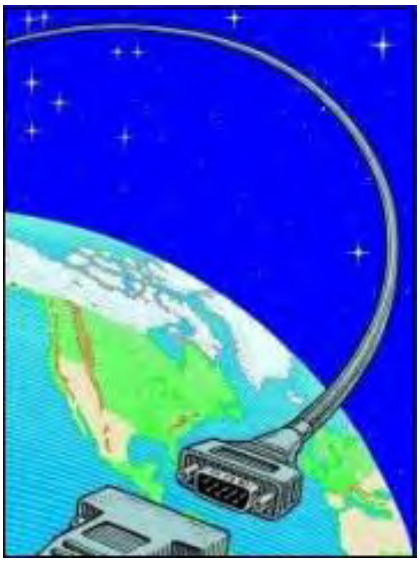
ComputorEdge™ Online — 03/05/10



This issue:
Putting Computers in the Clouds

Cloud computing is an industry buzzword, but what's behind all the hype? Here's a look at the benefits and pitfalls of entrusting data to the cloud.

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Cloud Computing, Mac Style

If you need the benefits of cloud computing, but prefer a custom option, a Mac mini server can fit within your budget. Also, no matter which mobile phone operating system wins, nearly all mobile phones use ARM processors so ARM always wins; Agent 18 specializes in unique Apple accessories; the marketing magic of Apple; and a tip on changing your default e-mail program.

Linux Lessons: Tips and Tricks from Users by Pete Choppin

The Direction of the Linux Column

A reader's feeling that this column does a "disservice" to readers underscores the fact that what Linux is to you depends very much on your point of view.

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JavaScript in Your Web Page

Ah, JavaScript. What is it? How do we use it? JavaScript is a convenient and relatively easy tool for developing functional and spiffy Web pages. Here's how to get started.

Spam of the Week: Sonia wants to be my friend! by ComputorEdge Staff

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The usual solicitations for male enhancement and Russian friends were flowing this week. Don't follow links in unknown e-mails—just delete them!

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EdgeWord: Build Your Own Virtual Office by Jack Dunning

Hey, Google, Get Off of My Cloud

What is significant is not having a virtual office, but that anyone can have one—and it doesn't need to be dependent upon Google, Amazon or any other "cloud" company. It just isn't that difficult with today's technology.

Editor's Letters: Tips and Thoughts from Readers by ComputorEdge Staff

Computer and Internet tips, plus comments on the articles and columns.

"Making Web Pages," "SSD Drive," "Damaged Laptop Keyboard," "The Cloud," "Spam of the Week," "Digital Books: It's the Experience," "I Am Sick of the iPad"

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Digital Dave

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

Should a reader accept the KB971033 upgrade for Microsoft's Windows 7?; Is there either hardware or software to grab and redirect the parallel data output to a USB port?; A reader's computer goes kaput whenever he tries to view streaming video.

Dear Digital Dave,

Is it true that if I accidentally accept the Microsoft Windows KB971033 upgrade, I won't be able to reverse it by uninstalling it?

Do you have any suggestions about whether or not to update and install Microsoft Windows KB971033?

What are opinions saying about KB971033? I read that Microsoft will downgrade my system if they declare it not to be genuine, even if it is in fact genuine.

K.G.
Santee, California

Dear K.G.

The KB971033 upgrade is touted by Microsoft as a fix of numerous bugs in Windows 7 that have been exploited by software pirates. Unless you have reason to suspect that you don't have a legal copy of Windows 7, you should have nothing to fear—although it is not outside the realm of possibility that Microsoft will do something boneheaded like harassing valid Windows 7 users. My understanding is that the worst that happens is that you will get offers from Microsoft for upgrading to a legit copy, but they may be accompanied with threats. Microsoft will need to tread softly if legal users start getting annoyed.

You can avoid the update by deactivating automatic updates and unchecking the KB971033 upgrade when it arrives. (Right-click on the update to hide it.) However, this is likely to only be a temporary solution, since when the first Service Package (SP1) arrives it will be included. (I don't know when SP1 is coming.)

If you are worried about problems, create a restore point before updating. Then you should be able to return to the original configuration. (I've read that the KB971033 upgrade doesn't automatically create a restore point before updating.)

Lastly, you may want to at least temporarily block the update until the initial fallout has been revealed and passed on via the Web. The KB971033 upgrade has only just been released by Microsoft. If there are real problems, they will quickly come to light.

Digital Dave

Dear Digital Dave,

Since I doubt this will be of interest to many, I wouldn't expect to see an answer to this published, but if there's any chance of you helping me, I'd sure appreciate it:

I use a couple of programs which precede the existence of USB—my printer output goes only to a parallel port. Is there either hardware or software to grab and redirect the parallel data output to a USB port? I haven't come up with much help searching online.

Richard Benton
San Diego

Dear Richard,

You may be surprised how many people are trying to use legacy software (programs written to run on older operating systems). This is usually because the market was so narrow for the application that it was never converted to Windows by the original programmers.

Under DOS, printing was directed to the printer via either a parallel port (LPT1, LPT2, etc.) or a serial port (COM1, COM2, etc.). Usually, the program would allow you to select the port for output, but sometimes you would need to "capture" the output and redirect it to the appropriate port.

This was before the time of the now ubiquitous USB port. Since there was never an accommodation for redirecting to a USB port, your software won't directly support a USB printer. What is needed is a software fix that will fool the program into thinking that it is printing to a parallel printer.

In the search engines, the key search term I used was "redirect LPT to USB." I did find some programs that claimed to solve the problem, but I'm not including any here because the reviews were horrible. (Perhaps someone out there is familiar with a good program that solves the problem.) However, there is a Windows command ("net use" explained at Microsoft) (*support.microsoft.com/kb/154498*) that may do the job for you. This command is run from the command window and may be a good bet, although I didn't have time to try it out.

If you can't get the redirection working, many older programs have a print feature called "Print to File." This will allow you to create a file containing the printer output. If you select the appropriate settings for the file, you may be able to print with another program—even Notepad if it is a text file.

If anyone has any other better solutions, then we would like to hear them.

Digital Dave

Dear Digital Dave,

I have a three-year-old computer (Pentium D 2.80 GHz, 2GB RAM, on-board video and sound) running Windows XP. I have a wireless 802.11g card, with signal strength that fluctuates between good and excellent. Everything is up to date, and for the most part, it is running well.

All that changes whenever I try to view a streaming video. Immediately, the CPU usage pegs at 100 percent, the video stutters terribly, the sound is completely out of sync with the video, and I just give up trying to watch. I experience this whether I am using IE 8, Chrome, or Firefox. Lately, I noticed that even playing MP3 files through iTunes causes the CPU to run close to or at 100 percent.

I recently performed a clean install of Windows XP hoping that maybe the problem was software related, but the problem is the same. At this point, I figure it must be hardware related, and while the computer is hardly state of the art, I have a tough time believing that it can't handle streaming an

episode of The Office off of NBC.com.

I'm about to throw in the towel and just buy a new computer, but figured it was worth a shot to contact you in hopes that you might have some ideas. My suspicion is that there is something wrong with either the CPU or the motherboard, but I really don't have the time to search out an older motherboard/CPU off of eBay or the like, tear the whole thing apart, put everything back, and then just end up with the same problem.

This is my main home office computer, so it would be tough for me to be down that long. Still, assuming I buy a new one, I'd like to figure out what is wrong with this one so that I could keep it as a spare. Any thoughts?

Stephen Chan
San Diego, CA

Dear Stephen,

There are a number of issues that could be involved in video streaming. The first question is, "Did your video streaming ever work?" If not, then you most likely don't have adequate hardware and it may not be worth the time to try to solve the problem. Although with the hardware that you have, video streaming should work.

The key to video streaming is the decompression of the data stream. It is very processor intensive and it sounds like your processor is working pretty hard. Open the Task Manager (CTRL+SHIFT+ESC) and select the Processes tab. The numbers under CPU represent the usage of the CPU by programs that are running. If there is a process other than the video streaming application that is taking up a large percentage of the processor time, then it could be causing a slowdown. Also, check the Performance tab to see if all of your memory RAM is being used. You could be running out of RAM depending on what else is running.

If there doesn't seem to be another program hogging CPU time, then CPU could be pegged trying to decompress video. In that case, you would need to upgrade the CPU.

Two gigs should be enough RAM for video streaming, as long as it is available to the program. You could have some bad RAM.

Another possibility is that you need more virtual memory (hard disk swap drive) allocated. Or, the hard drive could be failing, causing long pauses when it tries to write virtual memory. Does it generally take a long time to do drive accesses?

It's not likely to be the video card since you don't need much of a video card to stream. Decompression of streaming video happens on the CPU. Onboard video is generally fine unless you need 3D, although I always prefer to have a separate video card. This could make more of a difference in Windows Vista and Win 7.

I've also read that hardware acceleration can cause a problem with video streaming on XPs. To turn it off, open the Control Panel/Display, pick the Settings tab and Advanced, click on the Troubleshoot tab and disable hardware acceleration (drag to the left). I haven't been able to test this.

While it may be tedious to troubleshoot your system, the video streaming problem may be a symptom of another more serious problem (hard drive, memory, etc.). It could be worth your time to either track it down or move to a new computer. That's your call.

Digital Dave

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An Overview of Cloud Computing

“A primer for those looking to wade into cloud services.” by Pete Choppin

Amid all the hype surrounding cloud computing, it is important to remember some "gotchas" that can make or break your plans to head into the cloud.

For a lot of businesses and their IT staff, "cloud computing" is the latest IT buzzword to leave them scratching their heads. To demystify things, here's a primer in case you are looking to wade into cloud services for the first time.

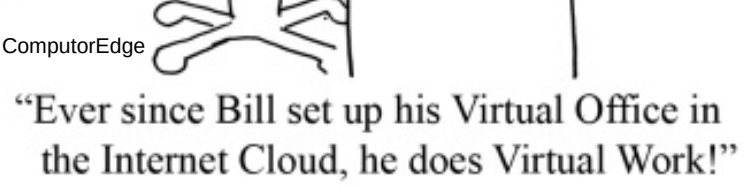
What Is Cloud Computing?

In general, any service or program sent over an Internet connection can be considered a cloud service. An outside vendor runs the servers and software, so the buyer doesn't have to worry about the technical issues in-house—and can focus on his or her own business.

“Ever since Bill set up his Virtual Office in the Internet Cloud, he does Virtual Work!”

The services come in a number of forms. Many businesses are already familiar with one aspect of cloud computing: software delivered over the Web. Along with e-mail services like Google Inc.'s Gmail, there are programs that help salespeople keep track of customer information, such as Salesforce.com (*www.salesforce.com/*), and backup data-storage services from providers such as Mozy.com (*www.mozy.com*).

Some businesses don't just use software services, they buy computing power from vendors such as Verizon Communications Inc.—much like buying power from a utility. Let's say a retailer expects lots of additional business during the holidays, and its in-house servers can't handle the load of customer orders. The company might pay a vendor for the use of its servers, to shoulder part of the computing work as the need arises.

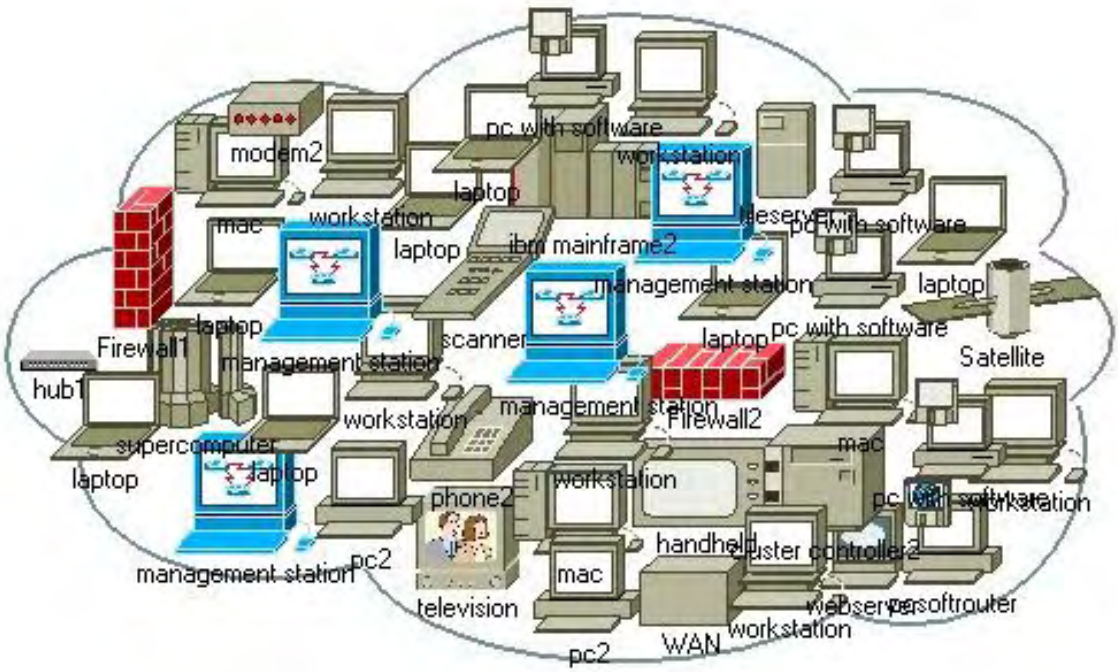


Other companies, meanwhile, might buy computing power on a regular basis. They might drop one or more in-house servers entirely—or not buy the hardware in the first place—and let a vendor run their vital programs on its machines. Once again, the buyer would pay a fee based on how much computing power it used.

What Cloud Computing Is Not

Because the term "cloud computing" is so broadly used now, there are some misconceptions as to the purposes, usage, and the concept of cloud computing.

First, the concept of the "cloud" is derived from IT and network professionals describing various connections from private networks connecting to the public Internet. To describe the vast interconnecting nature that makes up the World Wide Web, it became commonplace to simply draw a cloud when describing connections to and from the Internet, rather than to go into the various connections such as the ISP, Internet routers, backbones and other complicated and intricate services that actually make up the Internet as we know it. As this became more and more common, the cloud diagram became the standard symbol to represent the Internet.



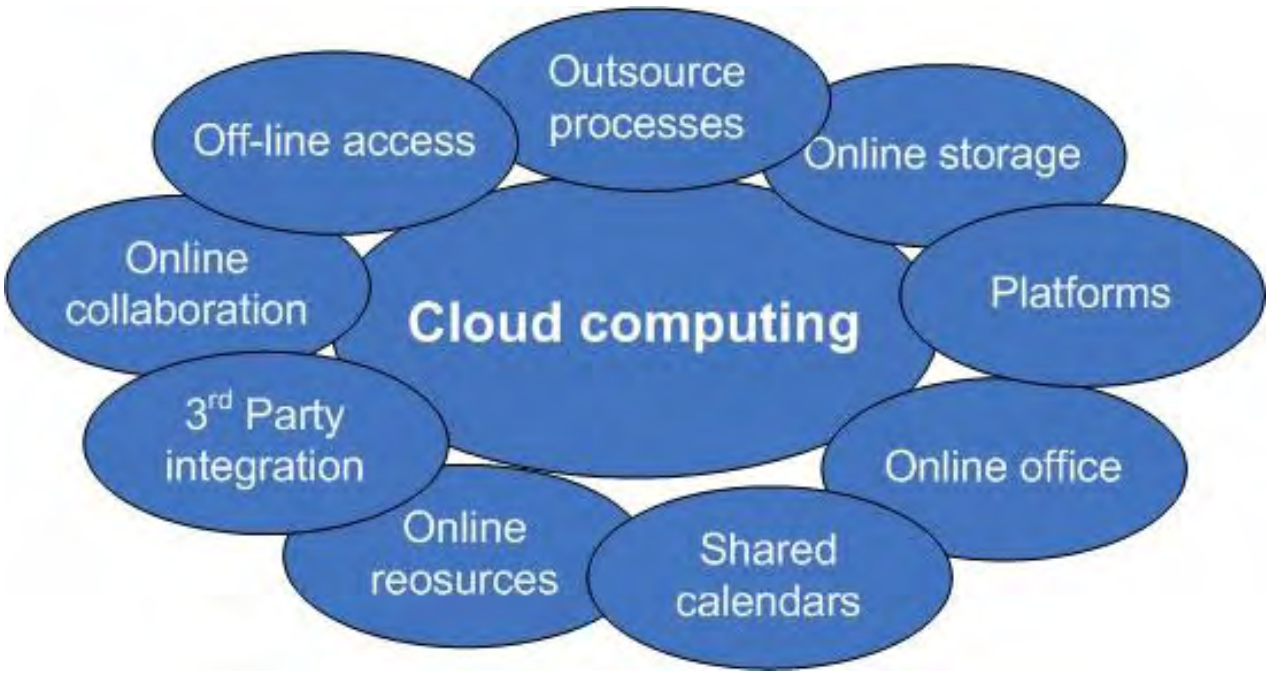
THE INTERNET

So if the cloud represents the Internet, anything that is considered "cloud computing" should reference or infer that all of the services and applications in the cloud are, by definition, moved to the Internet.

One misconception I have seen floating around some business and IT circles is that cloud computing equals virtualization. This is not actually true. When we talk about computer virtualization, we are referring to the ability to create entire self-sustained environments that function completely as though they are physically in a "real" environment, but are actually not using separate real, physical hardware. An example would be a virtual machine. This is an entire computer system that uses software that configures special files on a hard drive that mimic a physical machine, and yet there is not a separate, self-

contained computer running the system. Virtual machines are usually hosted on powerful servers that manage multiple virtual computers. These can be operated by users that access the server and launch the virtual machine. The virtual environment is completely transparent to the end user and it appears to the user that they are running a separate physical computer, when in fact they are not.

This differs with cloud computing in that the Internet is not hosting these services, but a physical server provides the virtual environment. Cloud computing, on the other hand is moving an in-house service to a third-party company on the Internet, which then hosts these services for you—for a fee.



Another way to look at it is that virtualization provides a computer on which any number of programs, applications and services may be installed, but cloud computing simply provides services and applications that are accessed, hosted and managed on the Internet, primarily by third-party companies.

Costs Involved with Cloud Computing

Unlike traditional applications, which require hardware such as servers and IT staff for maintenance, cloud services may carry less in upfront costs. Consider software. Salesforce.com's offering for businesses costs between $5 and $25 per user each month. Google offers a host of programs including e-mail, a word processor, video and a hosted Web site for an annual fee of $50 per user. For small businesses that have more extensive computing needs, such as drug laboratories with extensive software, cloud services could cost more than $1,000 a month.

As for buying computing power, some providers charge for a certain amount of memory and computing configuration. Terremark Worldwide Inc. (*www.terremark.com/services/cloudcomputing.aspx*), for example, charges six cents an hour for one gigabyte of RAM and the equivalent of one processor.

One caveat that might bump up costs a bit: If you're going to rely on the Internet for your services, you will need a solid connection. While some believe a business-class DSL connection is sufficient, many industry observers and consultants recommend getting a faster line, such as a T1.

How Much Does Cloud Computing Cost?

Certainly there are some savings that come from cloud computing. Servers, for instance, run between $2,000 and $6,000, and companies might need to add multiple machines as demands on their IT system grow. It may also be beneficial for some

companies to reduce IT support staff; however, it is important to look at the whole picture and the trade-off for reducing staff vs. relinquishing the control over your applications. Costs for moving to cloud computing may not be as clear cut as simply eliminating hardware, software and personnel.

Is Cloud Computing Reliable?

Not only is it reliable, is it also secure? How much risk are companies willing to take with their data?

This is a big sticking point for many businesses. Many managers and IT administrators are reluctant to let their valuable data flow outside of their internal firewalls. And big-name vendors make more attractive targets for hackers. For instance, wide-scale denial-of-service attacks hit AT&T Inc.'s and Google's Web sites last year.

There are always risks when placing the heart of your business—your data—into the hands of third-party services out on the Internet. Performing a risk analysis before considering moving any data to the cloud is essential. One solution may be to migrate only those services that do not involve crucial data.

A Word of Caution

Amid all the hype surrounding cloud computing, it is important to remember some "gotchas" that can make or break your plans to head into the cloud.

Data quality can be an issue. As companies move e-mail and other applications into the cloud, the integration points (Active Directory, for example) will become weak links and IT problems if your data isn't clean.

There are a range of IT governance issues, not the least of which is e-discovery (*en.wikipedia.org/wiki/Electronic_discovery*)—the disclosure of data for legal purposes. One question that can come up: How do you run e-discovery against hosted e-mail? And what privacy protections are in place so that your company's legal experts can access what's needed, but not the cloud service provider? We have experienced this where I work and, as you can imagine, our legal department was extremely concerned with confidentiality and access to data.

Many IT departments overlook or underestimate the network bandwidth requirements for cloud computing. A good rule of thumb to go by is that you may need to increase network capacity by a factor of up to five to be able to handle the transfer of data.

It is clear that IT pros need to do their homework on service-level agreements as they shop among cloud service options. Some provide SLA agreements and some do not.

All of this doesn't mean that IT departments won't move to cloud computing, but it's a reminder that a fair amount of planning and roll-up-your-shirtsleeves work may be required. It's tempting to think that on-demand, Internet-based software and services are like flipping on a switch. For small projects that may be true, but for enterprise IT, it's seldom the case.

Cloud computing has some real potential. However, the technology still needs to mature. Cloud computing certainly offers some companies some definite advantages, but it is not for every company or every service. IT professionals have their work cut out for them to properly prepare, research and implement cloud services where they make sense, and then make a case for this along with risk assessment and return on investment to their management.

We should see more of this in the future, but trends suggest that companies are reluctant to turn all services over to a third party to take over in the cloud.

Pete Choppin has been an IT Professional for over 15 years. He currently works as a network and systems administrator for a company called Albion based in Clearfield, Utah. He has experience in all types of hardware, software, and networking

technologies. He is proficient in many operating systems including Linux, Windows and Macintosh. His interests include cooking, sci-fi, computers and technology, and Web design—a semi-professional endeavor, having designed Web sites in the dental field, e-commerce businesses, and for the Boy Scouts of America.

Pete has been a devout reader of *ComputorEdge* since 1990 and contributes regularly to featured articles as well as the Linux Lessons section of *ComputorEdge*. He can be contacted at *pchoppin@comcast.net* but prefers to have comments on *ComputorEdge* articles submitted to the editor and posted for the benefit of all readers.

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Cloud Storage Basics: Entrusting Your Data to the Ether

“Cloud computing has amazing potential, but beware security and data-loss pitfalls.” by Michael J. Ross

> While storing your data off-site is convenient and can be cost-effective, be wary of entrusting your business or personal information entirely to the cloud, or you may just get rained on.

Even though computer hardware has become only more sophisticated with time, the essential process is just the same now as it was decades ago when computer operators ("computors") sat at teletype consoles, and manually entered in all the data, which would then be stored on punch cards and later magnetic tape. In every computing era, the basics are the same: data is entered into the system, saved on long-term storage devices, loaded into memory to be manipulated by programs, and the results then saved back out to storage.

Despite amazing strides made in increased miniaturization and speed, each step of the process is just as vulnerable today as it was back in the early years. More importantly, any piece of hardware in the chain can be replaced if it should fail. But the data itself is possibly irreplaceable—particularly if it contains creative work, such as ideas for future products, or a novel that has taken an author many years to write. If this data is not backed up, then the failure of a single hard drive can instantly wipe away a tremendous amount of work and cause untold grief for the individual who has worked so diligently to create the original material, and given no thought to the mortality of hard drives and other storage media.

Even if computer owners are aware of the dangers of data loss, it will do them no good if they do not follow up with implementing a backup strategy. This is but one reason why the computer industry has sought for ways to minimize the odds of data loss by their customers. The latest major development along these lines is "cloud computing".

Not Just for Eggheads

To the average non-technical person, the phrase "cloud computing" may evoke images of angels lounging on billowy clouds, their cherubic fingers dancing on laptop keyboards instead of golden harp strings. Or, people might imagine the phrase to describe some absent-minded computer science professor, with his head in the clouds, lost in thought (or at least lost in the halls of a university building). But in reality, the "cloud" consists of all external computational resources that your PC can access and utilize—whether for storing data or performing calculations upon it. For all practical purposes, a cloud computing resource resides on the Internet.

An excellent example is any one of the Web-based data storage services, such as Amazon S3 (*s3.amazonaws.com/*) (Simple Storage Service) and Mozy (*mozy.com/*). They make it possible for you to back-up your critical data—in encrypted form, to keep it private—so in case your computer does experience a total hard drive failure, you won't lose all of your personal information—except of course for any changes made since the last time you saved your files into the cloud.

One of the reasons as to why the term "cloud computing" resonates with so many tech-savvy people, is that it reflects the fact that the data storage and computation is being done "somewhere" off-site, and yet it is easily accessible—as close as the nearest Internet connection. Fans of cloud resources do not know or even care where the third-party servers and processors are located, nor how the servers' hard drives are backed up, or who is constantly monitoring these processes to make sure that everything is running smoothly. All users care about is that their information is kept safe and available whenever needed.

Beware the Thunderclouds

Innumerable computer industry pundits are proclaiming cloud computing as a truly beneficial revolution in data and information technology. As evidence, they point to the quantifiable advantages provided by cloud computing to organizations

of all sizes, which are able to lease data storage and computational capacity from Internet-based providers, thus significantly reducing their required capital investments in computer equipment, software and support staff. In addition, they may no longer lose money on purchasing licenses for aging programs (and, in some cases, aging programmers!).

Critics respond that any reliance upon third-party vendors for mission-critical data storage and processing, puts any organization at nontrivial risk, should any one of those providers fail, even just temporarily. The horror stories of such failures began not long after the introduction of cloud data storage, and the list grows with each passing year. For example, in August of 2008, The Linkup, a Web-based storage service formerly known as MediaMax, lost up to 45 percent of its customers' data, forcing the service to shutter. Imagine the impact this had upon organizations and individuals relying upon that service. Even the biggest names can fail in a similar manner. The homepage of XDrive (*www.xdrive.com/*) states that the service is now closed, but suggests an alternative, Box (*www.box.net/*)—presumably for those people who would be willing to go through that process again, with a similar possible outcome.

Proponents of cloud computing may respond that no one should rely completely on any external provider, and that one should always make and protect internal backups. Yet if this is the case, then what is the purpose of paying someone else to perform that same role—particularly if they may be less reliable? Those defenders might reply that The Linkup was a fairly small enterprise, and therefore does not represent the whole cloud storage sector. However, even the most well-known names are not immune to major problems. In July of 2008, Amazon S3 was subject to at least eight hours of downtime, as well as increased error rates, in the United States and Europe. In fact, that was not the first such incident, but rather a repeat of the crisis that occurred in February of that same year, when the service was unavailable for about three hours, bringing down with it all the Web-based applications of other organizations that relied upon S3—including both Tumblr and Twitter, which had relied upon S3 for storing and serving various graphics files.

There are other worrisome issues with the overall cloud paradigm, including the privacy and protection of sensitive data. For example, cloud-based medical records services—such as Google Health (*www.google.com/health*) and Microsoft HealthVault (*www.healthvault.com/*)—are intended to store huge amounts of personal health information on the Internet, a public network vulnerable to hacking attempts. The potential benefits to consumers are unclear, and may be nonexistent, while the risks of security abuse and breaches, are equally unknown and could be alarmingly high. It can be argued that it would simply be too easy for someone inside such a service organization—or a subsidiary or even a foreign outsource firm—to break into any medical records stored on Web servers.

In addition, defenders of cloud computing must admit that there is always a temptation for any organization or individual possessing that data, to offer it for sale to legitimate companies—such as marketers and insurance companies—or, worse still, criminals who could use it for all sorts of nefarious aims. Also, disclosure does not have to be intentional to be damaging. In fact, it has already happened: In April of 2008, the largest US health insurer at the time, WellPoint, admitted that it had inadvertently released the records of potentially 130,000 customers.

Granted, cloud data storage and computing may have wonderful potential, but it is more clear that there are far too many ways that the cloud-based systems can fail—technically and operationally—with dire consequences. You can utilize these Web services as a secondary backup, but is not advisable to entrust your business or personal information entirely to the cloud, or you may just get rained on.

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.

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Windows Tips and Tricks

Windows Tips and Tricks: Windows 7 Making It Easier

"More Quick-Launch and Program Tabs Capabilities" by Jack Dunning

Taking advantage of Windows 7's quick-launch/program tabs capabilities can make your computing easier and more organized.

Last week this column offered a brief introduction to the quick-launch/program tabs on the Taskbar in Windows 7. It was noted that in most cases the quick-launch button will become the program tab at the same location on the Taskbar. However, this feature is dependent upon the program itself. Software makers have a certain degree of control over how the buttons interact with Windows 7. Over time I would expect that more programs will take advantage of these Windows 7 capabilities.

Certain programs, such as the Snipping Tool, will load only once. Limiting the loading of the program is appropriate for software when there is a reason to limit the number of copies of a program that will run simultaneously. In these situations, only one thumbnail will show up when hovering over the program tab, plus the program tab will continue to act as a toggle for activating and minimizing the window—in much the same manner as previous versions of Windows.

Other software packages such as OpenOffice.org do not currently take advantage of the Windows 7 quick-launch/program tabs capabilities. When dragged to the Taskbar, the OpenOffice.org shortcuts merely become quick-launch buttons. When clicked they will launch the program, but a new program tab will open at the end of the line of icons on the Taskbar. The quick-launch continues as a quick-launch button. (I don't know if OpenOffice.org has any plans to modify how it interacts with the Windows 7 Taskbar.)

The point is that if you're expecting total consistency in how your program tabs on the Taskbar act from program to program, you will be a little disappointed and occasionally confused—although once you get used to how things work and do some tailoring, it should be an improvement for you. There are a number of additional features in the program tabs that need to be explored.

First, if you don't like the way the Windows 7 default settings for program tabs are all combined into one tab, you have the option of never combining them. To make this change, open the Taskbar and Start Menu Properties window by right-clicking on an empty area of the Taskbar and selecting Properties from the menu (see Figure 1). The Taskbar tab should be on top. Select the appropriate value in the Taskbar buttons (program tabs) menu and Apply. Test all three options to decide which you prefer.

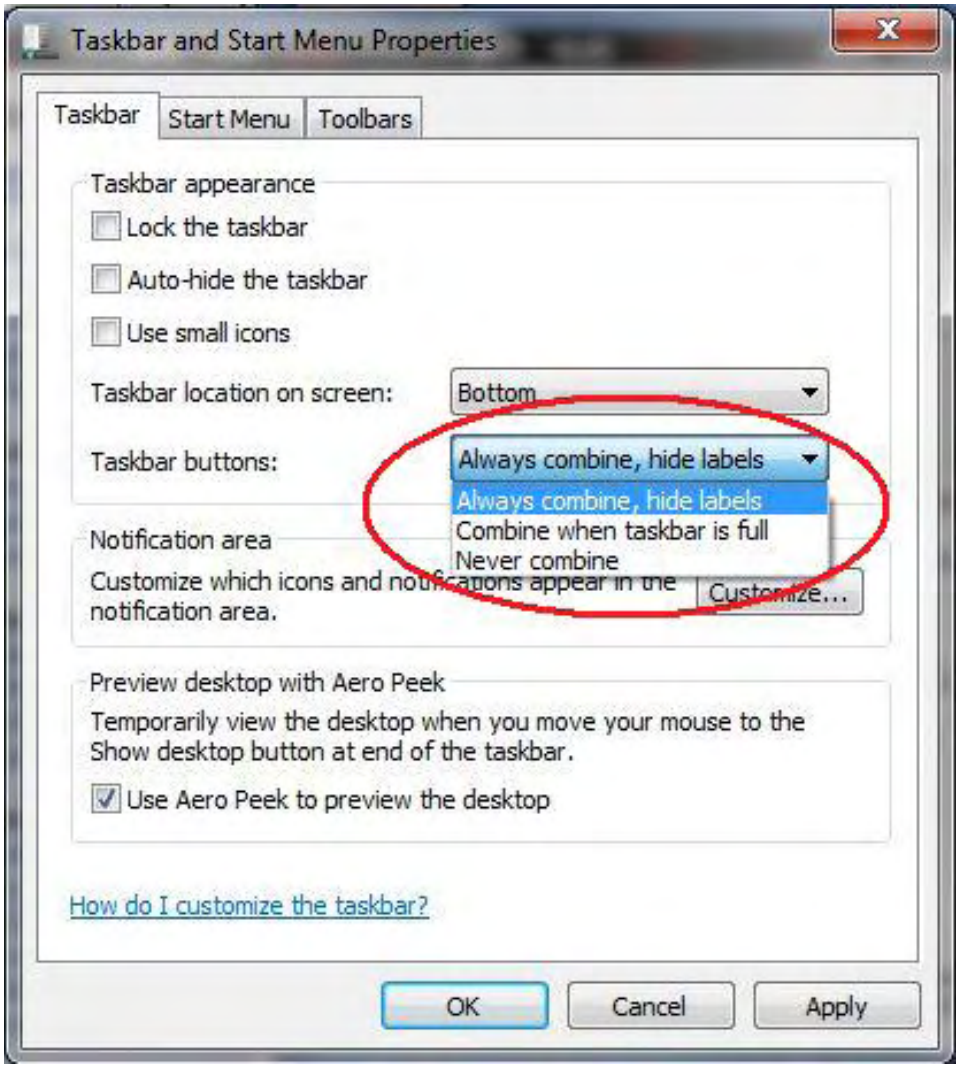

Figure 1. Taskbar and Start Menu Properties window in Windows 7 showing Taskbar button selections.

In some situations, "Never combine" may be a much better option, since each tab will continue to act as an activate/minimize toggle regardless of how many program windows are open. The primary disadvantage is that when too many tabs are open to fit on the Taskbar, they drop out of sight and require the click of a small down arrow to view the remaining icons. Hovering the mouse over the program tabs will continue to show all of the open windows for a given program. (Hint: You can increase the vertical size of the Taskbar, thus accommodating more program tab rows by clicking and holding the top edge of the Taskbar, then resizing it by dragging upward. Hint Two: Another way to fit more buttons on the Taskbar is to check and Apply "Use small icons" in the Taskbar and Start Menu Properties window shown above.)

Windows 7 Jump Lists

One of the better features of Windows 7 is Jump Lists. The concept is not new. They appear in another form in every version of Windows as Recent Items or Favorites. However, the shortcuts in Windows 7 have capabilities that make it easy to tailor your list. First, Jump Lists are program specific. The program must support the Jump Lists. However, if implemented within a program you may get a number of quick pick possibilities.

The first place that you will find the Jump List is in the Start Menu (see Figure 2). If a program has jumps, then a small arrow will appear to the right of the program name in the Start Menu, whether recently opened or pinned to the Start Menu. Hovering over the program will bring the jumps into view.

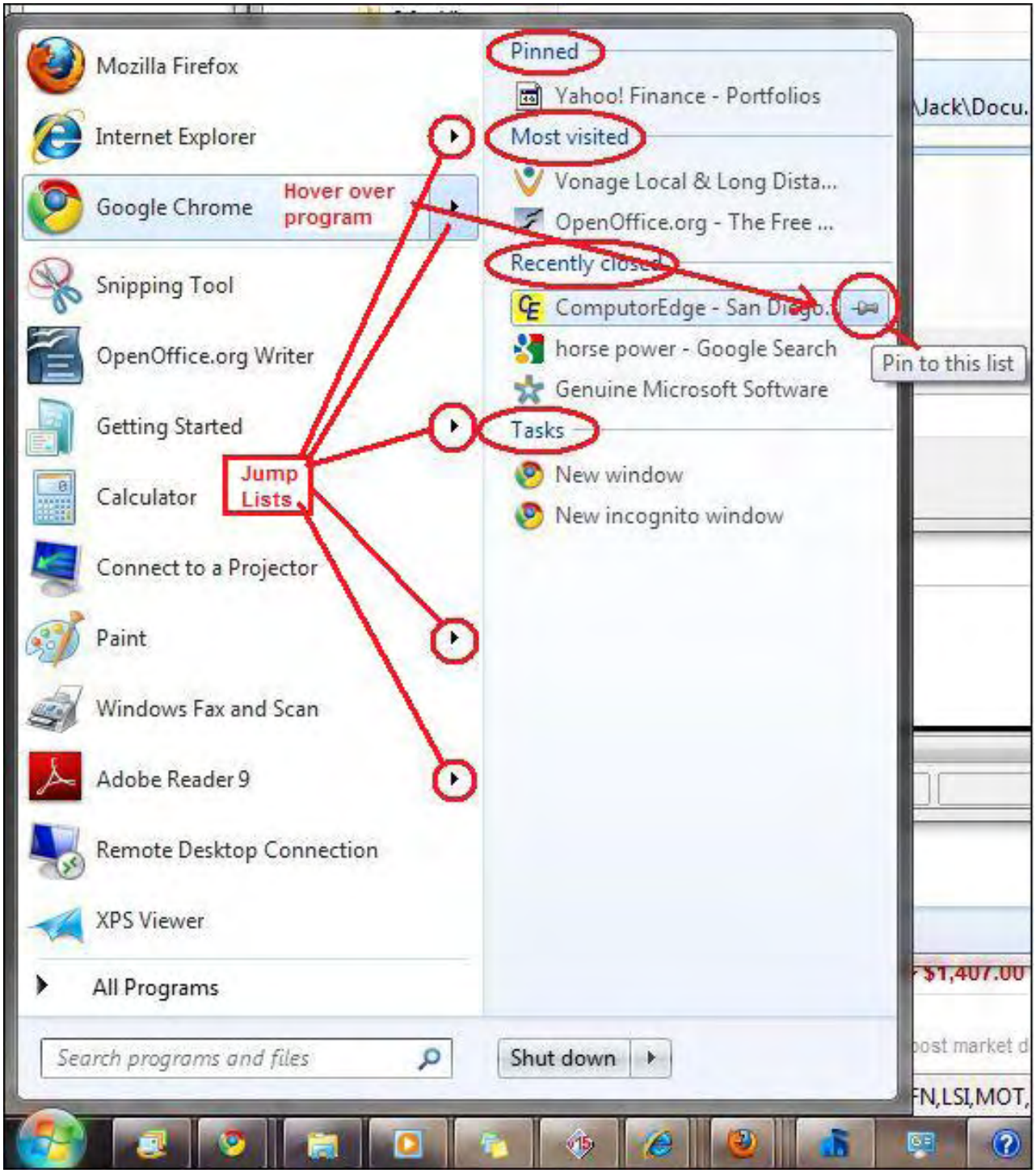

Figure 2. Jump Lists displayed for Google Chrome in the Start Menu for Windows 7.

In this case Google Chrome is pinned to the menu and displays the options: Pinned, Most visited, Recently closed and Tasks. To permanently pin an item to the list, hover over the item and click the tack icon at the right. This will save the item under the heading Pinned, adding it to the list. The Tasks heading is program specific, allowing you to execute a program's certain features while loading the program. In this case, designating whether a normal window will open or an incognito (private) window will open. The features available within Jump Lists will vary depending upon the program.

An alternative method for viewing and using Jump Lists is activated by right-clicking the quick-launch/program tab Taskbar button. The same list found on the Start Menu will appear as a menu (see Figure 3). This list acts in the same manner as the Start Menu jump list with the addition of the program launch option toward the bottom of the list.

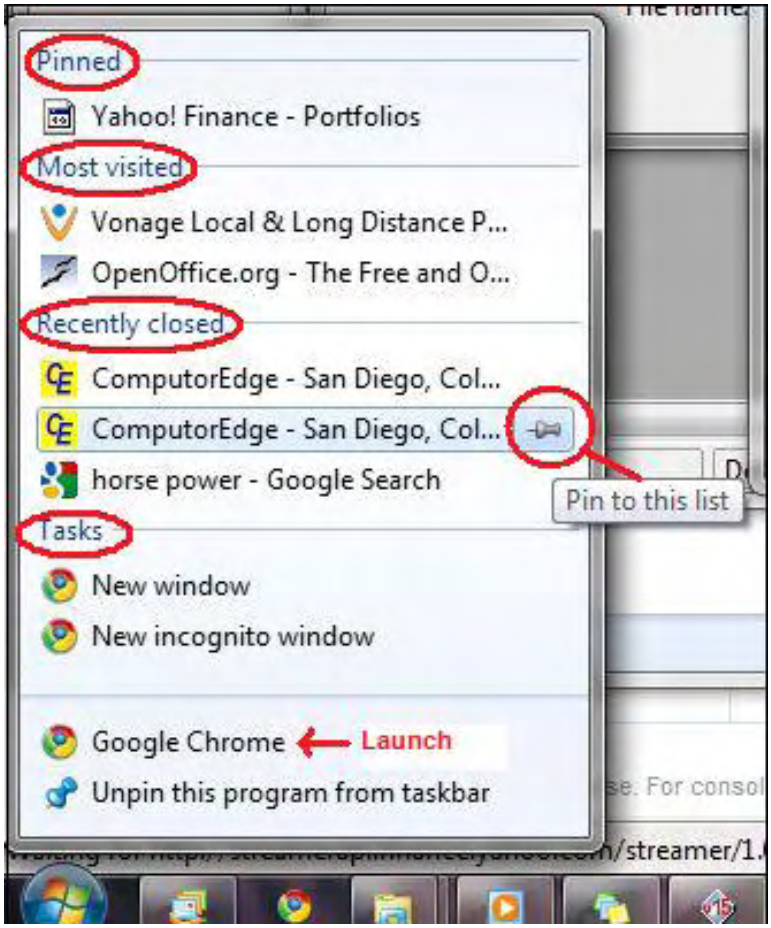

Figure 3. Jump Lists displayed for Google Chrome in the Taskbar for Windows 7.

Finding the Jump Lists in the quick launch/program tabs makes the concept of pinning a program to one location that much more useful—at least for the software that supports these Windows 7 features.

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

"Cloud Computing, Mac Style" by Wally Wang

If you need the benefits of cloud computing, but prefer a custom option, a Mac mini server can fit within your budget. Also, no matter which mobile phone operating system wins, nearly all mobile phones use ARM processors so ARM always wins; Agent 18 specializes in unique Apple accessories; the marketing magic of Apple; and a tip on changing your default e-mail program.

When many people think of cloud computing, they think of Google or maybe Microsoft. What most people don't think about is a Mac mini running a special server version of Snow Leopard (Mac OS X 10.6).

For just $999, Apple will sell you a Mac mini with two 500GB hard drives along with a copy of Snow Leopard server, capable of serving an unlimited number of users. Compared to similar server options in the PC world, Apple's Mac mini server is less than half the cost with the ability to host more users as well.

Mini PC Hardware:	Asus Eee box: $350 1.6GHz Atom 1GB RAM, 160GB HD	Dell OptiPlex 160: $400 1.6GHz Atom 1GB RAM, 80GB HD	Mac mini: $999 2.53GHz Core 2 Duo 4GB RAM,1000GB HD
Included operating system	Windows XP Home	Windows Vista Home	Mac OS X Snow Leopard Server
Small business server software	Small Business Server Standard 2003 R2 32-bit 5 users: $460	Small Business Server Standard 2008 64-bit** 5 users: $760	Preinstalled, 64-bit Unlimited users: Included
Client Access Licensing for 10 users	Add 5 Pack SBS CALs = $150 (PC+OS+CALs=$960)	Add 5 Pack SBS CALs = $150 (PC+OS+CALs=$1310)	Included
Client Access Licensing for 25 users	4x5 Packs SBS CALs = $600 (PC+OS+CALs=$1410)	4x5 Packs SBS CALs = $600 (PC+OS+CALs=$1760)	Included
Client Access Licensing for 100 users	(SBS limited to 75 users) 14x5 Packs SBS CALs = $2100 (PC+OS+CALs=$2910)	(SBS limited to 75 users) 14x5 Packs SBS CALs = $2100 (PC+OS+CALs=$3260)	Included
Total cost for serving 100 users	$2910* * Only supports 75 users	$3260* * Only supports 75 users ** Can't run on Atom CPU	$999 (Supports unlimited users)

Figure 1. A comparison between the Mac mini server and Windows rivals.

The idea behind the Mac mini server is that you can plug it into a broadband Internet connection and have a simple server ready to coordinate iCal calendars, address books and files among an unlimited number of users, including both PC and Macs. For sharing information, the Mac mini server lets you collaborate on wikis, create podcasts, and host Web sites and blogs.

The Mac mini server is geared toward small groups of people who need to collaborate on information, such as medical or legal offices, small businesses or schools. The main appeal is its low cost and the unlimited number of users it can support, as well as the ease of use of the Macintosh.

Of course, setting up your own server in an office can be risky, especially if a disaster or thief destroys or takes your server. Plus you have to worry about making backups regularly, which you can do with an external hard disk and the included Time Machine backup program.

However, for those who might like the benefits of a Mac mini server without the backup and security hassles, consider paying a monthly fee to Mac mini Colocation (*www.macminicolo.net*). This company will keep your Mac mini server in their secure location in Las Vegas and back up your data for you so you just have to worry about using it, not physically protecting it.

Figure 2. Mac mini Colocation stores hundreds of Mac mini servers for customers.

If you need the benefits of cloud computing, but prefer a custom option, a Mac mini server can fit within your budget and offer

ease-of-use so you can focus on coordinating your user data rather than becoming a full-time system administrator.

Microsoft, Dell and Intel

When Apple introduced the iPhone in 2007, Microsoft CEO Steve Ballmer laughed and claimed its biggest fault was that it didn't have a physical keyboard. (Sound familiar to today's critics claiming the iPad will fail because it doesn't have a physical keyboard?)

After watching Microsoft's mobile phone share drop from approximately 20 percent to 8 percent while the iPhone jumped from zero market share to approximately 19 percent in that same time frame, Microsoft has finally dumped its old Windows Mobile operating system and created a new operating system from scratch, dubbed Windows Phone 7, that can (surprise!) run on phones without a physical keyboard. But is Microsoft too late?

If phone manufacturers want a touch-controllable operating system, they can just use Google's Android for free, which also has a growing app market. In comparison, Windows Phone 7 requires a licensing fee, and because it's a brand-new operating system, it probably won't be able to run older Windows Mobile apps. So by choosing Windows Phone 7, manufacturers can pay more so they can offer their customers less. The Seeking Alpha Web site (*seekingalpha.com/article/128327-microsoft-s-mobile-misfortune*) recently posted an article about Microsoft's dilemma with catching up in the mobile phone market.

Before Windows Phone 7 can even arrive at the end of the year, it's already fighting an uphill battle against the growing popularity of both the iPhone and Google Android. It's easy to see why people dumped their old Windows Mobile phones for an iPhone or Android-based phone. It's hard to imagine that Windows Phone 7 will be such a radical improvement that people will want to dump their iPhones or Android-based phones for Windows Phone 7.

All of this indicates a long struggle ahead for Microsoft in the mobile phone market. Even worse, now Microsoft has to deal with netbooks adapting Google's Android and Chrome operating systems (for free, of course) and Apple expanding its iPhone operating system to run on the iPad.

Can Microsoft Windows Phone 7 steal market share from Blackberry, Apple and Google, scale up to fit inside netbooks, and give manufacturers a reason to pay its licensing fees rather than use Google's free and more established operating system instead? Maybe, but unless Windows Phone 7 dramatically leapfrogs both the iPhone and Android, it's probably not going to happen.

Of course, if you think Microsoft's future isn't exactly bright, at least everyone at Microsoft can be happy that they're not working for Dell. Forbes (*www.forbes.com/2010/02/23/dell-computer-apple-markets-steve-jobs.html?boxes=Homepagechannels*) doesn't think Dell has much of a future beyond simply assembling computers with decreasing profits despite increasing revenue. Two financial analysts on Fortune's Web site (*money.cnn.com/video/technology/2010/02/23/f_tm_dell_hp.fortune*) even discussed Dell's future and laughed when they mentioned the words "innovation" and "Dell" in the same sentence.

If Microsoft is slowly losing ground, Dell's fortunes risk plummeting drastically. With once-established companies struggling, there's an opportunity for new companies to appear out of nowhere and take over. One company poised to do just that is ARM (*www.arm.com*).

The key to ARM is that it develops energy-efficient processors that it licenses out to other manufacturers such as Qualcomm, Texas Instruments and even Apple. ARM processors are used in mobile phones, netbooks, and Apple's forthcoming iPad. In other words, every mobile computing device either uses an Intel or ARM processor.

As Intel tries to scale down its x86 processors to fit in small devices like netbooks, ARM is heading in the opposite direction and trying to scale up in power. The Intel Atom processor is the smallest, most energy-efficient processor capable of running Windows, but Windows isn't the optimum operating system for smaller devices.

As a result, the most popular mobile phone processor is from ARM. Toss in the fact that more people are buying mobile phones than computers, and ARM processors likely have a much larger potential market than Intel's Atom processor. MarketWatch (*www.marketwatch.com/story/as-pcs-cell-phones-collide-intel-faces-new-rival-2009-08-20?pagenumber=1*) recently did a story about this looming Intel vs. ARM showdown.

If Apple's iPad becomes a success and spawns rival tablet devices, there's a good chance more of them will choose the lower-power ARM processors over the less efficient Intel Atom processors. If the iPad wins, ARM wins. No matter which mobile phone operating system wins, nearly all mobile phones use ARM processors so ARM always wins.

At one time, Microsoft, Dell and Intel led the technology field. Today, it's Google, Apple and ARM. There's a chance that Microsoft, Dell and Intel will find a way to crush their competitors once more, but if they don't, they'll risk drifting further toward irrelevance. Anyone want to bet where all three companies are likely to go?

Agent 18 Accessories

Accessory makers love Apple because it's easy to develop a case for an iPhone as opposed to an Android phone that may come in different sizes and thicknesses from a dozen different manufacturers. If you have an Apple product, you may be interested in Agent 18 (*www.agent18.com*), a company that specializes in unique Apple accessories.

One problem with carrying around any item is that it can get dirty, scratched or cracked. To protect your portable Apple devices such as iPhones or iPods, Agent 18 sells a variety of cases. Unlike boring cases, Agent 18's cases tend to range from the conservative (solid colors) to the whimsical (flower patterns).

Figure 3. Agent 18 sells a variety of colorful cases for iPhones and iPods.

If you enjoy watching videos on your iPhone or iPod Touch, but don't want to disturb others, you can put on a pair of headphones. Unfortunately, the iPhone and iPod Touch provide only a single plug for a headphone so only one person can listen at a time. To overcome this problem, Agent 18 ($24.95) offers an audio splitter called the StandHear. Plug this device

into the iPhone or iPod Touch's audio port and you can now plug two headphones in, so two people can hear audio coming out of your iPhone or iPod Touch.

Figure 4. Agent 18's StandHear device provides two headphone plugs for any device.

The Marketing Magic of Apple

If you've always wanted to know how Apple markets its products so successfully, you may be interested in reading a free e-book called "Marketing Apple" (*www.marketingapple.com/Marketing_Apple_eBook.pdf*), written by Steve M. Chazin, a former Apple marketing executive.

The five marketing principles that this e-book highlights includes:

1 .Don't sell products

2. Never be the first to market

3. Empower early adopters

4. Make your message memorable

5. Go one step further (surprise and delight your customers)

The general idea is that Apple makes each product an experience for the customer. Open an iPhone box and it's similar to the type of packaging associated with a fine watch. Open a Macintosh box and all you have to do is plug in your computer to get it working right away with minimal hassles with connecting cables or putting anything together.

Surprisingly in his book "Direct From Dell" (*www.amazon.com/gp/product/0060845724?ie=UTF8&tag=the15minmovme-*

20&linkCode=as2&camp=1789&creative=9325&creativeASIN=0060845724), Michael Dell offers his own list of principles for success, which could easily be attributed to Apple instead of Dell:

1. Think unconventionally

2. Despise the status quo

3. Set big goals

4. Love change

5. Focus on your possibilities, not your competitors

This fifth point about focusing on possibilities, not your competitors, is one that Dell seems to have forgotten in the quest to mimic Apple like everyone else. When Apple released its ultrathin laptop, the MacBook Air, Dell immediately countered with its own ultrathin laptop called the Adamo. When Apple introduced its iPad tablet device, Dell countered with its Dell Mini 5 tablet device.

If Dell (and everyone else) really did focus on their possibilities instead of their competitors, the whole PC world wouldn't fall lock-step into following everything that Apple does. Maybe if the PC world did focus on its strengths instead of trying to mimic Apple, they really could innovate something amazing. Until that day ever arrives, the leader, more by default than anything else, will still be Apple.

* * *

To read and write e-mail, most people will probably be happy using the Mail program that comes with every Macintosh. However, if you download a separate e-mail program such as Thunderbird (*www.mozillamessaging.com/en-US/thunderbird*), you may want to define another program as your default e-mail program.

To do this, start Mail and from the Mail menu choose Preferences to open a Preferences dialog. Click the General icon and you'll see a pop-up menu labeled "Default email reader." Click this pop-up menu and you'll be able to choose a different default e-mail program.

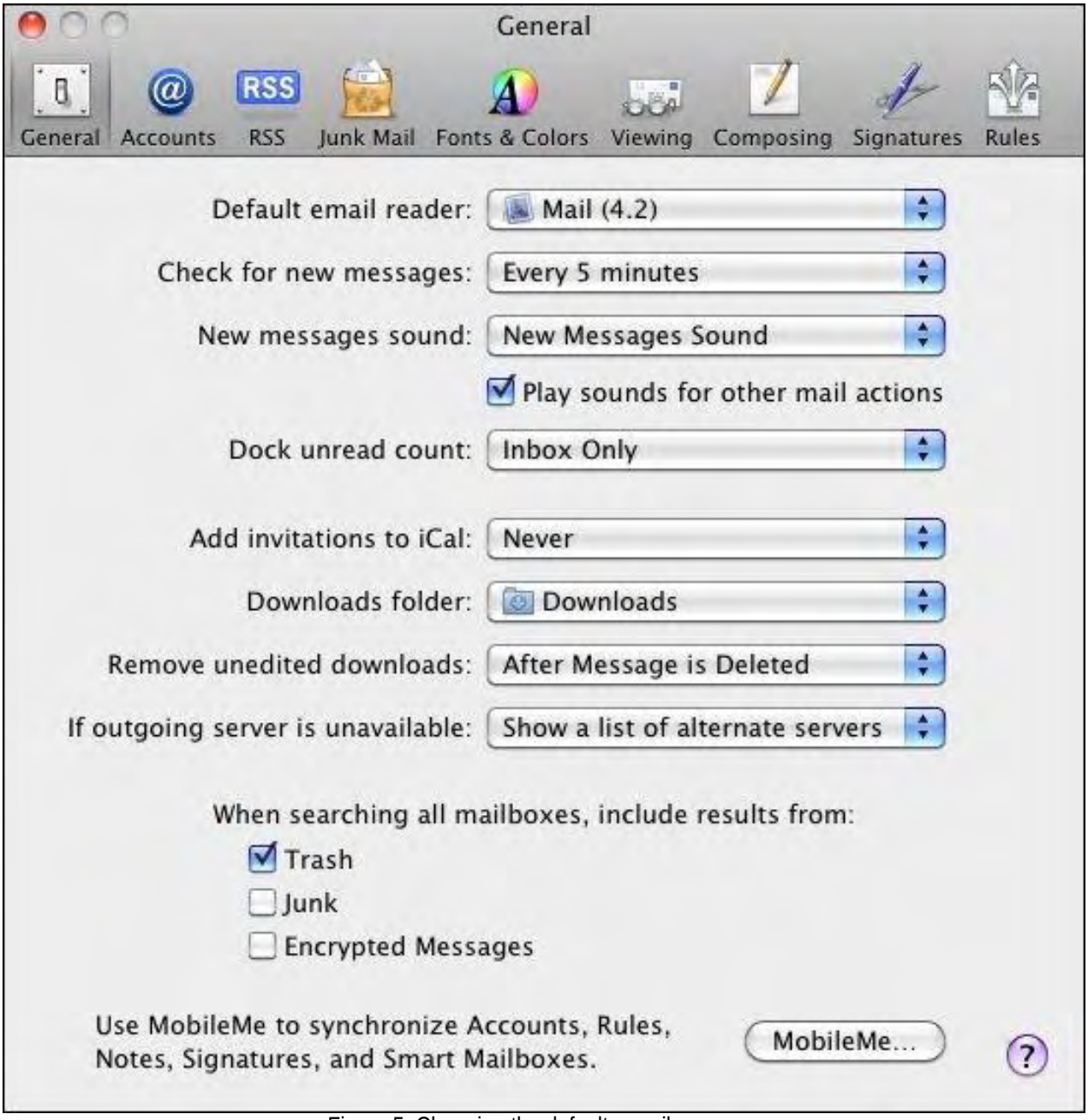

Figure 5. Changing the default e-mail program.

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*).

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.

In his spare time, Wally likes blogging about movies and writing screenplays at his site "The 15 Minute Movie Method." (*www.15minutemoviemethod.com/*) Wally can be reached at *wally@computoredge.com*.

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Linux Lessons: Tips and Tricks from Users

"The Direction of the Linux Column" by Pete Choppin

A reader's feeling that this column does a "disservice" to readers underscores the fact that what Linux is to you depends very much on your point of view.

Dennis has some thoughts about the direction of this Linux column in *ComputorEdge*.

I am a long-time reader of ComputorEdge *and a long-time computer user. I have several PC computers, fix computers, and also fix and* give away *computers to schools and needy families. I also have a Mac—mostly to study it and try to understand what the Mac world is about. I also have an interest in Linux with PCLinuxOS being my favorite (because it "sees" my wireless adapter). What I am about to say is my own* opinion *and therefore worth only that!*

I believe you are doing the Linux community a big *disservice with your latest articles. Your article goes almost immediately into scripting. This is an area that only current Linux users are interested in. A person who wants to expand his/her knowledge from the Windows world will have* no *interest in scripting and your articles will just help to give them the opinion that Linux cannot be used without them.*

I would like to see articles about how alike Linux is to Windows and how to do things with a graphical interface. If I want to use Linux I want to use it because it is easy *and familiar. Linux would still have the advantages of being* free *and more secure than Windows! But why make Linux seem difficult to use and understand. Get them using Linux,* then *hit them with the hard stuff.*

I need articles on the Linux file structure (as it seems confusing to me), and how to make Linux do everyday things like get on the Internet, recognize my wireless adapter or my printer, recognize hardware and more mundane things such as these. Articles about how to save files (and finding them later), various kinds of files types used in Linux VS PCs. How to start a wireless connection. I could go on.

These are things new users do first *and need to know how to do. Scripting will do many things—but I will never use it and I seriously doubt any new user would even attempt it. Give me articles that let me do the things I need to do on a daily basis and explain to me how to get around on my Linux computer.*

Thank you for your time.

Dennis

Thank you, Dennis, for reading Linux Lessons and for your comments. It is always helpful to receive feedback from our readers.

I understand your concerns and I would like to say that the decision to describe shell scripting and how to present it was not made on a whim. I had to weigh many factors such as the general interest of our readership, the "tech level" of this publication, and that we have already presented several Linux columns (*webserver.computoredge.com/forums/columnlist.mvc?article=linux*) that describe very basic concepts and introduction of what you describe as "easy and familiar" functions, including the graphic interface. We have gone into great detail and have published several columns over the past three months addressing the needs of those new to Linux, and in our defense, these have been well received.

I would like to speak to your assertion that we are doing the "...Linux community a big disservice." My objective has always been to provide our readers useful information and that is at a technical level to accommodate the beginner as well as the more advanced. Also, to say that providing information that is agreeably somewhat challenging, accompanied by examples and explanations, is somehow a disservice I believe is inaccurate. Sharing knowledge and information in my experience has always been well received, especially when offered *free*. It has always been the philosophy for the Linux community to freely share any knowledge. This, in fact, is the strength of the Linux community.

I would also like to address the assertion that presenting concepts such as shell scripting may be too complicated or advanced. With all due respect, I believe our readers are, on the whole, well informed and intelligent. It would, in fact, be a disservice to assume that *ComputorEdge* readers are unable to handle more advanced topics, thereby depriving readers from using powerful and useful tools. It is my position to present a wide variety of topics and then leave it up to the readers to decide for themselves what they would like to use and how to use it. There are, obviously, reasonable considerations. I would not, for example, write a dissertation on compiling the Linux kernel, as this would likely not appeal to most users. However, if there was enough requests for this topic I might consider it, but don't hold me to that. The point is that I prefer to provide as much useful information as I can, and allow the reader the choice whether to apply it, rather than to curtail and withhold information which may be useful for someone.

As far as the recommendations to include tips on things such as everyday tasks, Internet usage, saving and retrieving files, the Linux file system, and other great topics, this is exactly what we need to know. I will definitely take your suggestions and try to put together articles along those lines. Thank you for these great suggestions.

I hope I have been able to address your concerns.

Your feedback is always welcome.

Pete

* * *

For many people Linux is an enigma. It's an excellent operating system, yet it's free. It can be simple, but it does complicate things well. The problem is that there is no easy answer for Dennis. What Linux is to you depends very much on your point of view. *ComputorEdge* did an informal Linux attitude survey last year. I think that we may have ended up with more questions than answers.

Jack Dunning
ComputorEdge

Pete Choppin has been an IT Professional for over 15 years. He currently works as a network and systems administrator for a company called Albion based in Clearfield, Utah. He has experience in all types of hardware, software, and networking technologies. He is proficient in many operating systems including Linux, Windows and Macintosh. His interests include cooking, sci-fi, computers and technology, and Web design—a semi-professional endeavor, having designed Web sites in the dental field, e-commerce businesses, and for the Boy Scouts of America.

Pete has been a devout reader of *ComputorEdge* since 1990 and contributes regularly to featured articles as well as the Linux Lessons section of *ComputorEdge*. He can be contacted at *pchoppin@comcast.net* but prefers to have comments on *ComputorEdge* articles submitted to the editor and posted for the benefit of all readers.

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Rob, The ComputorTutor: JavaScript Programming

"JavaScript in Your Web Page" by Rob Spahitz

Ah, JavaScript. What is it? How do we use it? JavaScript is a convenient and relatively easy tool for developing functional and spiffy Web pages. Here's how to get started.

Ah, JavaScript. What is it? How do we use it?

As previously mentioned, basic Web pages were created to share information. As the Internet grew up, people wanted their pages to be more interesting and interactive. To make that happen, the idea of a Web page language was developed, based on the concepts applied to desktop applications. The language of choice was Java, which was a language very similar to the "C" language, but created with more security in mind. Since that became an important part of the Internet (security management), Java became a popular choice of developers. However, the full Java language was a bit too much for a poor Web page browser, so a scaled-down (and even more controlled) version was created called JavaScript.

The idea behind scripting is that you write a few commands and let the browser figure out what they mean. To make all of this work, the Web language, HTML, now had to support a language to handle these special commands. Rather than create a language, HTML supports JavaScript. What is it? How do we use it?

Since JavaScript was intended to be a generic language (like its parent), it became popular among the many developers who wanted cheap tools. Since no other companies except Microsoft offered any alternatives, the many Web-developing page creators went with JavaScript. Those in Microsoft's camp could use VBScript or JavaScript, but somehow VBScript never took off the way its parent language (Visual Basic) did, so most Web page developers use JavaScript even if they are Microsoft aficionados. Although I feel comfortable with Microsoft products (as seen from my previous articles), I usually use them because they are more convenient than other tools on the market. So for that same reason I use JavaScript for Web pages.

Simple Scripts

To add JavaScript to your page, you'll need to add an HTML tag like this:

```
<script language="JavaScript">
</script>
```

In between these tags you can put your JavaScript code. Anything put directly between these tags will get processed when the page loads. For example, to show a simple message, you can add an alert:

```
<script language="JavaScript">
alert("Hi ComputorEdge readers!");
</script>
```

If you add this to any Web page and view it in a browser with JavaScript enabled (which is just about all of them these days), you get a message box similar to Figure 1.

Figure 1. JavaScript Alert Message.

Please note that if you create this using Microsoft Word (or maybe copy from this document), the JavaScript may not work because Word likes to use "smart quotes" (which differentiates opening and closing quotes as two different characters). Apparently these smart quotes are not properly interpreted by browsers, so you may have to use a better tool for Web page development, such as Notepad!

Since JavaScript is really a programming language, there are some risks. Computer code can potentially damage your software, operating system or personal data files. Basically, this is what viruses and spyware are all about. By gaining access to your system, they can mess up your system or steal your identity. Fortunately, JavaScript is much more restrictive and cannot be used to take over your system. Regardless, since this is computer code, and can suck up your system resources (like memory), browsers give you the ability to disable it. Depending on the browser and the version, when you first load a script-enabled Web page you may be presented with a question about whether you'd like to enable JavaScript. In addition, most browsers have a setting to allow you to disable JavaScript. In IE6 (yes, I'm a bit behind) you can view your settings from Tools/Internet Options then the Security tab, Custom Level button, then the Scripting section ("Active scripting"). In Firefox (v3.6) proceed to menu Tools/Options then the Content tab and toggle the "Enable JavaScript" button. Obviously other browsers and versions will have their own way to manage this.

So, assuming that JavaScript is enabled, the rest of this article will be useful. Doing things similar to the above code can be useful, but you'll probably want to do more than just show messages. In addition, you might want some code to run only under some circumstances, such as when the viewer of your page clicks on a button. To handle these, you'll need to create separate routines called functions such as this:

```
<script language="JavaScript">
function my_message() {alert("Hi ComputorEdge readers!");}
</script>
```

Now if you refresh the page, the message will not appear. It will only appear when the browser jumps to the function called my_message. One way we can do that is to add it when the body of the page loads like this:

```
<body onLoad="my_message()">
...
</body>
```

When you do this, make sure you include the parentheses after the function name. We'll learn more about this later.

With the basic options out of the way (immediately run the script or run when something, known as an event, occurs), we can explore a few things about organizing.

First, although you can write all of your functions on one line, that often makes it difficult to read. Traditionally, you put each

JavaScript command on a separate line. If the line is too long, you can still break it up into multiple lines if you handle it right. This presents a problem: How does JavaScript know when you have a one-line command and when is it a multi-line command? The answer is pulled from the Java language. You simply add a semicolon (;) to the end of the command, as seen in the original "alert" command above. In some cases, JavaScript will work without it, but it's good practice to add this to ensure proper interpretation. For example, the above alert command could be written in one of several ways, including these:

```
alert("Hi ComputorEdge readers!");
alert
("Hi ComputorEdge readers!");
alert(
"Hi ComputorEdge readers!"
);
```

Next, the collection of commands should be properly organized in groups. Without the groups, JavaScript may think that the commands are part of the entire page rather than part of a function. To handle this, you group collections of commands by surrounding them inside braces (a.k.a. curly brackets). You saw that in the function line above. There are several common ways to make those groups more readable. Many developers like to start the group at the end of the function line and then end it either on the last line or on a separate line at the end. I personally like to see the braces line up, so I put each on its own line like this (with embedded commands indented to help show that they are related to that function:

```
function my_message()
{
     alert("Hi ComputorEdge readers!");
}
```

Further, some developers like to add their own spacing while others make things more compact. For example, you can add a space around the parentheses in the alert command, but most developers avoid this extra step since there is not too much benefit to this and is really not allowed in the Java language; so if JavaScript ever gets more strict and follows that standard, the scripts may no longer work.

Finally, the collection of functions that you have, no matter how compact or well organized, can eventually take up a lot of space in your page. Rather than stack function after function somewhere in the page, you can also update the script tag to look for the script in another page. To handle that, you write it something like this:

```
<script language="JavaScript" src="messages.js"></script>
```

The src attribute is used to define the name of that file that will contain your JavaScript "source" code. Although it can have any valid file name, it is often set up to end in js (for javascript). Also, the file may contain a separate path so that it can be located in a separate subfolder (or subdirectory), a parent directory, a directory located elsewhere on the server, or a directory in another server located across the Internet. The only requirement is that the page must be accessible to anyone over the Internet or it will not be available to anyone who reads your main page (and therefore the functions will not be available).

DOM

JavaScript can do a few things on its own. The alert command is a good example. However, most of the things you do will be related to the page. You may want it to add text into a textbox if the user clicks a button. You may want to change a picture if

the user mouses over a different image. To handle these things, you need to understand a bit about how Web pages work. Although the HTML tags help in that understanding, there is a bit more to it that needs to be revealed. This is found in something called the DOM, or Document Object Model. This defines the collection of objects that are used by the document so that a Web page can put the pieces in the right places. If you do a Web search on "javascript dom," you'll see many things that can help with this. Here's one that I find useful: w3schools.com () This is organized into three groups: JavaScript commands, browser object commands and HTML object commands. If you're manipulating the page, you'll want the HTML objects.

At the highest level of the HTML objects, you have the document. That makes sense since you are typically asking the browser to "render" an HTML page (document). Within the document, JavaScript can look at any of the many pictures, links, tags, or other things in your document. Let's explore the collection of images and call it a wrap for this week.

First, create a simple Web page that includes a picture, like this:

```
<body>
<img src="http://dogopoly.com/dog/images/dog_logo.gif" name="Dogopoly Logo">
</body>
```

Now add some JavaScript (in the header section of the page) to show the name of the image:

```
<script language="JavaScript">
function ShowImageName()
{
        alert(document.images[0].name);
}
</script>
```

Finally, go back and tell the page to show that when it loads by updating the body tag:

```
<body onLoad="ShowImageName()">
```

If you save this and view the page, you should see the message "Dogopoly Logo" appear in a dialog box. This is all you need in your page to make it work:

```
<html>
<head>
<script language="JavaScript">
function ShowImageName()
{
        alert(document.images[0].name);
}
</script>
</head>
<body onLoad="ShowImageName()">
<img src="http://dogopoly.com/dog/images/dog_logo.gif" name="Dogopoly Logo">
</body>
</html>
```

The key to this is the images collection. Since your Web page might have more than one image, and you may want to search around the page to find the piece to work on, the DOM offers you the ability to examine all of them in a convenient place. In this case, we only have one image, and the collection starts counting at 0, so we can talk to the document then reference the image with the images object followed by square brackets and the image number 0. From here, we can access the parts of that image, such as the name.

When we work on this system, it follows the common Object-Oriented notation. This is handled by specifying an object, adding a dot (period) then referencing an accessible part of that object, repeating this as needed. For Windows users, this is similar to the file structure that you see with folder names separated by slashes (/). In the Linux/Unix world, it's basically the same idea with directories separated by backslashes. So in the Windows world, the above might be written something like document/images[0]/name; in the JavaScript world, you use dots.

One more useful thing before we go. It might be useful to know how many images are on the page. To find this, you can use the length function like this:

```
alert(document.images.length);
```

If you use that instead of the above command, you should get a message box showing a "1" rather than the image name. If you added a second image, you'd see "2", etc.

Next week, we'll start exploring some common JavaScript commands such as "for" to help with exploring collections and other things that may have to be repeated.

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*.

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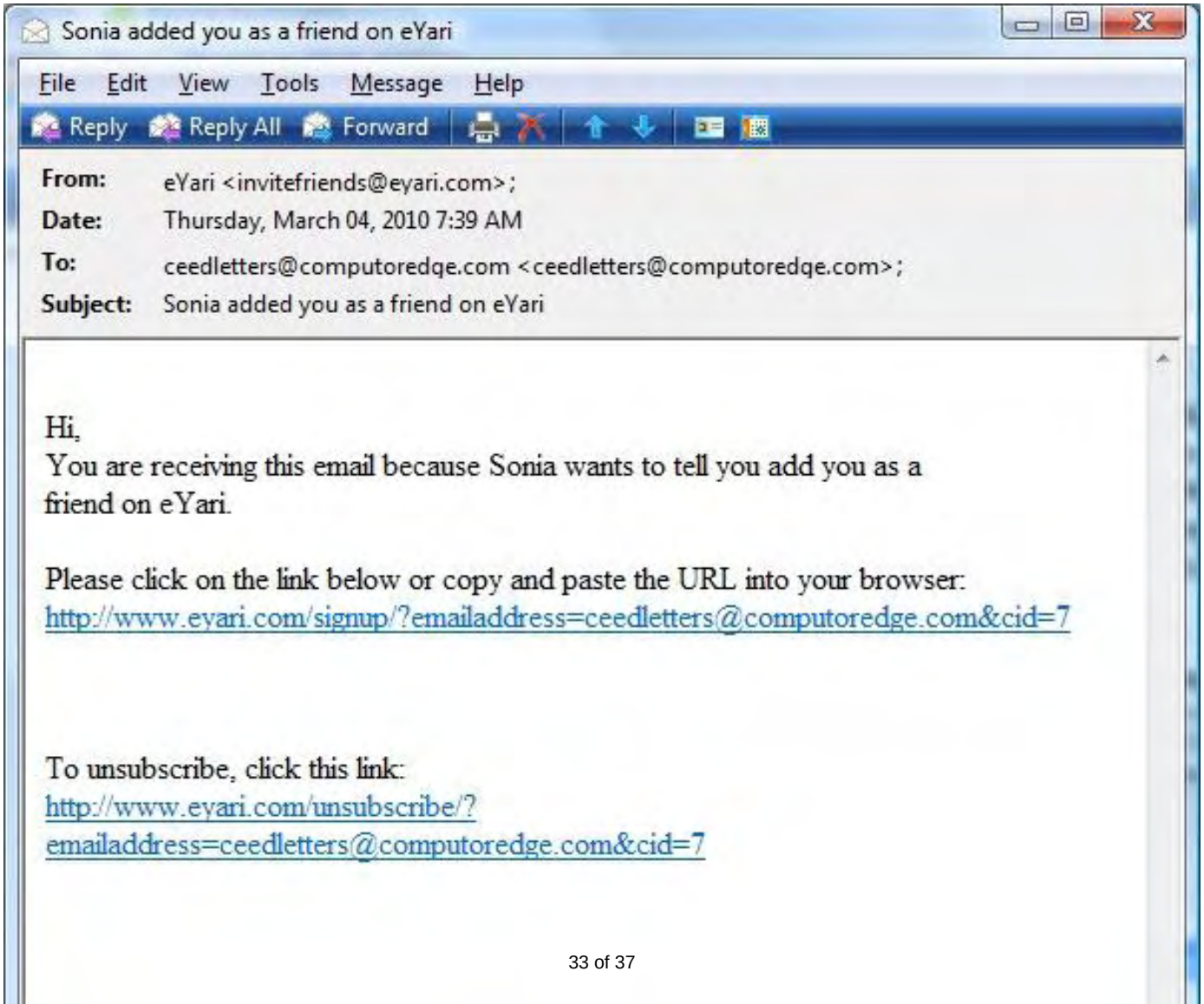
Spam of the Week

Spam of the Week: Sonia wants to be my friend!

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

The usual solicitations for male enhancement and Russian friends were flowing this week. Don't follow links in unknown e-mails—just delete them!

Although there wasn't much this week that could be specifically identified as phishing spam, there were the usual commercial (?) spams selling software, male enhancement, educational degrees and friendship (Figure 1). A huge number of these seem to come from Russia (now a hotbed of capitalism). It is relatively easy to recognize them, although it is difficult to filter them out.



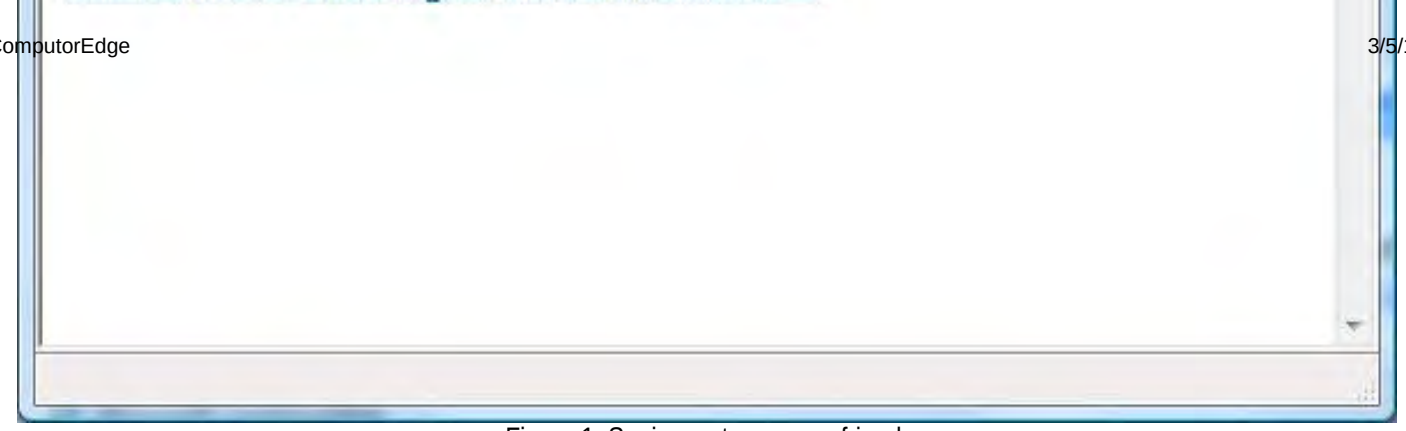


Figure 1. Sonia wants me as a friend.

There are two primary techniques that spammers use to get past e-mail filters. The first is they do not include any words that might trigger a filter, as in the spam shown above. (They may space or change some words to obscure them for an e-mail word filter, i.e. s*x.) This makes it difficult to develop an algorithm for blocking words commonly targeted in spam.

The second common method for getting around filters is to include a graphic rather than text. The spam filters can't read a graphic file for content—at least not yet. Setting your e-mail program to block the downloading of graphics will help you to identify spam. Of course you will need to unblock the sole cover graphic in the *ComputorEdge* subscription if you want to view the obscure, tangential artwork assigned to each issue.

The only way that spam will ever stop is if people *never* respond to unsolicited e-mail solicitations, regardless of legitimacy. However, there seems to be just enough terminally curious users to encourage the spammers to continue. Don't be one of them. Don't follow links in unknown e-mails—just delete them!

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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EdgeWord: Build Your Own Virtual Office

"Hey, Google, Get Off of My Cloud" by Jack Dunning

What is significant is not having a virtual office, but that anyone can have one—and it doesn't need to be dependent upon Google, Amazon or any other "cloud" company. It just isn't that difficult with today's technology.

The notion is that everyone is going to rent a piece of the "cloud" from a huge company that will reduce our costs and make us feel safe. I expressed my doubts about this concept (and marketing plan) in this column last month. I do feel that the cloud will keep growing and become increasingly important to everyone. The real question for me (and the greatest potential for growth) is, why rent when you can own?

It's relatively easy to see the advantages of working over the Internet. If your office is in the "cloud" then you are no longer fixed to a geographic location. Plus your cohorts can be located anywhere in the world. All you need is a computer and an Internet connection.

However, as noted in other articles in this issue of *ComputorEdge*, there are risks associated with using someone else's service—both security and control issues. My feeling is that businesses will want to own and control their piece of the "cloud" with limited dependence upon other mega-corporations. (Realistically, there will always be some level of dependence upon others since even obtaining Internet access has many layers of dependence.) However, most parts of the services that are being offered under the name of "cloud" computing, a person can do for him or herself.

ComputorEdge has been operating as a virtual office existing only in the "cloud" for over two years now. There is no brick-and-mortar office for a daily commute. All our commuting from various parts of the world occurs over the Internet. My personal geographic location is irrelevant to *ComputorEdge*, as long as I have an Internet connection and my laptop. We are dependent upon others only for our connections.

The actual office consists of three servers, two FreeBSD and one Windows, in a locked cabinet located at the Castle Access colocation facility in San Diego. While *ComputorEdge* owns the hardware, the Internet connections are monitored 24 hours a day at Castle Access—by real people. If there is a problem, I get a phone call. The only live support that I've needed is restarting a recalcitrant server occasionally—probably a software problem. We do all our work on those machines, including communicating, editing, posting and administration.

What is significant is not that we have a virtual office, but that anyone can have one—and it doesn't need to be dependent upon Google, Amazon or any other "cloud" company. It just isn't that difficult with today's technology. (OK, you do need to be comfortable with working on computers, networks and software. I discussed this last year in "Moving into a Virtual Office".)

A business for the next decade will be contractors who build virtual offices (homes?) for people who want to own (not rent) their piece of the "cloud." Rather than the "cloud" being owned by Google and others, it will fragment into modules of ownership. That is what the Internet does—empower the individual.

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

"Making Web Pages," "SSD Drive," "Damaged Laptop Keyboard," "The Cloud," "Spam of the Week," "Digital Books: It's the Experience," "I Am Sick of the iPad"

Making Web Pages

[Regarding the February 5 Rob, The ComputorTutor: Making Your Own Web Pages column:]

Great article. I am a senior citizen, so never learned the basics in school. I am looking forward to future articles.

-RB Wiens, Escondido, CA

SSD Drive

[Regarding Pete Choppin's February 12 article, "Solid-State Drives":]

I've been reading your mag since it came out. Great job, guys.

I've installed a Corsair P256 SSD drive in my desktop computer. I have it partitioned and have installed Vista and Win 7 with Bootit to be able to boot into either OS.

I've had the SSD drive for several months now. My desktop computer "flies" now. Other than the price, in my opinion SSD is the way to go. My next step is to get an SSD drive for my laptop, most likely a PatroitTorqx.

I might add Bootit. Sure makes it easy to set up the drive, too.

-Garry Baugher, Kansas City, MO

Damaged Laptop Keyboard

[Regarding the January 15 Digital Dave column:]

"My puppy ran across my lap and stepped on my laptop keyboard. Now it does not work (type) anymore. The mouse works and volume buttons work, just not the actual keyboard. Krissie Fallbrook, CA"

My thought: Would it not be less expensive to add a wireless keyboard?

-Peg, El Cajon, CA

There may be a key that is stuck down making the keyboard unusable.

-Kathy Marker, San Diego

The Cloud

[Regarding the February 5 EdgeWord: A Note from the Publisher column:]

I agree with the entire article except for the end "People want for themselves the control that will be afforded by operating their own resources. I'm not betting on either Windows Live or Google Apps in the long run."

I would change "People" to "You and I" or "Not enough people." Either way, it changes the conclusion. I learned a long time ago that "people" do not want the effort and responsibility that goes with "having control." Think of what has happened to voicemail. It once was a machine. You could archive a lifetime's worth of messages simply by installing a new two-hour cassette as needed. Now it's a service that costs money every month, doesn't archive anything, and always limits the message length w/o giving the "service payer" any control. Fax is experiencing the same fate; just try to get faxes sent to your own phone number forwarded to an e-mail address. It would wind up costing way more than a fax machine over time due to the "service" costs, yet hardware to do this is unavailable or super expensive since there is no "market" for it.

-Ron Cerrato, San Diego

Spam of the Week

[Regarding the February 5 Spam of the Week column:]

It's stuff like this that keeps me looking forward to receiving *ComputorEdge*. Keep up the good work.

-Dick Thompson, Colorado Springs, CO

Digital Books: It's the Experience

[Regarding the February 12 Wally Wang's Apple Farm column:]

Interesting ideas and useful info, as usual. A further thought on digital books: Your statement that physical books will fade away seems extreme. Yes, CDs and MP3 players made tape and vinyl obsolete, but all these formats are still just recorded music. You put on speakers or headphones and listen. Printed books and e-books are not simply two versions of something to read. E-books can be bought and carried around easily; print copies can be scribbled in, handled, passed along to friends, kept for generations. They satisfy different needs and wants, and are complementary. Like the way e-mail overlaps, but does not replace phone calls. The differences aren't just the medium, but the experience.

-Krasna Svoboda, San Diego

I Am Sick of the iPad

[Regarding the February 5 Wally Wang's Apple Farm column:]

I have determined that I will never buy one of these devices. My reason, you ask? Well, I understand that it is a nice device with useful features and a decent price. However, I cannot stand the name. Every time I, as a female, hear iPad, I think of a certain feminine hygiene whose name should not be associated with electronic devices. I mean, do you really want to go, "Oh yeah, that is my iPad" and have every women in the room stare at you? I just can't do it. I am thinking that Apple must not have had a women involved on the naming of this thing. Because I cannot think of a women who wants to have to deal with two "pads" over the course of a day.

-Donja Carroll, Coronado, CA

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