# *The Cursor*

## *Monthly Newsletter of the*
### *Washington Area Computer User Group*

**Meeting Location
Fairfax County
Government Center**

apcug
Member of

**Next Meeting:
September 13, 2008**

## Presidential Bits

### September 2008 Meeting

By Paul Howard

At our August meeting, Bob Mason demonstrated some of the features of Microsoft Office 2007, and explained why he thought the new "ribbon" user interface was a worthwhile addition to the program. Bob explained that options that were often buried many layers deep in the old command structures were more easily accessible with the ribbon interface, which changes with the context in which the user is working.

As part of the discussion, Bob utilized several of the many short instruction videos that can be downloaded from Microsoft's web site to allow users to quickly get up to speed on various features of the suite of programs that's included in Microsoft Office 2007. It's always helpful to "learn by seeing it done" - and that approach also helps introduce features that one might not consider using, because reading about it in documentation may not make the same impression.

Our September meeting will be on the <u>second</u> Saturday of the month, 9/13, because of scheduling conflicts at the Fairfax County Government.

Please join us !!

### Story and Demo of the XO-1 OLPC Computer

In the fall of 2007, the One Laptop Per Child (OLPC) organization made what it thought would be an announcement that would bring in some money. For $399 they would send some poor child in the world one of their new XO-1 computers and also send the donator a computer for themselves—the now famous Give One Get One (G1G1) offer. The response was so overwhelming that the organization took well into mid-2008 to mail out the computers. OLPC said there were about 160,000 individual orders, but that did not include big orders like the Birmingham, Alabama request for 15,000.

WACUG member Michael Coyne will demonstrate the XO-1 he received, give its specs, and discuss some of the radical hardware OLPC produced. He will give a short history of the organization and the strong-willed ideological developers who built the XO-1, fought among themselves, and occasionally resigned. The computer has resulted in dozens of discussion forums, even more "how do you?" instruc-

tion forums, and thousands of hackers, in the good sense of the word. Major hardware developers have suddenly decided to produce their own computers for the digitally-deprived world and software developers have jumped in with their own plans. Microsoft is now working to port its XP operating system to the XO.

The computer to be demonstrated, however, may be the last of its kind. OLPC is working on the XO-2 which will be half the size and, in internet pictures, looks strangely like a PDA.

Earn Donations for WAC: WACUG members who order Verizon services through the Velocity program earn donations to WAC. You must place you new Verizon order by calling the special Velocity sales office 1-888-695-5299 and providing our Tracking Code - 12426. Velocity users can take advantage of any currently advertised promotions. Now through October 4, 2008 New FiOS TV Customers Get a Free DVR or Home Media DVR for 12 months Plus 1 Month Free HBO/Cinemax When you Order FiOS TV - (*up to a $260 value). *Offers available until 10/4/08 to new FiOS TV customers only. 1 DVR or HMDVR per customer. Offers cannot be combined with other content or DVR offers and service must be activated by 12/4/08. Standard rates apply after promo period. Other terms and restrictions apply.

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# Cloud Computing—What's Up With That?

Chuck Roberts, WACUG Member
chrobe(at) cox.net

Most of the computer purchasing public would tell you, if asked, that Vista was pretty much a flop. It hasn't been selling very well as an upgrade. In fact, most of Vista sales have been with a new computer. There are exceptions, even Dell and other manufacturers have been offering XP Professional as an alternative operating system selection. When Microsoft removed most of the new operating system improvements, including an improved filing system, and moved forward with simply an improved internal firewall, and the Aereo graphic interface most of us were truly disappointed — especially when you attempt to justify the inflated price and hardware requirements to support Vista.

Now I personally use Vista on my new laptop and it usually doesn't appear to be as bad as the horror stories I've heard, but there have been times when the laptop simply won't do anything with multiple apps open so I have had to remove the battery to shut it down, and then reboot. Now this has only happened ten to twenty times, but it still gives me pause... would XP Pro behave like this? My desktop system doesn't. That's for sure.

In addition, Vista on my laptop doesn't seem to have the slowdown when copying files as others have reported and SP1 really didn't have much af-

## Lloyd's Web Sites

Lloyd's column is absent this month. Lloyd had hip surgery and was excused from submitting his column. But I look forward to his column returning next month. If you miss Lloyd's efforts, please let him know how much you appreciate his submissions.

*Editor...*

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**Washington Area User Group Partners Working Together For Our Members**

**CPCUG**
**NCTCUG**
**WACUG**

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## NCTCUG

Visit our "sister" user group. The National Capital Technology and Computer User's Group meets the first and fourth Wednesday of the month. They meet in Carlin Hall in Arlington at 5711 South 4th Street. Visit their web site for more information, a map and directions:
http://www.nctcug.org/
Meetings start at 7:00 PM

# GNU/Linux SIG

By Geof GooGNU/Linux SIG

By Geof Goodrum

**Installing Kubuntu on an IBM Laptop**

I installed and configured Kubuntu GNU/Linux v8.0.4 LTS (http://www.kubuntu.org/) on a laptop PC in July. This article summarizes the process and might be a useful guide to others. The laptop was a refurbished IBM/Lenovo ThinkPad T30 laptop from PCRetro.com. The laptop has a 40 GB hard drive with single NTFS formatted partition containing a fresh install of Microsoft Windows XP Professional SP2. The laptop also has 512MB RAM in one SODIMM slot and a CD-RW/DVD drive. More information about this laptop model is on the web site at http://www.thinkwiki.org/wiki/Category:T30.

The IBM/Lenovo ThinkPad laptop models are particularly good choices for running Linux, as IBM made particular efforts to provide open source Linux drivers for their hardware. Kubuntu v8.0.4 LTS is the latest release of the Ubuntu GNU/Linux distribution with the well-integrated and easy to use KDE desktop environment. The LTS (Long Term Support) designation means

that this version of Kubuntu will be supported with software updates for five years after the initial release this summer.

The refurbished laptop included the Microsoft Windows XP Professional license key on a label affixed to the bottom of the unit, but did not include any media/recovery CD. Before I repartitioned the hard drive to make room for Linux, I wanted to backup the initial Windows installation. I put a copy of the free Knoppix Linux v5.1.1 bootable CD in the CD drive and configured the laptop BIOS to boot from the CD drive. When Knoppix loaded,

I used the partimage command line utility to backup the NTFS partition (4 GB in use) and Master Boot Record as a compressed image file to my 2 GB USB memory stick. The image file just barely fit on the memory stick. Partimage can also save to other disk partitions and even across a network to a server running the partimage daemon (also included on the Knoppix CD). Run 'info partimage' on the command line for online documentation about the available options. I burned the image file from the memory stick onto a recordable DVD as a system backup and recovery disc. Before and after copying the image file to DVD, I used partimage to test the

file. Knoppix and partimage can be used to restore the laptop to its original configuration if the need arises.

An optional step, but to head off any complications with BIOS issues I booted into Windows and downloaded the latest BIOS/firmware updates for the T30 laptop from the Lenovo support web site. I used the Windows utilities to install the updates, which involved a system reboot.

I then used the qtparted utility on the Knoppix CD to resize the NTFS partition. Qtparted is a graphic front-end to the parted command line utility. I moved the slider on the partition diagram to reduce the NTFS partition to 10 GB, leaving about 29 GB usable space for the Kubuntu Linux installation. After clicking on the commit button, it took only a few seconds to resize the partition.

At this point, I rebooted the laptop and removed the Knoppix CD. I let the laptop boot into Microsoft Windows XP just to ensure the resizing operation was successful. Windows detected the partition change, but booted successfully.

I then restarted from Windows, installed the Kubuntu v8.0.4 LTS LiveCD, and again configured the ThinkPad BIOS to boot from CD. When the Kubuntu LiveCD finished booting, I clicked on the "install to hard drive" icon and followed the prompts. Although I could have used the default partitioning scheme, I prefer to use the manual partitioning option with separate partitions for the / (root), /boot, /usr, /var, /usr/local, /home, and swap.

Once Kubuntu was installed on the hard drive, I shutdown the system

and removed the Kubuntu CD. I connected the system to my network firewall/router by a cable Ethernet connection and rebooted. With the GRUB bootloader installed by



Kubuntu, I was able to boot either Windows XP or Kubuntu from a menu. I booted Windows, configured the Security Center for automatic updates, then ran Windows update to apply the latest patches (including SP3). Afterwards, I also installed free Windows antivirus and anti-malware software and updated these, as well. For good measure, I installed the latest Firefox v3 web browser with the NoScript add-on for security. I also created a user account for normal use (Administrator accounts should ONLY be used for software installations and managing accounts).

I rebooted, this time selecting Kubuntu in the GRUB menu. Kubuntu has an update notifier in the system panel, but software updates can also be applied directly through the Adept package man-



ager in the System menu. I updated the installed software packages with "Fetch Updates," then "Full Upgrade" and "Apply Changes." There are several ThinkPad specific packages available for Kubuntu, easily found by typing ThinkPad into Adept's software search bar (make sure "Description" is checked). The packages include support for ThinkPad special keys (tpb) and the Hard Drive Active Protection System (HDAPS) that parks the hard drive heads when it senses the laptop is slipping or falling (hdapsd and hdaps-utils). There are also utilities to blink the laptop lights upon receipt of Instant Messages.

The laptop did not include wireless network support. The options were to add a USB adapter (the T30 only has slower USB 1.1 ports), add a PC Cardbus (PCMCIA) adapter (somewhat expensive), or add a miniPCI network card. The Think-Pad miniPCI bay accessible from the bottom has connectors for built-in dual WiFi antennas. The miniP-CI network cards are less expensive and better integrated. I purchased and installed a generic 802.11b/g miniPCI card featuring the Broadcom chipset, connecting the main and aux antenna leads (the Lenovo support site has a T30 hardware manual with details on card installation). However, I discovered that the ThinkPad BIOS only allows the system to boot with miniPCI wireless cards from a few vendors (IBM, Intel, Cisco). Otherwise, the system stops at the BIOS startup with an error message. There are free software utilities to bypass these BIOS issues (01c9 and 1802 BIOS error messages, see http://www.thinkwiki.org/wiki/Problem_with_unauthorized_MiniPCI_network_card). The easiest solution is a bootable Linux CD with the utilities included. In

my case, I removed the miniPCI card long enough to boot Kubuntu, installed the gcc compiler and c libraries with Adept, then compiled and executed the "no1802" utility code myself. After that, I shutdown, reinstalled the miniPCI card, and rebooted without any error messages.

Kubuntu recognized the network card automatically (some chipsets are not directly supported due to poor vendor support and may require installation of ndiswrapper and Windows NDIS drivers- see https://help.ubuntu.com/community/WifiDocs/WirelessCardsSupported). The Network Manager under Kubuntu allowed me to scan nearby access points (APs), select and configure settings for my WPA2 encrypted access point.

I also installed the Windows XP drivers using the CD included with the miniPCI card. This was more troublesome than the Kubuntu support, which was seamless.

The end result is a fully connected laptop that can dual-boot into either MS Windows or Kubuntu GNU/Linux.

**GNU/Linux Distribution Releases**

GNU/Linux distributions are complete GNU/Linux operating system and application software collections. Many are freely downloadable or can be ordered on CDs or DVD at low cost. DistroWatch.com lists the following distribution release announcements for the period July 31 – August 23, 2008.

| Distribution |
| --- |
| *antiX MEPIS 7.5* |
| *CCux Linux 0.9.9* |

| |
|---|
| *ClarkConnect 4.3* |
| *EnGarde Secure Linux 3.0.20* |
| *gNewSense 2.1* |
| *Musix GNU+Linux 1.0R2R5* |
| *paldo GNU/Linux 1.15* |
| *Scientific Linux 5.2 "Live CD/DVD"* |
| *Ubuntu Christian Edition 4.0* |
| *Zenwalk Linux 5.2 "GNOME"* |

**Linux Software of the Month**

The software described below is downloadable at the links provided or may be requested on CD. In addition, WAC can provide CD-R and DVD±R media for any downloadable GNU/Linux operating system distribution (e.g. Fedora, Mandriva, Ubuntu, Debian, Knoppix). Please note that download versions of commercial distributions do not include official technical support nor printed documentation.

Discs are available **only by pre-order**. Contact Geof Goodrum by e-mail (*linux@wacug.org*) at least 48 hours before meeting day to order or for more information. Single CD-R discs are available with a $3 donation; GNU/Linux distributions on multiple CD-Rs or single DVD±R are available with a $6 donation.

**August 2008**

**Angband** – v3.0.9b. *http://rephial. org/.* Free GNU General Public License/Angband License source code by Angband is a free, single-player dungeon exploration game where you take the role of an adventurer, exploring a deep dungeon, fighting monsters, and acquiring the best weaponry you can, in preparation for a final battle with Morgoth, the Lord of Darkness. While only using custom 2D character graphics, the game is very deep, with lots of hidden "specials" for you to discover.

**SMILE Slideshow** – v0.7.3. *http://* *smile.tuxfamily.org/.* Free GNU General Public License C++ source code by Stéphane Gibault. SMILE (Slideshow Maker In Linux Environment) is a rewrite of Manslide. Its function is to create 3D slideshows. It allows the user to create a video slideshow from images that can be played on almost all media. The numerous features and the simplicity of use make it possible to create dynamic and rich slideshows in just a few clicks, without having to worry about technical issues or complicated settings. This update supports true 16:9 widescreen and NTSC output. SMILE requires qt >= 4.4 (with QTWebkit installed), sox >= 14.0.0, mplayer/mencoder, and ImageMagick.

**TkWiCe** – v0.12. *http://www.tk-wice.org/.* Free BSD license Tcl/Tk executable script. TkWiCe is software for wine cellars. The program structure is basically an administrative tool, and provides a fast overview of your wine bottles. It is written in native Tcl/Tk, so it should work on any operating system with that interpreter. This update features basic database export to CSV and XML, a printable datasheet for wine tastings, and the addition of fortified wines, liqueurs, and distillations. There are some minor bugfixes. TkWiCe requires Tcl/Tk interpreter 8.4 or later, a 233 MHz CPU (1.4GHz or faster recommended), 800x600 screen resolution (1024x768@16bit depth recommended)

**winetricks** – v20080823. *http:// wiki.winehq.org/winetricks.* Free script by Dan Kegel. Winetricks is a multi-purpose tool for Wine (the compatibility layer for Microsoft Windows software) that helps when Windows applications forget to bundle needed runtime libraries, fonts, tools, or plugins. It knows the safest place to legally get the missing files (often at microsoft.com), and will painlessly install them for you. It is simple shell script, and does not require installation. If invoked with no arguments, puts up a simple GUI to let you pick exactly what you would like to install.

**Kernel Source** – *http://www.kernel.org/.* 2.6 kernel source code for all platforms (stable 2.6.26).drum, WAC

Please see pages 6, 7 and 8 for screenshots of *Angband*, *SMILE Slideshow*, and *TkWiCe*...

fect on my laptop either so overall, I guess I can live with Vista for now. It is still better than MS-DOS — again my opinion.

Most of the technology press, and industry pundits are all a-buzz about "Cloud Computing" but no one has a really good definition what this is but, they are all very excited about it — even Microsoft.

Now I find it interesting that at a gathering of Microsoft executives last month, that Vista wasn't on the agenda. No updates on sales numbers (or the lack thereof), no mention of future updates or Service Paks...Nada. The primary topic of discussion was Windows 7, the next version or release of Windows after

# Angband

High-Elf
Mage
Mage Lord
LEVEL          50
EXP   14319409
AU     3262959

STR!    18/80
INT!   18/210
WIS!   18/160
DEX!   18/260
CON!   18/110
CHR!   18/160

Cur AC     173
Max HP     567
Cur HP     563
Max SP     362
Cur SP     362

Full                                        Fast (+15)                4650 ft
You miss the Earth hound.
You hit the Earth hound.
It was a superb hit!
You have slain the Earth hound.
You hit the Earth hound.
You hit the Earth hound.
You have slain the Earth hound.
You are no longer bleeding.
You miss the Earth hound.
You hit the Earth hound.
You miss the Earth hound.
The Earth hound flees in terror!
You hit the Earth hound.
You have slain the Earth hound.
You have found 245 gold pieces worth of diamonds.
You hit the Earth hound.
You hit the Earth hound.
You have slain the Earth hound.
You hit the Earth hound.
You hit the Earth hound.
You have slain the Earth hound.

a) a Book of Magic Spells [Magic for Beginners]              3.0 lb
b) 2 Books of Magic Spells [Conjurings and Tricks]           6.0 lb
c) a Book of Magic Spells [Incantations and Illusions]       3.0 lb
d) a Book of Magic Spells [Sorcery and Evocations]           3.0 lb
e) 3 Books of Magic Spells [Resistance of Scarabtarices]     9.0 lb
f) 2 Books of Magic Spells [Mordenkainen's Escapes]          6.0 lb
g) a Book of Magic Spells [Kelek's Grimoire of Power]        3.0 lb
h) 2 Books of Magic Spells [Tenser's Transformations]        6.0 lb
i) a Book of Magic Spells [Raal's Tome of Destruction]       3.0 lb
j) 4 Rations of Food                                         4.0 lb
k) a Green Speckled Potion of Restore Mana                   0.4 lb
l) a Purple Potion of Restore Life Levels                    0.4 lb
m) a Scroll titled "evsag forod" of Word of Recall           0.5 lb
n) a Scroll titled "seerok plutem" of *Enchant Weapon*       0.5 lb
o) a Rusty Rod of Teleport Other                             1.5 lb
p) a Molybdenum Wand of Teleport Other (7 charges)           1.0 lb
q) a Jasper Ring of Intelligence (+3)                        0.2 lb
r) a Tortoise Shell Ring of Dexterity (+4)                   0.2 lb
s) Ribbed Plate Armour of Resistance (-3) [28,+20]          38.0 lb
t) a Scythe of Slicing (8d4) (+8,+5)                        25.0 lb
u) a Long Bow of Extra Shots (x3) (+17,+17) (+1)             4.0 lb

Vista. Now Windows 7 is still 18 to 24 months away, but that's all Microsoft can talk about. They have mentioned that "Cloud Computing" will be built into Windows 7 and they all believe it is like manna from heaven.

Now I kind of have to agree with pundits like John C. Dvorak of PC Magazine. Before we had personal computers, we used mainframes. This meant the mainframe was a remote host and as users, we were limited to sharing applications through a dumb terminal attached to the mainframe remotely via a telecommunication link.

What was the upside to this arrangement? Well, once you arrived at the location of the terminal, you could use it when it became available. Then you had to use the application you needed (assuming it was available). At some point in time the bill for using the mainframe time had to be paid. Sometimes you had to wait for the printed results to be sent to you which meant you had to include shipping time to receive your output. That was great wasn't it? Well it was better than having to do the entire job by hand anyway. That's what forced the development of personal computers.
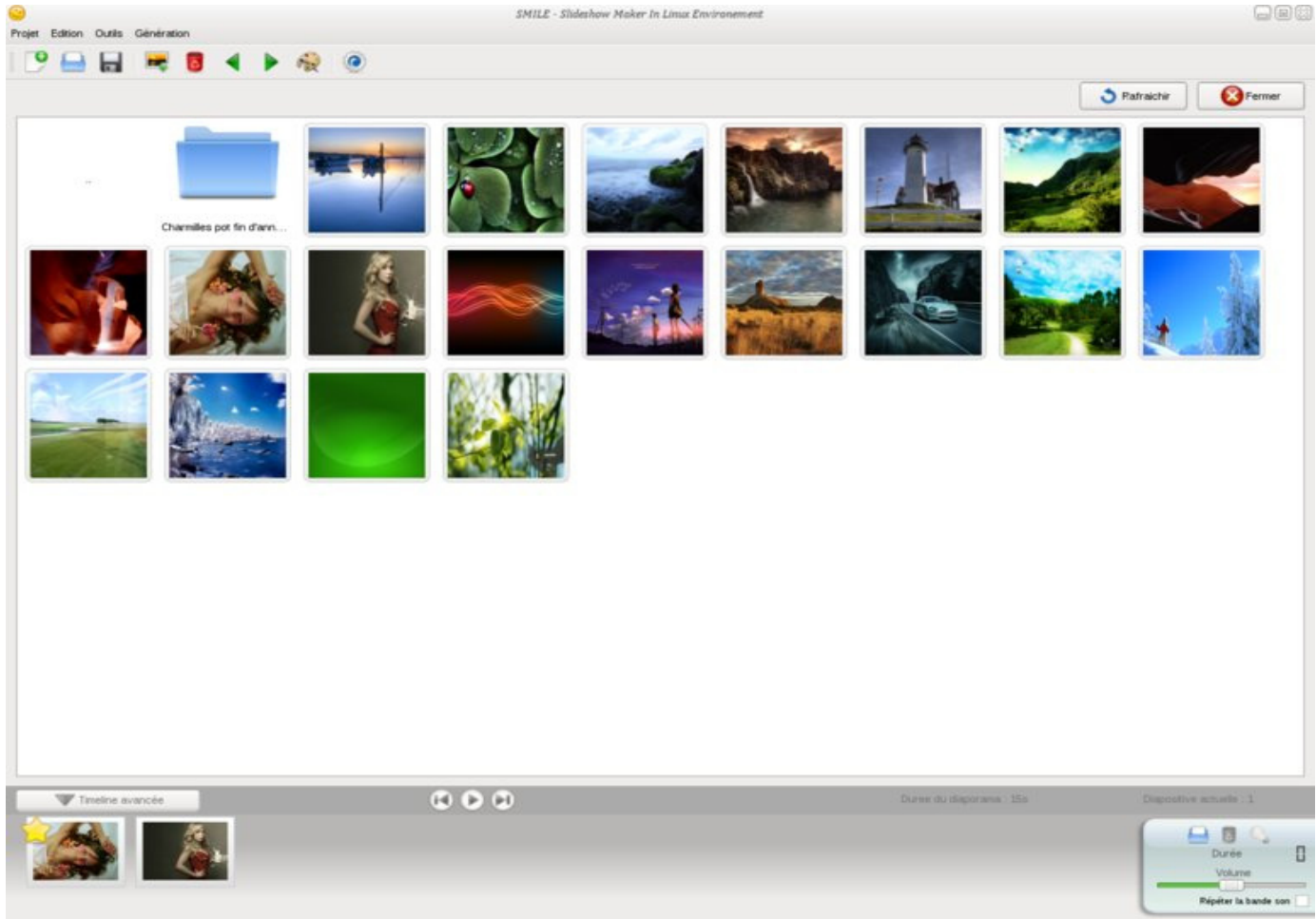
There was a time just before Windows 98 was released where Microsoft discovered the Internet. About that same time, Sun Microsystems was telling the press that the computer *was* the network. Once someone showed Bill Gates that a Sun diskless workstation device could access the network and download a word processing, or spreadsheet, or database application Microsoft suddenly realized they would certainly impact their future profits if the requirement for upgrading to the new version of Microsoft Office was no longer needed.

Suddenly, Microsoft stopped selling Internet Explorer and began giving it away claiming that Internet Explorer was a basic component of the operating system which meant the world didn't need Netscape to access the Internet.

# Smile Slideshow



Now it seems we've almost come full circle. Google Apps, others and now Microsoft are planning to stock the Internet with all the applications you should need. Now here's a $64 question, will the applications in the cloud be free? I don't believe that is a valid assumption. After all, Microsoft is still selling Microsoft Office. They produce a new version every two or three years and expect everyone to upgrade to the latest version. Now using the "Cloud Computing" cash cow analysis, software developers and vendors can stop selling their applications and simply start leasing them to us. Gee, how many copies of Office will I pay for while renting on-line? Let me know what figure you come up with.

However, more analysis and logic is required if we are to understand what this means to us working from home or as hobbyists.

Think about this, will the application run in the cloud, or will it be downloaded and run on the local computer? What operating system will be utilized? Will all these applications run on a Windows system? What about Apple and Linux machines?

If the application runs on servers in the cloud, what about keeping your data secure? What about privacy and protecting your identity? What about data backups?
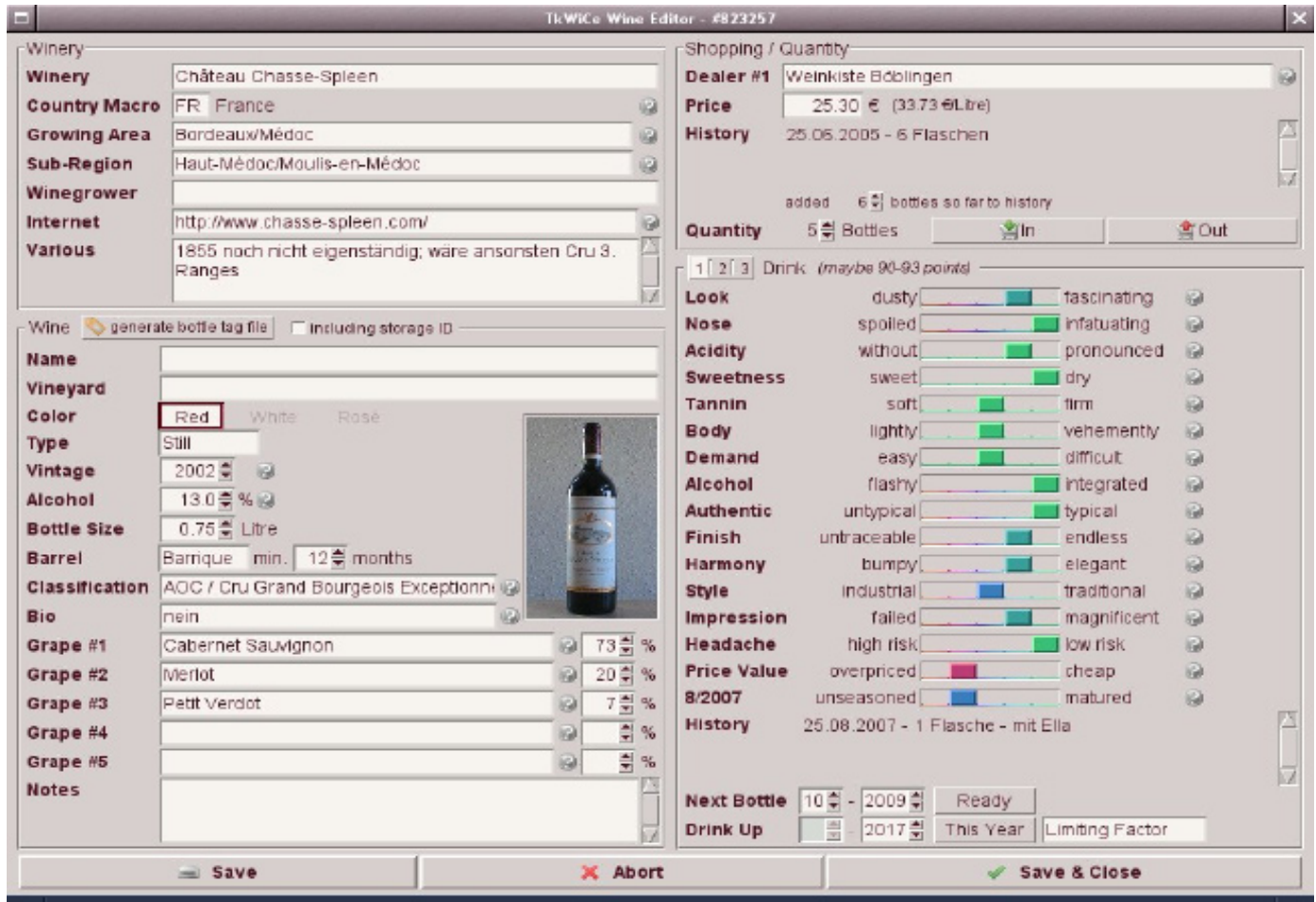
You know, I can't make up my mind. Is this the future of computing in the 21st century or is it a giant step

backwards? What do you think?

Another article on "Cloud Computing" is in this edition of the newsletter so please, read-on.

# TkWiCe

TkWiCe Wine Editor - #823257

**Winery**

| | |
|---|---|
| **Winery** | Château Chasse-Spleen |
| **Country Macro** | FR France |
| **Growing Area** | Bordeaux/Médoc |
| **Sub-Region** | Haut-Médoc/Moulis-en-Médoc |
| **Winegrower** | |
| **Internet** | http://www.chasse-spleen.com/ |
| **Various** | 1855 noch nicht eigenständig; wäre ansonsten Cru 3. Ranges |

**Wine** ☐ generate bottle tag file ☐ including storage ID

| | |
|---|---|
| **Name** | |
| **Vineyard** | |
| **Color** | Red   White   Rosé |
| **Type** | Still |
| **Vintage** | 2002 |
| **Alcohol** | 13.0 % |
| **Bottle Size** | 0.75 Litre |
| **Barrel** | Barrique   min.   12 months |
| **Classification** | AOC / Cru Grand Bourgeois Exceptionne |
| **Bio** | nein |
| **Grape #1** | Cabernet Sauvignon   73 % |
| **Grape #2** | Merlot   20 % |
| **Grape #3** | Petit Verdot   7 % |
| **Grape #4** | % |
| **Grape #5** | % |
| **Notes** | |

**Shopping / Quantity**

| | |
|---|---|
| **Dealer #1** | Weinkiste Böblingen |
| **Price** | 25.30 €  (33.73 €/Litre) |
| **History** | 25.06.2005 – 6 Flaschen |

added    6 bottles so far to history

**Quantity**    5 Bottles    In    Out

1 2 3  Drink  *(maybe 90-93 points)*

| Look | dusty | fascinating |
| Nose | spoiled | infatuating |
| Acidity | without | pronounced |
| Sweetness | sweet | dry |
| Tannin | soft | firm |
| Body | lightly | vehemently |
| Demand | easy | difficult |
| Alcohol | flashy | integrated |
| Authentic | untypical | typical |
| Finish | untraceable | endless |
| Harmony | bumpy | elegant |
| Style | industrial | traditional |
| Impression | failed | magnificent |
| Headache | high risk | low risk |
| Price Value | overpriced | cheap |
| 8/2007 | unseasoned | matured |

**History**    25.08.2007 - 1 Flasche - mit Ella

**Next Bottle**   10 - 2009   Ready

**Drink Up**   2017   This Year   Limiting Factor

Save     Abort     Save & Close

# Cloud Computing— Future of Personal Computing?

By Brian K. Lewis, Ph.D., Member and Contributing Columnist, Sarasota PCUG, Florida
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You may not have heard of it, but "Cloud Computing" is the latest buzz-word in computing circles. The question is, just what does it mean? The problem is that at this point, there is no really solid definition for this term. You can search for it and you'll find a number of interpretations. So, from all that I have encountered, I'll try to synthesize one for you.

Cloud computing is being able to access files, data, programs and services all via the Internet. You would have little or nothing stored on your computer, in fact, your computer might simply be a device, desktop or handheld, that can access the web and all of its services. In addition, cloud computing offers the services of enormous computer networks that function as if they were components of a supercomputer. These networks can process tens of trillions of operations per second compared to three billion operations per second for the most powerful desktop computer. This kind of computing power can be used for analysis of risk in financial portfolios, delivering personalized medical information, and powering immersive computer games. These networks use hundreds or thousands of network servers using PC related technology.

I think this excerpt aptly describes the computer cloud. "What is Google's cloud? It's a network made of hundreds of thousands, or by some estimates 1 million, cheap servers, each not much more powerful than the PCs we have in our homes. It stores staggering amounts of data, including numerous copies of the World Wide Web. This makes search faster, helping ferret out answers to billions of queries in a fraction of a second. Unlike many traditional supercomputers, Google's system never ages. When its individual pieces die, usually after about three years, engineers pluck them out and replace them with new, faster boxes. This means the cloud regenerates as it grows, almost like a living thing." (Quotation is taken from a Business Week article dated 12-13-2007 by Stephen Baker.)

Although some of these services may appear to be only of interest for corporations and their IT departments, services are also being made available for home and small business users. As you might expect, the availability of this Internet computer access depends on fast broadband access. An area where the U.S. lags behind many other countries. In this country we think that having 10-15 megabits/sec on our broadband is really fast. However, in Japan, 50 megabits/sec is closer to the norm, even for home users.

So who would be providing these cloud computing services? Actually, they already exist in the form of Google Apps, Amazon Elastic Compute (EC2), Sapotek's Desktop2 (www.desktoptwo.com), Zim Desk (www.zimdesk.com) and Zoho Office (www.zoho.com). (There are also a number of companies providing these services and more to large corporations only.) Sapotek claims to have 175,000 users of their Desktop2 and their servers can handle 8 – 10,000 of them at the same time. They have a partnership with Sun that will provide the equipment to handle as many as 350,000 users. Every time I look for more information on Cloud Computing I find new companies listed that are offering these services. It is a very rapidly growing industry

So, if you wanted to take advantage of the services in the cloud, what could you expect to find? Let's take a look at Desktop2. This is a free service that provides normal office applications: writer, spreadsheets, presentations, notepad, and a calendar. It also provides hard drive storage, e-mail, instant messaging, blogs. MP3 player, RSS service and a web site editor. The free version does come with ads as you would expect.

Zimdesks is very similar to Desktop2. Its web applications includes pop3email, file manager, sidebar, RSS, browser, word processor, spreadsheet, calendar, tasks manager, accessories/widgets, web messenger, video conference, media player, Internet radio, web TV, games, zimcommunity, zimblog, and much more. It is also a free service that incorporates advertising. Like everyone else they have to support themselves somehow.

The third of these services is Zoho Office. On their home page you not only find a list of the services they provide, they are all available for trial simply by clicking on a icon. As with the previous services, the list of applications is quite extensive.

Google Apps is very similar in its offerings to the preceding services. However, it is more oriented towards business users. It does have a free version which might be useful for the individual user.

Zoho uses Java to run its applica-

tions on the web. Other services may use Flash or Java. Either of these allow the applications to run in your browser and to operate at reasonable speeds. I have tried out the word processing and found it to be no different than using a word processor on my computer. This is true even though the speed of my Internet connection is usually only 500 – 750 kilobits/sec. When you are using a wireless card modem it is only on very rare occasions that you can match fast DSL speeds. I'm sure that those of you on cable or fast DSL would have no problem using a web-based application, at least with regard to the speed of the applications response. However, if you are preparing a graphic loaded presentation, then you might experience some slow down depending on the speed of your connection.

The idea of relying on Web-based applications and storing data in the "cloud" of the Internet has long been pushed as a way to do business on the road. Now software companies are making entire Web-based operating systems. They present themselves as a complete computer in the cloud and are aimed at a wider audience. These browser-based services could help those who can't afford their own computer.

There are also those who are convinced that this is the future of computing. However, some security concerns should be considered. Unless you know how secure your data is when you use a cloud system, you should be cautious about what you share with the on-line servers. You need to know how your data is protected from other users of the "cloud". As a service provider they should be willing to undergo exter-

nal audits and/or security certifications. Also you need to know what kind of data protection and data recovery procedures are provided. As has been demonstrated many times, computers do fail. Finally, you need to know what happens to your data in case the company fails or is sold to another entity. This is also not uncommon in the high tech industry. As is always the case, before allowing sensitive information to be used or stored on the web, remember "caveat emptor".

Lastly, consider what computing might be like should the "cloud" become the method of choice. Certainly there would be no need for computers to have all the bells and whistles we now associate with them. Just think about the possible design of a system destined for use solely with cloud computing. It would only need a minimal operating system that would allow the computer to boot, then start the web browser which would connect to the Internet. Your cloud page would be your home page and display your chosen desktop. As for a hard drive, a 10 - 20 gigabyte solid state drive would probably be adequate. USB ports for printers, scanners, possibly other I/O ports would be included. The one thing you would want to be high end would be the graphics system. This would allow display of high resolution graphics used in online games and for viewing videos. It is possible that the graphics processing unit (GPU) would be more powerful that the CPU (central processing unit) or it might even incorporate the CPU. This could all be contained in a 1-2 pound laptop or compressed further into a handheld computer/cell phone. Although some of these characteristics are found now in smart phones, the spread of cloud

computing would enhance the features of these phones. For most of us, the available screen size on these smart phones is not large enough, leaving a market opening for inexpensive laptops such as the ASUS Eee PC or the OLPC (One laptop per child). In neither case would we need an operating system as massive as Microsoft Windows.

One thing is certain, anytime you try to predict the future you usually miss the mark by a mile. So it will be interesting to see what reality brings about over the next few years.

Dr. Lewis is a former university and medical school professor of physiology. He has been working with personal computers for over 35 years, developing software and assembling systems.

# The Cursor

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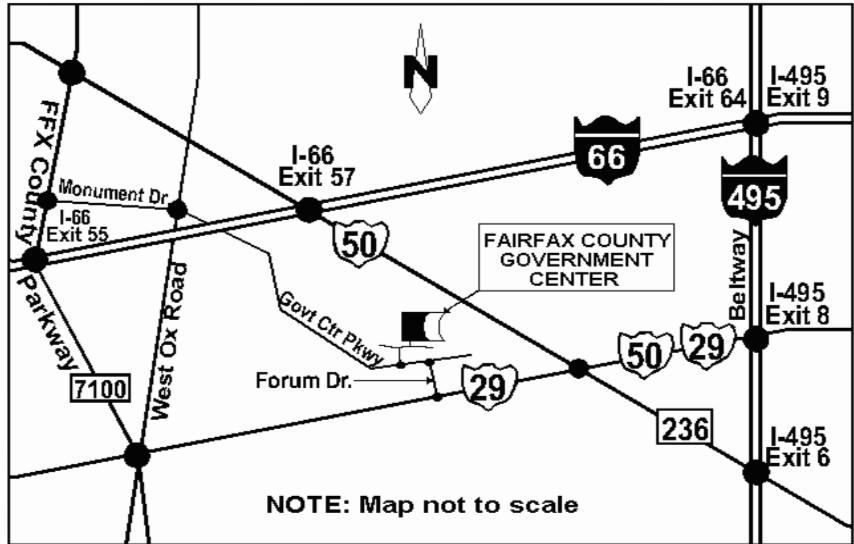Hardware Upgrades/Repair              List others below

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# System Mechanic 8 – A PC "Swiss Army Knife"

By Ira Wilsker; APCUG Director, Columnist, The Examiner, Beaumont, TX, Radio and TV Show Host
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***WEBSITE:***

http://www.iolo.com

http://www.iolo.com/downloads.aspx - *FREE TRIAL SOFTWARE*

Frequent readers of this column will be well aware that there are many computer utilities in cyberspace that can improve the performance of our PCs. As we use our computers, the registry becomes cluttered and inefficient; useless files consume valuable real estate on our hard drives; and other maladies caused by the software on our computers deprive us of the performance we paid for and deserve. While I admittedly use several different utilities to maintain peak operating efficiency of my computers, if I had to choose only a single utility for computer maintenance, it would be Iolo's System Mechanic (www.iolo.com). I have used System Mechanic for many years in its earlier versions, but now Iolo has released the latest iteration, System Mechanic version 8.

Simply, System Mechanic 8 is arguably the most comprehensive PC maintenance utility available, with over 40 distinct performance and security tools included, giving it "Swiss Army Knife" features. According to published sales figures, System Mechanic is the #1 best selling PC tune-up software on the market, and has won awards for ex-cellence from dozens of computer publications, including Cnet's Editors' Choice, Windows Magazine, PC Computing, ZDNet Editors' Pick, Computer Shopper's Top 100, Computerworld, and many others.

Rhetorically, why would I choose System Mechanic 8 over all of its competitors? Because of what it does, its power, versatility, and features; that is why. Compared to its major competitors, none of them offer the feature rich set of functions that System Mechanic offers. According to Iolo, "Over 98% of PC problems are caused by clutter and faulty settings that are the result of everyday PC use." System Mechanic 8 can repair or otherwise remedy virtually all of these problems. Many of a PC's problems can be traced to problems and errors in the registry, a large data file that contains information on the hardware and software installed on the computer. The registry is almost constantly written to, and read, often leaving obsolete data in the registry. This obsolete, and eventually erroneous data left in the registry consumes some system resources, and can promote errors and other problems as faulty data is read and processed. The registry must be periodically purged of useless data, defragmented and compacted in order to contribute to better PC performance, a function that System Mechanic 8 excels at.

Our computers are constantly reading from and writing to the hard drive, and that drive often becomes cluttered, fragmented, and may also have some errors in the data stored on it. While almost all flavors of Windows have some type of "defrag" and "chkdsk" software to defragment the hard drive, and check it for errors, the Windows integral versions of those utilities are very basic and lack the power to do a truly thorough job, as System Mechanic will do. Clutter and useless files consume a lot of the storage space on our hard drives; System Mechanic 8 can identify and remove that clutter, freeing up that hard drive space, making for a more efficient hard drive.

Sometimes, and it will likely happen eventually to each PC user, the computer will not properly boot. For that particular eventuality, System Mechanic 8 will allow the user to create a bootable emergency CD that may be able to revive "crashed" systems. Another irritant that many of us suffer through on a regular basis is the boringly slow boot process itself, where we wait and wait for our computer to become usable. System Mechanic 8 claims to have 19 different ways that it can speed the boot process by making it more logical and efficient. Another way that we are losing performance that we are paying for is by having improper internet settings. Many of these settings are mundane and not readily accessible to the typical user. By modifying these settings to their ideal point, internet throughput can be improved, in some cases tripled. System Mechanic 8 will analyze our internet connection, and make any changes necessary to maximize performance.

PC security is a major issue that all of us must deal with on a constant basis. System Mechanic 8 contributes to system security by fixing settings that would otherwise allow an intruder to access the computer, making cyber attacks that more difficult. Sometimes we have files that we want to securely delete, being well aware that normally deleted

files are easy to recover, which may create another security problem. This utility offers the user a military grade wiping function that can securely delete unwanted data.

System Mechanic 8 retails for $49.95 for a one-year license, and can be used on up to three computers; discounts are available online (www.iolo.com) for longer licenses.

For those who want an even more feature rich product, Iolo offers System Mechanic Professional, version 8 ($69.95 for 3 computers). This Professional version is an integrated bundle which includes most of Iolo's other popular products. The bundle includes Iolo's antivirus software, renowned for its hourly updates; and its Personal Firewall to protect from intruders and malicious software. Another program included with the Professional bundle is another personal favorite of mine, Iolo's Search and Recover.        This program can recover files that were deleted, including photos, videos, documents, email, music, and other data that may have otherwise been lost. Search and Recover can undelete files from hard drives, digital cameras, memory cards, and almost all other digital media.

Professional also includes Drive-Scrubber, a utility that can securely erase data from hard drives. This is necessary when donating a computer, selling it, or recycling it.    Without securely deleting our personal data, others can access it and use it for a variety of purposes, including identity theft. DriveScrubber overwrites the data using methods that meet strict government and military standards, ensuring the destruction of that data, without harm to the drive itself.

iolo has a winner in System Mechanic 8. For those who like to try software before they purchase it, Iolo offers a free, 30 day, fully functional trial version of each of its products at www.iolo.com/downloads.aspx. If you try the software, you will probably like it as much as I do, and find it indispensable.

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# Rootkits - A continuing Security Problem

by Brian K. Lewis, Ph.D., Member of the Sarasota Personal Computer Users Group, Inc., Florida
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By now I suspect everyone reading this article is familiar with most malware: viruses, botnets, Trojans, etc. These are becoming less of a problem because of the efforts of the security companies to provide software solutions. More and more users are also becoming aware of the need to have some means of protecting their computer. As a result, hackers are turning to a more effective method of controlling your computer – rootkits. Although these have been around more than ten years, like other malware, their numbers seem to be increasing.

Probably the most dangerous form of the rootkit is the "kernel mode Trojan". This is a program that inserts itself into the "kernel" of the operating system. The kernel is the central component of the operating system – its heart or brain to put it in more common terms. It manages the communication between the operating system, the hardware and the software applications.

Most viruses operate as applications and can be readily found in memory or in the file system. Rootkits, however, can hide themselves in such a way that it is very difficult to find them. In order for a rootkit to alter the normal execution path of the operating system, one of the techniques it may employ is "hooking". In modern operating systems, there are many places to hook because the system was designed to be flexible, extendable, and backward compatible. For example, a rootkit can "hook" itself into the Application Programming Interface (API) which allows it to intercept the system calls that other programs use to perform basic functions, like accessing files on the computer's hard drive. If an application tries to list the contents of a directory containing one of the root kit's files, the rootkit will censor its filename from the list. It'll do the same thing with the system registry and the list of running processes.

A rootkit is a collection of tools an intruder brings along to a victim computer after gaining initial access. A rootkit may contain network sniffers, log-cleaning scripts, key-loggers and trojaned replacements of core system utilities. Although the intruders still need to break into a victim system before they can install their rootkits, the ease-of-use and the amount of de-

struction they cause make rootkits a considerable threat. One main purpose of a rootkit is to allow the intruder to come back to the compromised system later and access it without being detected. A rootkit makes this very easy by installing a remote-access backdoor. A rootkit can also allow the intruder to use the compromised computer as part of a botnet (see Botnets, SPCUG Monitor, January, 2008).

Another mechanism for hiding a rootkit is to add it to a system driver file. Windows XP and Vista store driver files in the System32/drivers folder. Many of these system files load early in the boot process. These files have boot or system flags in the registry and load before any of the malware-prevention software. That means they are very difficult to find. Although the file size for the driver will be increased, the rootkit may report the original file size to any query, not the infected file size. All of this means that once a rootkit has been installed and activated on your computer, it is difficult to find by any of the usual malware prevention software.

Rootkits do not require large software applications to carry out their function. We are accustomed to commercial applications that are many megabytes in size. Even the anti-virus software may be 40-50 megabytes in size. In 2003 a rootkit was identified that required only 7 kilobytes for its cloaking routine and 27 kilobytes for maintaining the open backdoor.

Anti-malware programs depend on two main means of identifying malware. One is the signature method and the other is heuristics. The signature method requires that

the malware be identified and reverse engineered to determine a code sequence which can be used to identify the application in the wild. This code sequence is referred to as the signature and is used by the anti-virus database. This signature is then compared to code sequences in applications to determine if they are malware. This method is of no value when dealing with new or unreported malware.

So the next option is heuristic signatures. Their primary advantage lies in their ability to identify new, previously unidentified malware. The heuristics technique assumes that malware will display certain characteristics or attributes. They also attempt to recognize deviations in "normal" system patterns or behaviors. Using these predicted patterns, the anti-malware application will attempt to determine if the target application is malware. This has been a successful approach for identifying viruses, but it is less successful for active rootkits.

The April 2008 Virus Bulletin (www.virusbtn.com) reported the results of testing a number of popular commercial A-V programs, Internet security suites, web-based scanners and specialized anti-rootkit tools. The testing involved 30 known rootkits. The testing categories were detection of: (1) inactive rootkits; (2) active rootkits; and (3) malware hidden by rootkits. Then they tested removal of (1) inactive rootkits; (2) malware hidden by rootkits; and (3) active rootkits. The results were not encouraging.

The seven Internet Security Suites used in the test were able to detect 95% of the inactive rootkits. (Remember, these were known samples that had already been identified and their signatures incorporated

into the anti-malware applications.) These suites were also able to remove 95% of the inactive rootkits. However, when it came to active rootkits the story was very different. The Internet Security Suites detected only 65% of the active rootkits and were able to remove only 48%. They also were able to remove only 48% of the hidden malware. All of the versions of the Internet Security Suites were the latest available at the time of the test.

There were fourteen specialized anti-rootkit tools tested using the same thirty rootkits. They were not tested against the inactive rootkits, only the active rootkits and the hidden malware. Again, the results were anything but satisfying. These tools detected 83% of the active rootkits and 80% of the hidden malware. The anti-rootkit tools removed only 60% of the active rootkits and 67% of the hidden malware.

The web-based scanners did a far poorer job of identification of the rootkits. They also were uniformly unsuccessful in removing rootkits. The detection rate was 53% and the removal was around 32%.

In reviewing these tests it is obvious that successful detection and removal of rootkits depends on their being inactivated. This can be done by running the computer in "SAFE" mode which does not allow the rootkit to load from the hard drive. However, it would be expected that if detection/removal tools were developed for this specific purpose, then rootkits would appear that would load in "SAFE" mode. Another alternative would be to develop rootkit scanning software that would run from a CD. The computer would

boot from the CD and the operating system for the scan would load from the CD. This should improve the detection and removal rates considerably. However, it then depends on the user running the CD application periodically to scan the entire computer. Considering how few users backup their hard drives on a regular basis, this CD system might be less than universally successful.

Given the current difficulty of detecting and removing rootkits from your computer, what is a user to do for protection? The only answer to this is to prevent the rootkit from getting access to your computer. That means using every tool you have available to prevent the malware from gaining access to your system. Your firewall is the first line of defense, followed by your anti-virus, then your anti-spyware. Also, when you are surfing the web, make sure you aren't your own worst enemy. Be careful and check out links before you click on them. It just like getting spam in your e-mail. Check where the link will take you before you click on it. Social engineering techniques are also used to propagate everything from viruses to rootkits. These are techniques that encourage the user to take some action which allows the malware to be downloaded and installed on the users computer. A very interesting analysis on these techniques is contained in this article from the University of Cambridge (U.K.); http://www.cl.cam.ac.uk/techreports/UCAM-CL-TR-666.pdf. Although this is written specifically about virus propagation, similar techniques are used to gain entry for rootkits. This paper illustrates many of the "carrot

& stick" methods used by malware to gain access to computer systems. Microsoft has also published a paper detailing many of the common methods used to trick users into installing malware. These can be found in the paper "Behavioral Modeling of Social Engineering-Based Malicious Software" on the Microsoft web site.

So to all of you reading this paper, I would suggest that "caution is the watchword" when it comes to using your computer. I'm afraid that the situation will only get worse when it comes to new forms of malware.

Update Note: In my article on iFrame attacks (SPCUG Monitor, May 2008), I listed a number of portals that had been affected by iFrame attacks. One of these was the eHawaii.gov portal. I have received information from the site manager that the problem has been corrected (removal of the iFrame) and actually only affected one page on their site. Thanks to Russell Castagnaro for correcting this problem and notifying me.

Dr. Lewis is a former university and medical school professor of physiology. He has been working with personal computers for over thirty years, developing software and assembling systems.