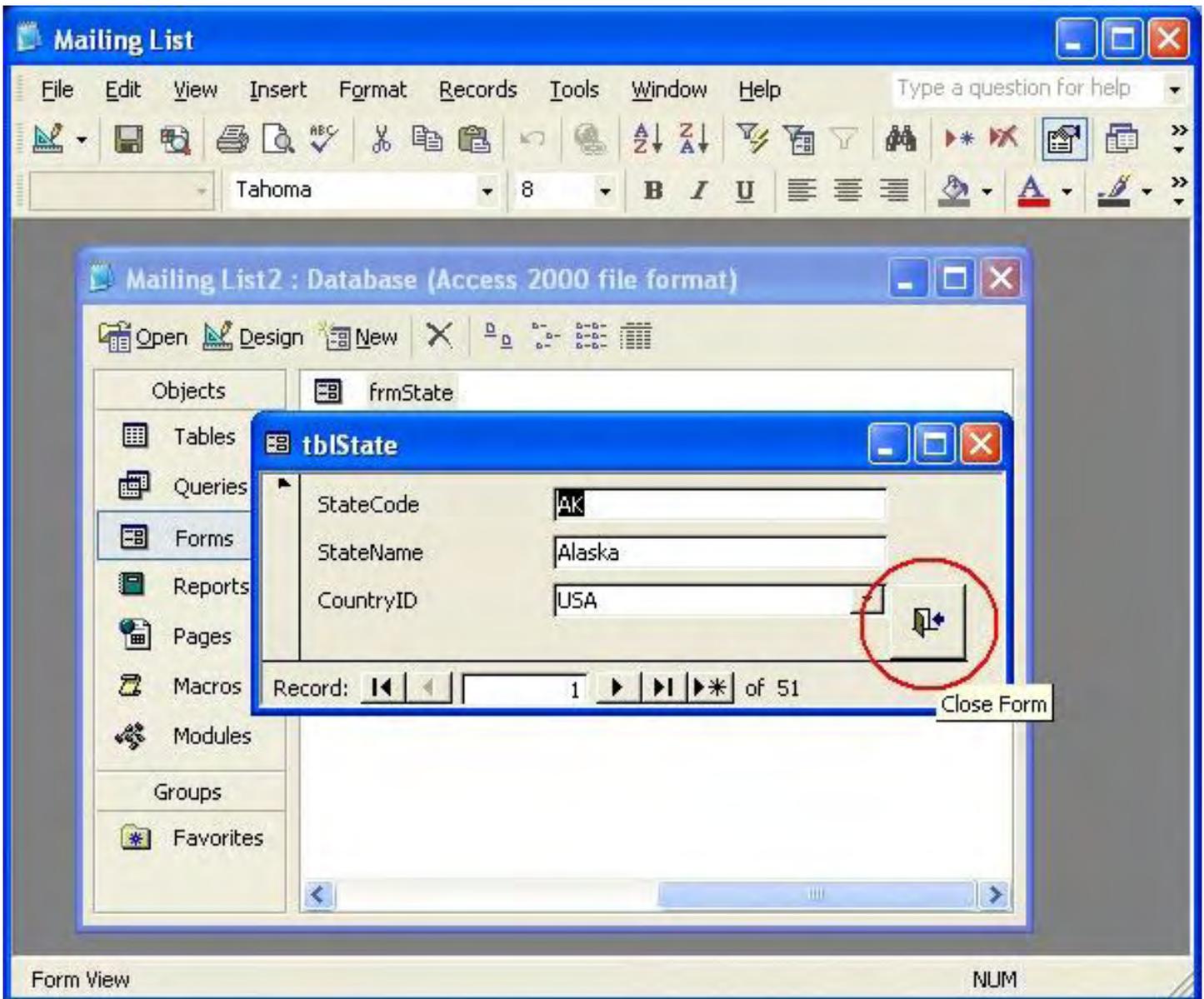If you preview this, you should get something similar to Figure 1.

Figure 1. Access Close button.

In my case, after adding the button, the grid portion of the form got larger but the form did not, so I had to resize it a bit to see the button, shown above in the red circle.

One nice thing that the wizard did was to include a "tooltip" for the button. In this case, it added the words "Close Form" that show up when your mouse hovers over the button for a second or two. As an aside, if you want to customize this, or add it to other components, go to the property called "ControlTip Text" (under the Other or All tab) and change the text to whatever you want, but keep it relatively brief (usually less than 10 words), since it's supposed to be a tip, not a novel.

OK, so now you have a Close button. If you click on it, it should close the form (and make sure to save the changes if it asks or you will lose the button). All is wonderful.

However, if you look at Figure 1, you see that the button is right next to the Country field. That's not a problem unless I decide to add a lookup button next to it so I can see the country form. Sure, I could move the Close button to the side, but what we really want is to move it out of the way. And sure, I could move it down a little, but it really doesn't belong in the Detail section. The purpose of the Detail section is to show

fields that are related to the details for the current record. The labels are appropriate there; the text boxes and combo boxes are appropriate there; even a field look-up button would be appropriate there. However, the Close button is independent of the records and really should be outside of the Detail area, either in a Header or Footer section.

Let's move the button into the Footer. To do that, we need to show it. In some cases, the wizard may give you that and you can just expand it and add the button. In this case it's not there, so with the form in Design view, either right-click on the Detail area or choose menu item View, then select Form Header/Footer. You will now see two new sections opening up, as shown in Figure 2. Note that I enlarged the Design window to show the new sections, but will have to shrink them back down to make a more compact form.
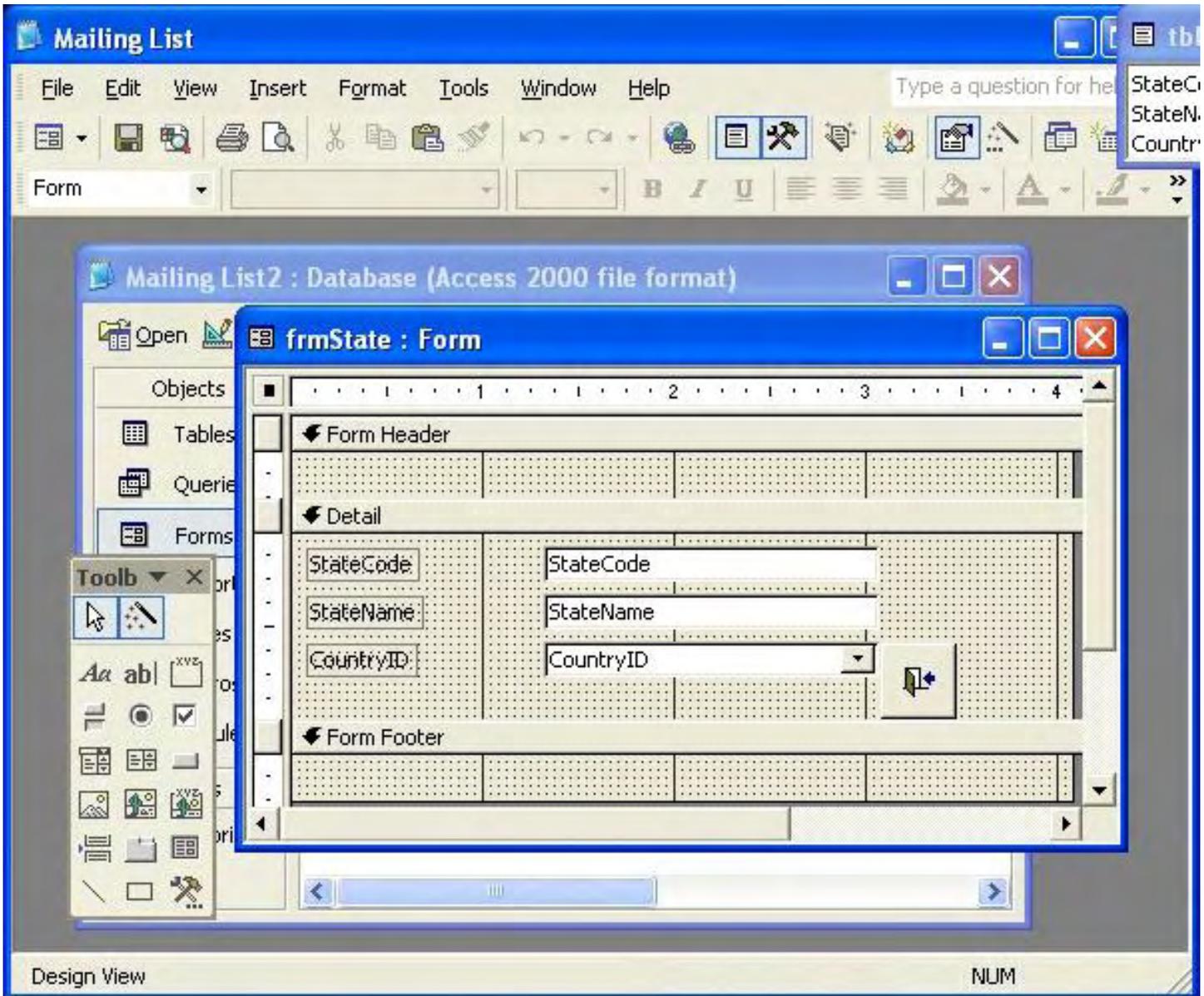

Figure 2. Form header and footer.

With these new sections available, we can place form-specific items that are not directly related to individual records. In this case, we can simply drag the button down from the Details section to the top of the Form Footer and drop it in place. When you do that, you may also want to make the form a bit narrower, since the button wizard enlarged it and wasn't nice enough to shrink it down, and then it shrunk the width of the button. To do this, move your mouse near the right edge of the grid and drag it to the left.

It won't let it go narrower than the right-most edge of any component, so you don't have to be too precise about this process.

In addition, the header section is available for putting something like an explanation of why this form is used or some other helpful information (probably labels) that is not related to specific records. In our case, that's not really helpful since this form is pretty simple. Let's shrink it down to nothing. Move the mouse to the lower edge of the Header grid, where it meets the Detail bar, and when the mouse changes from an arrow to a bar with an up-and-down arrow, just drag up until the grid disappears. Again, you can go past it without worrying.

If you preview now, you see the button in its own section, with a line above it to separate it from the Details section of the form, as seen in Figure 3. Note: If you see two lines, you will probably want to resize the form until the two lines overlap, then save the form so it keeps that appearance.
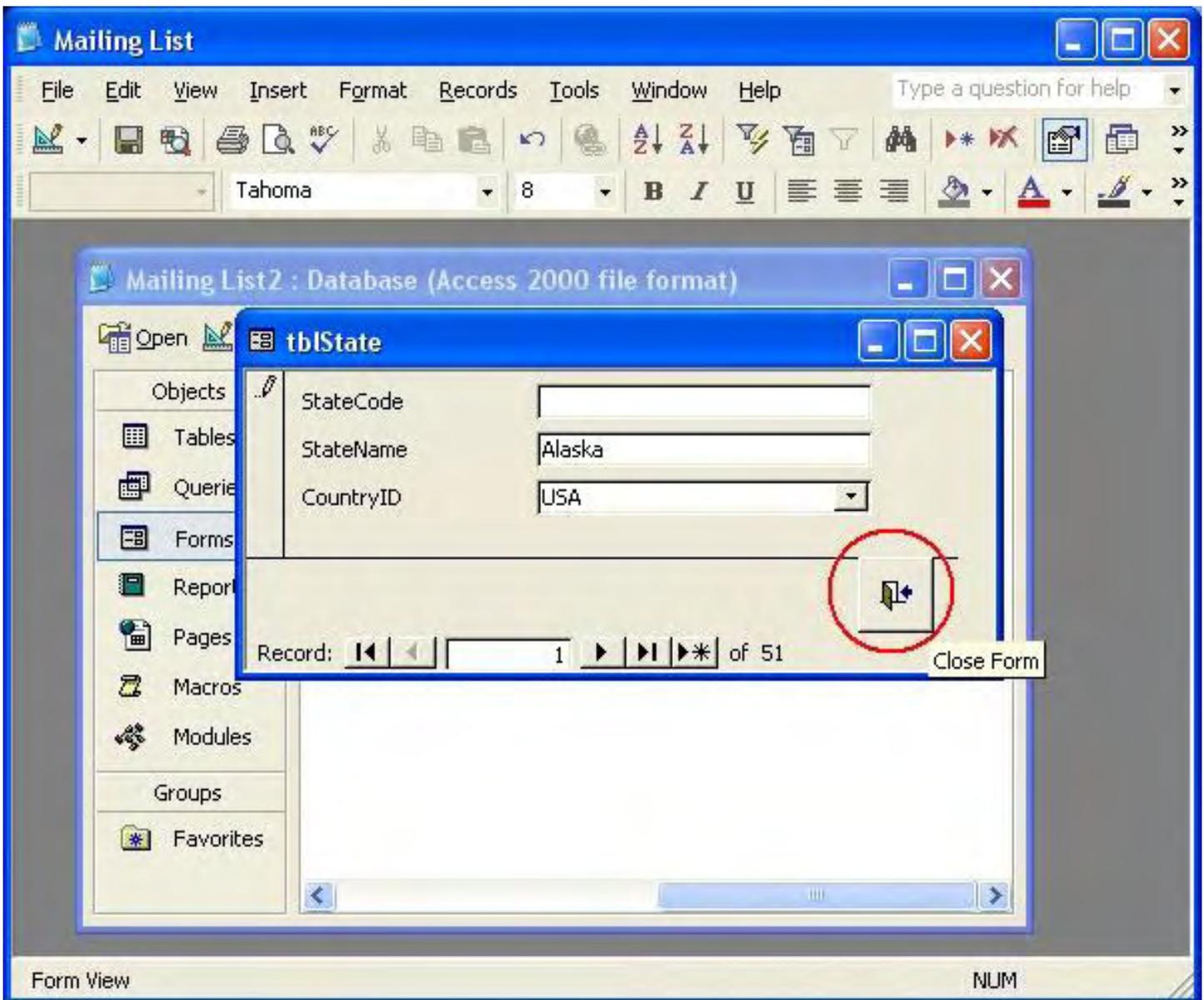

Figure 3. Button on Footer.

One of the nice things about footers is that you can put various buttons down there to manage your data forms. You can add features like Add, Delete and Filter if you like, or you can launch other tools, like the

Windows calculator or a paint program.

Meanwhile, in the header, you will commonly find controls added to allow users to filter the data. For example, if the user wanted to find out everything that you have related to the state of New Mexico, it might be tedious to scroll through each record one at a time until that one came up. Instead, you could add a text box to allow the user to enter a code like NM, then a button to use VBA to locate and retrieve that one record.

We'll play with this feature in a few weeks when we use forms to manage things like reports. Speaking of reports, let's see how these header and footer features apply to reports.

Report Sections

If you open a document in Word, you would expect to have the option to add a header and footer that will appear on every page. You may have noticed this feature in the Access menus when we added the Form header and footer section.

When you work with reports, you can have page headers and footers, but you can also have additional sections to help break down your report into groups. For example, if we had our state table include Canadian provinces and regions in other countries, we may want a report that shows the country along with each state/region name. However, it would be odd to see the country name appear each time. Instead, you'd want to put it into a header. However, if you put it in the form or page header, it might not be properly linked to the corresponding data. What you really need is a separate header just for the country.

Let's see if we can run through the report wizard to help us with this, and then examine what it created for us.

In the Reports section, launch the wizard like we've done many times with the form wizard. Select tblState from the dropdown list, and then select all fields for our report. On the next screen, you get something that lets you define your groups. Select CountryID and click the ">" button to select this option, as seen in Figure 4.
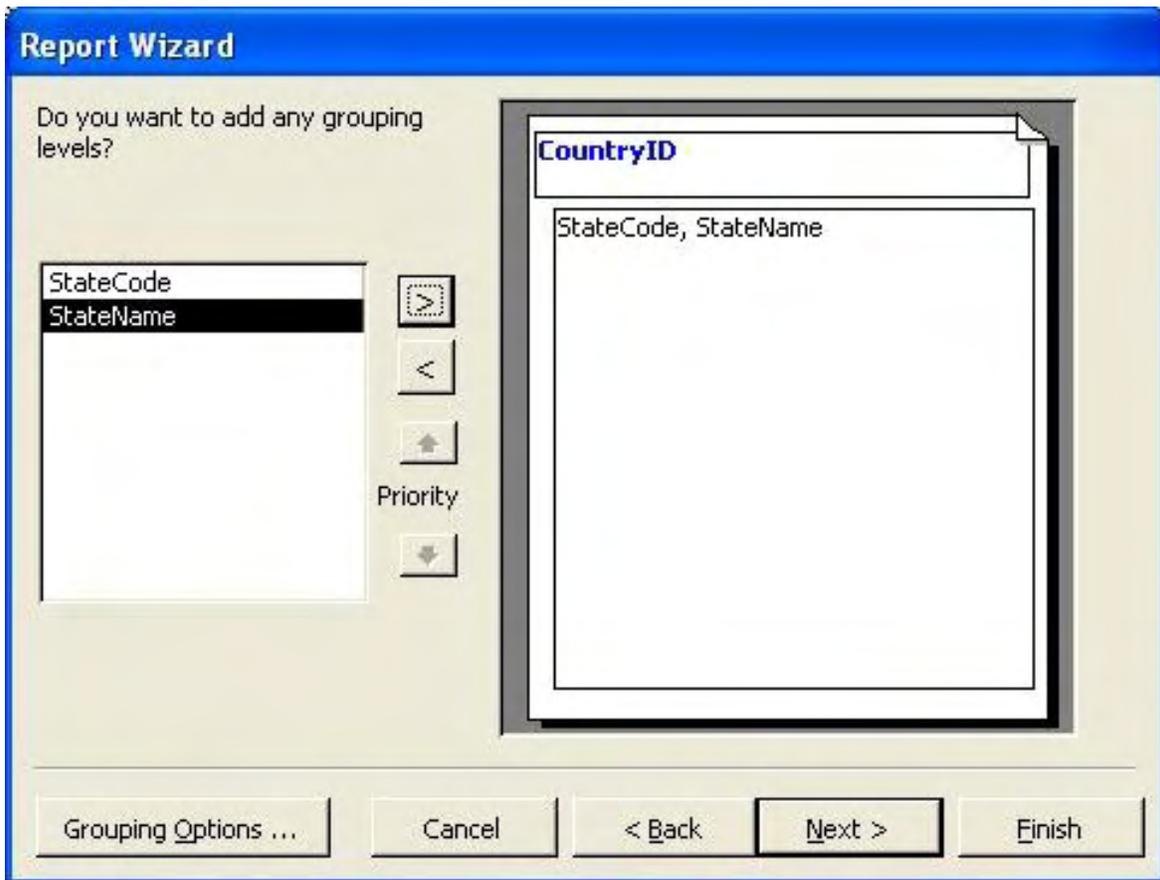
Figure 4. Report wizard grouping states by country.

When you select CountryID, it is removed from the list (since you are already grouping by that), and the example picture shows a sample of how the report may appear.

Continue on and skip the sorting (since my database only has one country), choose a layout (such as the first one), then a style (such as Casual), and name this rptStateByCountry. When you finish, you get a report grouped by country, then showing state codes and names.

Although this has some odd things, like country code but not name, and state codes not sorted, let's just see what it looks like in Design view, as seen in Figure 5, after I resize it a bit to make it more readable.
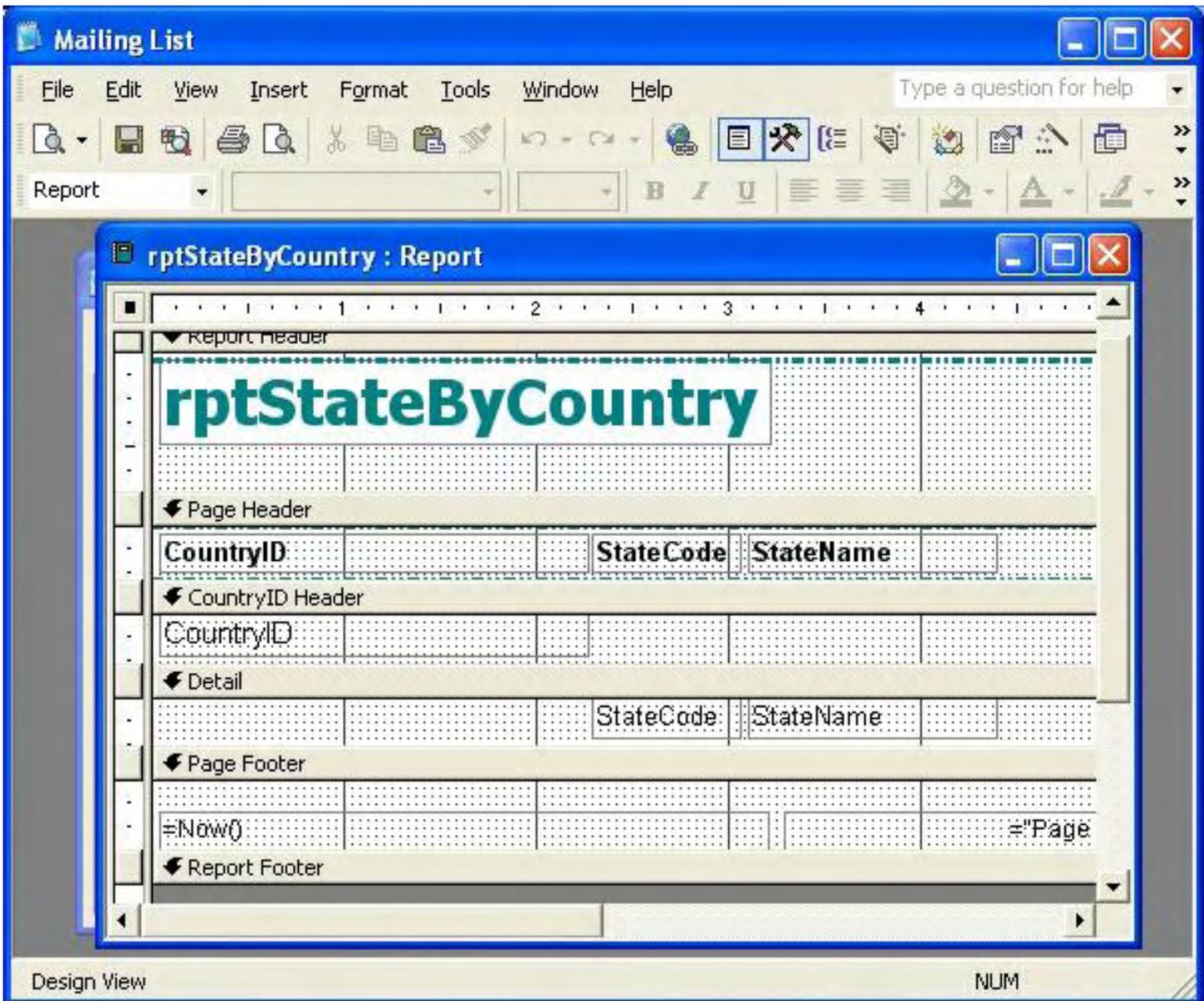
Figure 5. State report design.

Aside from the Page header, you also see a Report header (that will show a report title only at the top of the first page) and a CountryID Header. Notice how this section has a text box that will show the CountryID number. That section allows you to show the CountryID as a separate section rather than repeated within the Details section. You also see column headings in the Page header and some interesting boxes in the Page Footer.

Next week, we'll look at two ways to make the report show the country name. We'll also further explore sorting and grouping options, as well as those mysterious things in the footer.

Thanks for reading, and spread the word to friends. Feel free to send e-mails so I can make some simple projects to answer questions you may have related to Access.

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.

EdgeWord: Microsoft's Bing?

"Sorry, Bing, Google's a Verb" by Jack Dunning

Microsoft is planning to waste $100 million on advertising Bing, in an effort to carve off a tiny piece of Google's market.

The word "Google" has become synonymous with the verb "to search for something on the Web." "I'll Google him before I go on a date with him." Just like "Xerox" for a photocopy, Google's company name has become part of our common language. From a company copyright aspect, this is not a good thing. From a marketing position, it's the best. Google owns that position in our minds that encompasses finding names, places and things on the Web. Even if we use a different search engine—which isn't likely since Google owns more than 80 percent of the market—we still think of Google.

Anyone who understands marketing knows that once a company obtains that number-one position in the minds of consumers, it is nearly impossible for competitors to knock them out of it. It's as if the name of the product and/or service is permanently etched into the brain. It's not impossible to dislodge a number one, but it takes much greater resources on the part of competitors than it takes for that number one to defend its position. That's why it's odd to see other businesses pouring millions of dollars into campaigns that are doomed to failure.

Microsoft has its own number-one position with Windows—whether deserved or not—and it has generated so much cash that Microsoft feels obligated to throw away a good bit of it. In this case, it's Microsoft's latest venture into yet another search engine called Bing. According to reports, Microsoft is planning to waste $100 million on advertising the new entry in an effort to carve off a tiny piece of Google's market.

For all I know Bing could be a much better search engine than Google. (I've taken a glance at it, but don't know enough to make an evaluation.) However, Microsoft should know—as evidenced by complaints about Windows—that having a better product is almost meaningless when going up against a number one. As it has in the past, Microsoft will continue banging its head against the search engine wall—and again it will fail.

Microsoft has a much better chance of success in the world of cloud computing, where there is not yet a number one. Everyone, including Google and Microsoft, is making forays into this approach to computing, which more closely integrates applications using both the computer and the Internet. Google is pushing its Google Apps (*www.google.com/apps/*), while Microsoft offers Windows Live (*home.live.com/*). Both are pursuing this concept of cloud computing.

Cloud computing refers to using the Internet (which is in the clouds) as the backbone for computer applications. Rather than all software and files being located on individual computers, or isolated servers, third parties, such as Google or Microsoft, give you a central Internet location—accessible from anywhere—to use as your personal (or business) computing center. You can use applications and save data in the cloud of the Internet. You can create your own network of other users (family and friends) with whom you communicate and share data.

I personally believe that integrating an individual Internet space into our daily computing is the natural evolution of the current technology. (That means you should be skeptical of the entire concept, since I'm usually wrong.) It's not just me, but many companies are betting billions on the idea that you will want to

make their servers your home in cyberspace. Eventually (five or 10 years), a business will emerge as number one in offering Web applications and services. Their name may even become synonymous with the concept of cloud computing (I actually hate that term). History tells us that it will probably not be Microsoft or Google. Most likely an upstart company, which I've never heard of, will take the inside track and win the battle.

In the meantime, it must be nice for Microsoft to have so much money that it can toss $100 million in the trash by advertising its Bing search engine.

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*

Editor's Letters: Tips and Thoughts from Readers

"Computer and Internet tips, plus comments on the articles and columns." by ComputorEdge Staff

"Best Free Antivirus Programs?," "Comodo Internet Security," "How to Make Charts"

Best Free Antivirus Programs?

[The following letters are in regard to Jack Dunning's May 29 article, "The Best Free Antivirus Programs."]

I am amused by some of the nonsensical criteria whereby people assess various products or services, in this case free antivirus software.

For instance, right up front, author Jack Dunning states that those who have done testing of Avast say that it "comes in slightly behind Avira in terms of detection." Thus, it would seem logical that Avira would pull a higher rating than Avast. As I scrolled down, I waited with bated breath, anticipating a great score. But alas, I was met with a 3.5!

What? Let me get this straight: It gets higher scores in the area of virus detection by those who actually tested Avira, yet it gets a bad score in the area of popularity. Oh, now I see, many people were annoyed by Avira's "pop-ups" offering to upgrade from the free to pro edition. Well, that certainly explains it all.

Now, I must ask, is being annoyed by a silly pop-up reason enough to give this great little free AV program a comparative failing grade? I think not. I don't understand some people's keen sense of illogical reasoning, but hey, it's a free country (at least for a little while yet), so let 'er rip.

Meanwhile, I already checked these programs out for myself and found Avira not perfect (what is?), yet better than its contenders in the field in many areas.

To reinforce what I just said about illogical reasoning in reviews, a while ago I dug deep trying to discern what would be the best AV program to invest in. With all the great-sounding reviews, I concluded that Bit Defender's new all-in-one 2009 was probably my best and safest choice. I did their 30-day free trial thing, which went fine. However, the moment I bought the package, that's when the "Fit hit the Shan," as they say. It was like I had invited a demon to infest my computer. I tried their advertised 7/24 tech support, which turned out to be robotic e-mails. I finally managed to uninstall it and get my money back.

Bottom line: Don't believe everything in reviews. "Best" isn't always best!

-Ron Myers, El Cajon

I use CA Anti-Virus software, because it is offered free by RoadRunner and is compatible with RR, and comes with a suite of other free software, namely, Anti-Spyware, Personal Firewall, and Anti-Spam. It is easy to run and can be set up to run weekly in the background when our computer is not in use. Otherwise it is slow.

-Jerry Albert, San Diego, CA

My vote is definitely for Avast. I've been using their software for several years—probably more than five, and have both recommended it to friends and installed it on their machines. I call myself a "wannabe" computer nerd! I know probably enough to get me into a whole lot of trouble, but that doesn't seem to stop me!

The two things I really like are: 1) it scans in screen-saver mode; and 2) almost daily automatic downloads of updates, and fast! Now I would have to admit that the others probably have these features as well (incidentally I have *paid* for both versions of McAfee, before their *sellout*, and Norton and *removed* them from my machine), but I haven't taken the effort to find out!

-Stephen Schiller, Apple Valley, CA

Achilles' Shield by Indefense, Inc. works by monitoring behavior on the PC and doesn't need a virus list that has to be updated often. My PC hasn't been infected since 2000. However, I can't scan the boot record on NTFS drives and XP doesn't acknowledge.

-Walter, San Diego

I've used SUPERAntiSpyware (*www.superantispyware.com/*) for years and have tried the two main virus/ spyware programs without success. SUPERAntiSpyware kicks out viruses, spyware, Trojans, etc., and yes, it's free—but the best part is that it is great software.

-Jerry Hughes, San Diego

I've used Avast for a few years. It does automatically update about twice a day. I run it on an old Pentium II machine running XP Pro and it does slow it down a bit when installing the updates. I think the user interface is a bit clumsy, but hey! It's free and it works!

I haven't encountered a virus or other bug in a few years. I wonder if we've achieved some kind of "herd immunization." The last time Avast went off was when I visited a south Asian news Web site.

No need to switch to a Mac. Just run an antivirus program and don't download "free" smiley faces and ringtones.

-Karl Weiszhaar, Denver, CO

[Rising Antivirus Free Edition 2009 (*www.freerav.com/*) gives] great results, [with a] low imprint [and] daily auto updates.

-Frank J., San Diego, CA

Unfortunately, the article came about a month too late to help me when my daughter's laptop, originally my son's, got badly infected, likely from a bogus e-mail or Facebook link. This was one of the really nasty ones that immediately connected to various sites in Russia to download more viruses. By disabling the network card and copying down various utilities to a CD on another computer, I was able to keep it in check and try a couple of freeware antivirus scanners.

Unfortunately, AVG's installation repeatedly failed about 80 percent of the way through, and I got no response from any AVG person about curing the problem. That's always a risk you run with freeware. I ended up purchasing the Ad-Aware Pro combo package on sale nearby and that did clear out the virus and I have not had a problem since.

-Stewart A. Levin, Centennial, CO

For anti-virus software, I am sticking with AVG. I have tried three different anti-virus programs since I got my first laptop in 2005. The computer came packaged with Norton, which worked well enough for me at the time, since I had never tried anything else before.

When I went to the dorms at my college, they required us to use McAfee in order to use the Internet. I found that it was slower than Norton on my system and not nearly as effective. I was infected twice with McAfee—McAfee couldn't actually remove the virus.

Since I left the dorms at school I have been using AVG. It is quick compared to both of the other programs and my computer doesn't slow down nearly as much while it scans. I have yet to be infected by anything in the last two years that I have used it.

-Donja, Coronado, CA

Comodo Internet Security

[Regarding Michael J. Ross' May 29 article, "Comodo Internet Security":] Very thorough write-up.

Please check out BLINK by eeye.com. It is commercial grade and also has a free option for individuals. It alerts you to any "nasties" as you surf the Net, and checks your downloads in the background. I've recommended it to several people and they eventually forget it's running.

-Bob DeMaggio, North County, S.D.

How to Make Charts

[Regarding Jack Dunning's May 15 article, "Quick and Not-So-Dirty Chart Making":]
Very good and helpful article. A simple subject that often is very confusing.

-Al Collins, San Diego

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If you want to submit a short "ComputorQuick Review", or yell at us, please e-mail us at *ceeditor@computoredge.com.*