ACPCUG Newsletter

North Canton Public Library, 185 North Main St. North Canton, OH

March 6, 2006
6:00—8:45 PM

Inside:

March 2006 Program

- ***Programming in VB by Dave Bohm***
- ***Q&A +***
- ***VB.net Introduction—by Dave Bohm***

March 2006

Akron-Canton PC Users Group

From The DealsGuy for April 2006

by Bob (The Cheapskate) Click, **Greater Orlando Computer Users Group**

As time goes forward, my health gets more complicated. I have been a Type II diabetic for a few years now and other than some swelling in the legs, my sugar control is pretty good, which I assume many of you can relate to. Problem is I started the sugar control too late and suffered serious heart damage. Now it seems that I have developed a large blood clot in my lower leg, I believe from a fall, and the doctor put me on Coumadin (Warfarin), better known as rat poison. It has a long list of drugs that cause interactions. I am already a walking pharmacy so now it gets complicated. This turn for the worse seems to bring other unexpected complications. I have started getting temporary spikes upward in my blood pressure for no apparent reason, which sometimes causes a nosebleed. I am afraid to go anyplace these days because I might get a nosebleed, although I can stop it now rather easily. My doctor has prescribed medication for

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my blood pressure as a solution to the changes and I sure hope it works. Getting old sure gets complicated, but the alternative to getting old "really sucks." It looks like I will have five more months on the rat poison, if I survive. I have talked to many people also taking Caumadin who tell me even worse stories about bleeding where you don't want to and a lack of good control by their doctor.

Right now, I need a blood test at least once a week for my INR, (the clotting ability of the blood). The doctor says I can purchase a machine to do that test at home, but I checked on the Web and it would cost $2495 (no decimal point). I'll let the clinic do the testing. Medicare only pays for that if you have valve problems in your heart. I'm still doing my best to continue cheating my wife out of the life insurance money. Whenever I start to slow down on exercise etc., I get a vision of my wife sitting on the beach of some south sea island with a stud sitting next to her, and she is writing a check on my insurance money for their next vacation. That little vision gets me right out of the chair to exercise.

*How Secure is Your System?

I read an article in Information Week magazine that was both amusing and interesting. It concerned a company whose CIO hired security investigators to test how good their system stood up to being infiltrated. The director of the network operations center was sure they couldn't break into the systems or facilities, but they very soon proved him wrong. Some of the weaknesses were so stupid that I had to chuckle, such as many of the passwords for work stations were written on a note taped to the machine or hidden under the keyboard. They gained access to limited access places just by calling the receptionist and telling them that some agents were coming in to do an audit and needed access, which was easily granted to the very people who made the call. Office keys were sometimes in the secretary's desk. You can find this article at <http://www.informationweek.com/management/showArticle.jhtml?articleID=177100115> and you'll find it enlightening.

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*Leaky Capacitor Update

A while back, I wrote about a leaky capacitor problem on motherboards that I read about in Ed Foster's Gripe Line, and gave you the URL to find out more. Since then, I received a message from Carey Holzman, author of Healthy PC, who tells me that is a four-year-old issue and that there has been "some" resolution in the matter. He says he has covered it since it first came up four years ago and more information is available on his Web site. <www.careyholzman.com>. Also a second URL: <www.badcaps.net>.

*Great, The Bundle is Back

Colleen Toumayan from Executive Software sent a message letting me know that their "bundle" is back. For a limited time you can get both the award winning Diskeeper 10, Home Edition, and Undelete 5, Home Edition, products for just $49.95 plus S&H. I have never heard anything but praise about these fine products. Mine is not the latest, but it always works well, and fast. Use this link to order: <http://purchase.diskeeper.com/checkout/addtocart.aspx?Item=1382>.

*ExtraLabs Releases Version 3.4 of Feed Editor (an edited announcement)

New RSS Editor Makes Anyone An RSS Guru!

ExtraLabs Software unveils Feed Editor 3.4, a full-fledged RSS editor that offers you an easy way to create and maintain RSS feeds and podcasts. Compared to other RSS editors in its category, Feed Editor combines an unprecedented number of features including support for various RSS formats, a podcasting support, a WYSIWYG HTML editor, an XML editor, an RSS Feed preview, an FTP upload and publishing, automatic date management and an ability to convert CSV or HTML to RSS, and back.

Feed Editor can create and maintain an unlimited number of RSS feeds and podcasts, thus letting you maintain and distribute multiple content streams simultaneously. To create a new RSS feed, you can use a New Feed Creation wizard that will guide you through the RSS setup process in a step-by-step fashion. Additional convenience comes with a built-in WYSIWIG HTML editor that allows you to edit a feed in much the same way as you would edit a word processing document. You can format the text, apply styling, and insert images and hyperlinks. Also, "Feed Editor" can generate a feed from a CSV and HTML file. Once a feed is ready, you can preview it

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and publish online using an FTP upload facility.

Read more about Feed Editor at <http://www.extralabs.net/feed-editor.htm>

Download an evaluation version to try it for free <http://www.extralabs.net/FeedEditorSetup.exe> (1.72 Mb.)

ExtraLabs Software is glad to offer the newest version of "Feed Editor" with 50% off the regular price making it just $19.95. Also, ExtraLabs will offer all user group members an additional 5% discount on the purchase of the program during April and May. Follow this link for the extra discount: <http://www.regsoft.net/purchase.php3?productid=74108&pc=312aY>.

Feed Editor 3.4 runs under Windows 95/98/Me/2000/NT/XP/2003. Registered customers are entitled to free lifetime updates and premium technical support. Discounts for volume buyers are available.

***If You Like Games, Check This Announcement**

From the creators of “Zzed” comes a new game of Wonderlines by NevoSoft. Wonderlines is a remake of a popular game. Only balls and lines remind you of its predecessor here and the rest is covered with the charm of novelty. A player will see a new bonus system, a new intricate game play structure and a fresh interface design. The music and visuals are great.

Puzzle, Action, Zen Way modes are different, yet each requires special skills. Generally, the game stayed nearly the same yet now you match several balls of one color in a line, but also blow them up over certain brown squares. The challenge of the game is to remove all brown squares in each level. 70 levels of the game are very different one from another. Another merit of the game is new bonuses: the miraculous multicolor ball, dazzling diamond and clever hammer, triple or quadruple bomb and others, which help a lot while making your way through Wonderlines.

Wonderlines runs under Windows 98/ME/XP/2000 and costs $19.95 (USD). NevoSoft offers a 30% discount to user group members if you use this link:
<https://www.regnow.com/softsell/nph-softsell.cgi?item=8323-16&ss_coupon=NEVO-GPCU>. Registered customers are entitled to the unlocked game play and lifetime technical support. An evaluation version of the game, that offers 60 minutes of game play, is available as a free download at

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<http://www.nevosoft.com/wonderlines/wonderlines_demo.exe>.

Be aware that this vendor has no privacy statement on their Web site about protecting your information.

For more information, visit us at <http://www.nevosoft.com>

Product page link: <http://www.nevosoft.com/downloadable-game/en/games/wonderlines.html>

That's it for this month. Meet me here again next month if your editor permits. Be sure to check the new announcement pages on my Web site. This column is written to make user group members aware of special offers or freebies I have found or arranged, and my comments should not be interpreted to encourage, or discourage, the purchase of any products, no matter how enthused I might sound. Bob (The Cheapskate) Click <bobclick@mindspring.com>. Visit my Web site at <http://www.dealsguy.com>.

How big is a 300 GB hard disk?

By Jim Sanders, Editor, Orange Bytes, North Orange County Computer Club
www.noccc.org / editor(at)noccc.org

I recently acquired a 300 GB hard disk for $110 after rebates. When I look at that 3.5 inch hard drive that is one inch high and easily held in my hand, trying to put those 300 Giga bytes of storage in perspective is a little tough. I thought about the first Z80 CPM system I built in 1977 from a Cromemco kit that I had to solder together. It used 8 inch floppy disks that held 128,000 Bytes.

The diskettes were easy to damage and it was a good idea to keep them in storage boxes. I made some good money selling the SRW Computer Products plastic storage boxes at a great ACP Swap Meet discounted price of $2.00 each. They were designed to hold 10, but you could get 2 or 3 more in if you were careful! I wondered how many floppies that would be, so I punched the numbers into the calculator. 300,000,000,000B/128,000B = 2,343,750 diskettes. I don't know how to visualize that, but I did calculate that it would take $468,750.00 worth of those boxes to store them all. I then remembered that the average price at that time was about $3.50 a diskette. Again the calculator, 2,343,750 diskettes x $3.50 = $8,203,125.00. Wow! That is a number that I don't want to think about if I am talking about a hobby.

Another way to wrap your mind around huge numbers is to start small, with something that you can relate to, and work your way up. Now we know that one byte equals one character of the alphabet. The common 10 point type has 10 characters per inch. So, if we have 120 characters/bytes in a row, we have one foot. There are 5,280 feet in a mile. So 5,280 x 120 gives the number of character or bytes that would be on a mile long ticket tape that was being printed with 10 point type, an answer of 633,000 bytes. Compared to the 300 Giga bytes on the hard disk, 633,600 bytes is not much. To find out how much, we need to take the 300,000,000,000 byte capacity of the hard disk and divide it by 633,600 bytes in a mile. The answer to that math problem is the equivalent of 473,485 miles of ticker tape.

To put that into perspective, let's take the circumference of the earth (nominally 25,000 miles) and divide that into our answer. So, 473,485 / 25,000 = 18.93. If we could find a big enough roll of ticker tape, printing all the information on that hard disk would wrap around

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the equator of the earth 18.93 times. That sounds impressive, but how many people can really visualize that. Besides, I don't know anyone who has a big enough ticker tape printer. Another thought, that ticker tape would be 3,000 miles short of stretching from the Earth to the Moon and back.

But let's try it with regular 8.5 inch x 11 inch paper. Again, standard printing would be 10 point type, 10 bytes per inch, and 6 lines per inch. Most people leave at least a half inch margin all the way around the page. So that means each line will be 7.5 inches, or 75 bytes, and there will be 60 lines per page. So each page will use 75 bytes x 60 lines, or 4,500 bytes. First, let's take 1 of the 300,000 megabytes on the disk and see how many pages that represents. 1,000,000 / 4,500 = 222.2 pages. We still have 299,999 megabytes left and, using them, the total number of pages comes out to 66,660,000 pages.

That is also a little hard to imagine, so let's see how many reams of paper that is. Take 66,660,000 pages, divided by 500 sheets per ream = 133,320 reams of paper. Again, a little hard to visualize.

A lot of things have their volume given in cubic feet. That's 12 inches x 12 inches x 12 inches or 1,728 cubic inches, or 1 cubic foot. I measured one case of paper at 11.25x9x17.5 inches, or 1,771 cubic inches. Let's be generous and round that off to one cubic foot. So at 5,000 sheets, or ten reams per case, we divide the 133,320 reams that we came up with by 10 to get 13,332 cases, or that many cubic feet of space.

Stipulating that an average house is 1,400 square feet with eight foot high ceilings, then the average house has 11,200 cubic feet of space, ignoring the walls. If you filled up your house, wall-to-wall, floor-to-ceiling, with cases of printed paper, you would still have 2,132 cases left over. If you are in better shape than I am, there is still room to get one car in that two car garage. That's 10'x20'x9' = 1,800 cubic feet, so that still leaves us with 332 cases of paper. We could take all of the junk out of the other half of the garage, lay down a two foot thick layer of paper and put all the junk back in on top of it. That's how much the 300 Giga byte disk holds! So, unless you are planning on taking out a home improvement loan, don't buy that 400 Giga byte disk.

Legal Bytes: Fair Use - Wherefore Art Thou Going?

By John Brewer, eMonitor, Computer Club of Oklahoma City

The news media is reporting the current brouhaha over electronic eavesdropping and surveillance of telephone calls, email, and Internet searches. The US Senate is set to begin debate on whether Judge Samuel Alito is the right person to follow Justice Sandra Day O'Connor. Congress is debating how to manage recover in New Orleans, fund wars in Iraq and Afghanistan, and address the reality of record deficits in the federal budget. It is a good time for the entertainment industry to make an end run on "fair use."

Fair use is a legal concept that permits the public to use copyrighted content without paying for the use, subject to specific restrictions. The entertainment industry perceives "fair use" as tantamount to theft by the unwashed and the unsaved. Draft legislation sponsored by the Recording Industry Association of America (RIAA) and the Motion Picture Association of America (MPAA) is being prepared for filing in Congress.

The new legislation is being circulated by Senator Gordon Smith (R-Ore).and is titled the "Digital Content Protection Act of 2006." The Electronic Frontier Foundation (EFF) reports that "fair use" will be limited to "customary historic use of broadcast content by consumers to the extent such use is consistent with applicable law" under the DCPA. EFF continues, "had that been the law in 1970, there would never have been a VCR. Had it been the law in 1990, no TiVo; in 2000, no iPod. "Fair use" has always been a forward-looking doctrine. It was meant to leave room for new uses, not merely customary historic uses. Sony was entitled to build the VCR first and resolve the fair use questions later."

EFF interprets the proposed legislation as giving regulators (that could be largely staffed by industry types) the power to prohibit new technologies in advance of their introduction to public use. Past practice was to permit the introduction of new technology and then permit the courts to rule whether copyright law was applicable and, if so, whether the use of the technology was an exception under "fair use." As an example, the public is permitted to tape a television program on a VCR and play it back later as a "fair use" exception to copyright law. This practice is called "time shifting."

The new law will permit the device or technology only if it meets the criteria of "customary historic use." New technology will probably not qualify as "customary historic use." EFF predicts a world where technology will be

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frozen in time because industry lobbyists will have the power to prohibit new technology. Anyone who thinks otherwise is naïve. The federal regulatory agencies have seen “sea changes” in their attitudes under the current administration in the determination of the proper balance between industry and public interests.

The Public Knowledge web site states that the Smith legislation is basically a rework of what is known as the “Hollings Bill” from 2002. Public Knowledge states further “the fact remains that the main issue here is not about piracy, it’s about control. The content industry needs a congressional mandate to control the functionality of consumer electronics and PCs, and in turn, what consumers can do with the devices and content they legally obtain.

The Senate has introduced the "Digital Content Protection Act of 2006," a bill that will create "Broadcast Flags" for all digital radio and television, leading to FCC oversight of all new digital media technologies from iPods and PSPs to TVs and DVD recorders.”

Another web site, a very interesting web site indeed, is boingboing.net. Boingboing has the following to say about the Smith legislation.

“Under the DCPA proposal, digital media technologies would be restricted to using technologies that had been certified by the FCC as being not unduly disruptive to entertainment industry business-models. There are two things to be certain of this century:

1. Everything that can be expressed as bits [digital content] will be expressed as bits
2. Bits will only get easier to copy

The entertainment companies are convinced that their businesses depend on copy-proof bits. This is ridiculous: there's no such thing, there never will be.

Governments that try to protect businesses that demand copy-proof bits are like governments that try to protect businesses on the sides of volcanoes, who demand an immediate end to business-disrupting lava.

If the current entertainment companies can't or won't adapt to a world of bits, that's too bad. Let them die, and let new businesses that thrive in the new technological reality take their place. If you can't stand the heat,

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get off the volcano.

Back in the mainframe days, IBM made its money by giving away computers below cost and then charging a bundle for keyboards and printers. Hitachi killed the mainframe business by introducing cheap peripherals for IBM mainframes. Killing mainframes didn't kill computers: it made them better. IBM was forced to get into the minicomputer business, which led to the personal computer.

If computer industry complaints got the same attention as the entertainment crybabies get from lawmakers, there'd be 10,000 computers total in the world, running punchcards, with three companies making modest sums servicing them and shipping a new model every three years.

Hollywood's crybaby capitalists accuse us of being "communists" with one breath, and in the next, they go begging to Congress to turn the FCC into device czars who keep the market from being disrupted by innovation.

Andy Setos, the Fox executive who invented the Broadcast Flag, once told me that his objective was "a well-mannered marketplace." The entertainment industry's version of a planned economy is bad policy.

Send a strong signal to your lawmaker: if you break my TV, radio, and computer, I will campaign tirelessly for anyone who will promise to throw you out of office and undo your deeds.

The author of the new bill to break our televisions, computers, and mp3 players, Senator Gordon Smith of Oregon, has been paid tens of thousands of dollars to do it. The National Association of Broadcasters (NAB) has been lobbying hard for the sole ability to decide how hard it's going be for us to listen to an mp3. The NAB has thrown nearly $250,000 at Republican candidates this year alone. NAB's money stuck to Gordon Smith."

Sometimes the public has live with the legislation that has been bought by industry. Anyone who is concerned should make their voice heard.

John Brewer practices law in Oklahoma City, is a member of the Governor’s and Legislative Task Force for E-Commerce, and enjoys issues relating to eBusiness and cyberspace. Comments and questions are welcome and can be emailed to johnb@jnbrewer.com.

The Shadow Knows

by Mike Morris
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How many readers remember that phrase? Or remember listening to the show on the radio:

"Who knows what evil lurks in the heart of men? The Shadow knows."

Recent headlines have described the availability of TV shows on the internet—at a price. No headlines, however, for The Shadow or other radio programs from the 1930's and 1940's. The copyrights to a large number of the old radio shows have expired, and you can now download (or order) these programs in a variety of formats and listen to them through your computer or other audio equipment.

Whether your interest is historical research, for the nostalgia value, for a hobby, or for the simple entertainment value, the variety of programs and information about these old radio programs is astonishing. I originally searched the internet using Google and the phrase "old radio programs." That search returned over 20,000 hits over 6 months. The correct phrase should have been "old time radio." That search returned over 1 million hits from the past 6 months.

These websites provide an incredible wealth of information. I have checked a very small number of websites, and offer my comments on them. There are episodes of The Shadow, Sam Spade, The Thin Man—as you can see, I like mysteries. There are comedies, westerns, music, and much more.

By the way, how many readers remember the origin of Sam Spade? Do you recall the movie "The Maltese Falcon" with Humphrey Bogart? The movie was based on the novel of the same name by Dashiell Hammett (originally published in 1929), which introduced the world to Sam Spade. Another novel by the same author, "The Thin Man," (originally published in 1933) was turned into a move starring William Powell and Myrna Loy. Here is a trivia question for you: who *really* was the Thin Man?—answer at the end of this article.

As you might expect, the audio quality of these old radio shows varies. Some websites allow you to listen to short samples of selected shows using either RealPlayer™ or Media Player, both of which are bundled with the Windows operating system.

"It is Thursday night, July 31,1930. The time is 9:40 PM. Radio listeners tuned to CBS hear the first appearance of "The Shadow" . . . ." Thus begins the history of "The Shadow" as provided by the Old-Time Radio Program Guide, http://www.old-time.com/

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toc.html. This website has links to historical information on a number of old time radio programs and to other websites that include soundbites and stories, and to websites that offer programs on cassettes, CD's, DVD's, or direct downloads to your computer.

More history is available at Radio Days: A Soundbite of History, http://otr.com/index.shtml. There are links to history by category (Mystery, Private Eyes, Comedy, SciFi) and to histories of selected programs (Captain Midnight, Terry and the Pirates). This website also provides an historical timeline with important dates in radio broadcasting with descriptions of relevant programs. Selected downloads (soundbites) are included. There is a link to a schedule of old time radio on the airwaves (and on the internet).

At "It Seems Like Only Yesterday," http://www.yesterdayradio.com/, old radio programs are offered for sale on cassettes. Categories include: World War II and Civil War History, Big Band Music, Comedy, Westerns, Science Fiction, and Sherlock Holmes. The Big Band category includes Glenn Miller, Benny Goodman, Tommy Dorsey, and other broadcasts from the 1940's.

The "Radio of Yesteryear" website, http://www.originaloldradio.com/, claims to have 50,000 old time radio programs available on CD's, in various formats. There is a category called "Radio's Best 1000," and "single subject" CD's such as Abbott and Costello, CBS Radio Mystery Theatre, and many more.

Meanwhile, back at . . . old-time.com, there is a link to a website called "Radio Showcase," http://www.old-time.com/sponsors/rad_sho.html. This site offers an excellent searchable database, with "actor credits, recording sources, story categories, and program notes . . . ." Here is a sample of a search:

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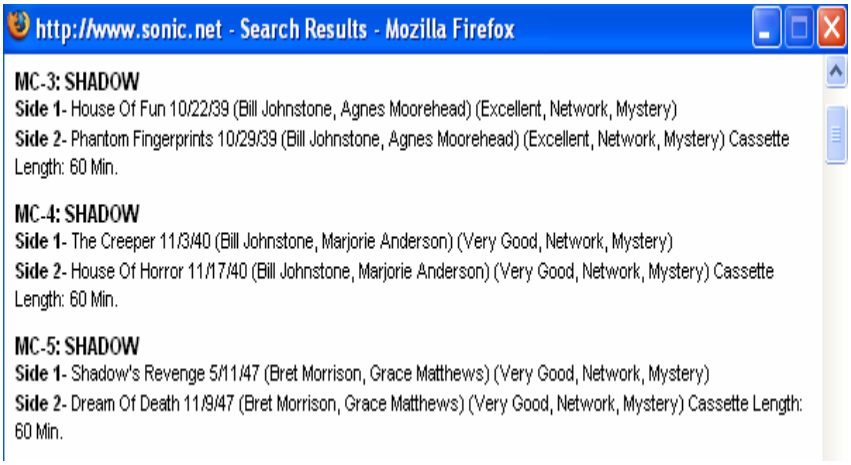

Here is a sample of the results of the search:

In the interest of objectivity, I call your attention to the RadioLovers.com website, http://radiolovers.com. This site claims to offer individual old time radio program downloads. However, I did not pursue the offer. I found the site's use of pop up ads objectionable (the ads appeared despite having the pop up blocker enabled in my Firefox browser). But that is my personal prejudice. For those with greater tolerance to such ads, you may find this site useful.

As I listened to these old radio programs, and read about their history, I realized that there was one program that I wanted to locate above all others: the original radio broadcast of War of the Worlds. This program, created from the 1898 H. G. Wells novel by Orson Welles and broadcast in 1938, is famous (or infamous) for the real panic it created.

A search using Google on the phrase "war of the worlds" provided the result EarthStation1.com, http://www.earthstation1.com/wotw.html. Success! I listened to the entire program (slightly less than one hour) using RealPlayer™. My brain soaked up certain phrases:

". . . these creatures have scientific knowledge far in excess of our own . . . ."

". . . a vanguard of an invading army from Mars . . . ."

Okay, so point your finger at me and laugh, while you enjoy the latest movie version with its extraordinary computer generated special effects. I thoroughly enjoyed the hour I spent listening to this classic radio broadcast. Even the 1930's audio quality added to its menace.

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While you are watching the movie, I am going to dim the lights, turn off the TV, unplug the phone, and settle into my favorite chair. It is time to listen to The Shadow. Even in the 21st century, it is comforting that there is an answer to the question "who knows what evil lurks in the heart of men?

***The Shadow knows*.**"

[The trivia question answer: No, it is not the detective Nick Charles. The title of Thin Man belongs to the extremely eccentric inventor Clyde Wynant, who remains missing until the last chapter of the novel, when it is revealed that he is the victim of a gruesome crime.]

Multi-core Processors

By Brian K. Lewis, Ph.D., member of the Sarasota PCUG, Florida
February 2006 issue of the Sarasota PC Monitor
www.spcug.org

When I first started researching central processing units (CPUs) my idea was to try to make some sense out of the naming/numbering schemes currently being used by Intel and AMD. This turned out to be an almost impossible task. Did you realize that Intel has more than 50 different Pentium 4 CPU models? That in each speed range there can be a dozen different models. They vary by cache size, socket size, hyper-threading or not, 64 bit or not, voltage and other parameters. As just one example, Intel's 3.2 GHz processor has 12 different models. AMD is just about as bad when you try to analyze their nomenclature. So, for the moment, I have given up on trying to find a simple way to categorize the currently available CPUs. Maybe next month.

Since the upper end of the CPU production now seems to be aimed at producing processors with more than one central core, I decided to look at that topic. So what does it mean that a CPU has more than one core? You can think of it as a single chip containing two or more central processors. It is like having two (or more) computers in one box. That said, I have to admit that it doesn't double your processing speed. At least not yet.

Servers and workstations used in business have had multiple processors for a number of years. Mainframe computers with multiple processors have also been around for years. In order to take advantage of multiple processing your operating system must be capable of recognizing and using multiple processors. Windows has had that capability since Windows NT/2000 and it is included in Windows XP. Intel introduced Hyper-threading technology in 2002. That allowed two different “threads” to be processed almost simultaneously. Going the next step and putting multiple processors on one single chip is the idea behind multi-core processors. The AMD64 chip was originally designed to have a second core added at a later date. This became the current Athlon 64 X2 dual-core processor. Intel's Pentium D is also a dual-core processor. In any multi-core processor each core is seen by the operating system as being a discrete processor as if the motherboard had two or more separate CPUs. Ideally this allows the computer to process more work within a given clock cycle.

The question is why would Intel and AMD want to complicate CPU design by putting these processors onto a single chip? The design is more expensive to produce. The primary answer to the questions is heat. In the fall of 2002 Intel indicated that it had a 4.0 GHz processor in production. That

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vided by a multi-core system. All that said, I have to admit that there will be some definite gains in processing speed with the multi-core systems. This has already been demonstrated by a number of third-party testers. However, it will be some time before a dual-core system will function at twice the speed of a single core system.

I keep talking about “threads” without really giving you any explanation of them. I don't think you really want to go into the programming background for this, so I will try to give you the simple explanation. A thread is a series of sequential programming steps or operations. In some instances, programming steps can be executed simultaneously. However, the program must be designed to allow this to happen. There are also problems associated with multi-threading that can slow down the overall operation. One problem is called “deadlock”. This is when two threads are each waiting for the other to complete its operations. This can result in neither thread reaching completion. For software developers, multi-threaded applications have much higher development costs than the current single-threaded applications. Although Intel's Hyper-threading CPU's have been around for several years, very little software has been written to take advantage of the dual-thread processing. Both Intel and AMD are working with software developers to produce more multi-threaded software applications. But it may be some time before the majority of software applications can take advantage of multi-core processors.

Intel has another technology it has developed for use in its multi-core chips. This is called “Foxton”. This allows a processor to adjust its speed and power requirements based on its processing load. Each process will have a base or minimum clock speed and a maximum speed. When the load is low, the processor can raise its clock speed up to a maximum level. This gives the processor more power for faster computing. If the load or the power requirement rises too high, the processor slows. All of this is more technology to simply reduce the system heat to manageable levels.

As I was writing this, Steve Jobs, at MAC World in San Francisco, announced the introduction of Intel based Macintosh computers using the Intel Core Duo processor. This processor was developed for the mobile computer market. It uses clock speeds from 1.6 GHz to 2.1 GHz. Although it has a lower clock speed, the dual processor will provide some performance gain. There will also be a lower drain on the battery. Several other companies have produced Windows based laptops using this same processor.

So how will multi-core computers affect the individual computer user? It should improve the efficiency of your computer by improving its multi-tasking ability. Since each core is essentially a separate processor, at least

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processor never reached the market. There was also talk about processors reaching 10 GHz. That has all changed and primarily due to the difficulty of reducing the heat output of these processors. When you have 125 million transistors in a very small space, as in Intel's Prescott processor series, there is a lot of heat produced. In fact, it takes special cooling to keep the processor from overheating and essentially burning itself up. I have a 3.0 GHz Intel “Prescott” processor in my computer and it runs at a consistent 40^0 Celsius (104^0 F). That's only because I have an over sized copper heat sink and very large CPU fan. Ideally it should be running in the low 30's which would be about 50% of the maximum temperature.

Another problem is current or electron leakage. As the processor die size decreases and the number of transistors increases, there is a greater problem with leakage. Electron leakage from one pathway to another can result in data corruption. Die sizes are currently 90 nm and are anticipated to drop to 65 nm this year. Finally the power requirements increase with the increase in transistors. The increase in power is another component in the increasing amount of heat produced by the CPU.

Dual core processors are designed to run at lower clock speeds than the fastest of the single core processors. This reduces the heat output even though the dual core processors currently have 230 million transistors in a smaller space. Intel has also announced another dual core processor to be on the market this summer that will have 1.7 billion transistors! Their literature says they anticipate that by the end of 2006, 70% of their desktop and mobile processors will be dual-core. By the end of 2007 fully 90% of Intel's processors will be at least dual-core. AMD is moving just as fast in producing dual core processors. As the number of cores increase on a single die there will definitely be increases in heat output. Cooling requirements for these CPUs will definitely increase. The future of CPU cooling would seem to be water-cooled systems even for the home desktop market. Unless there is some technological break-through that will reduce the heat problem.

There are other bottlenecks that will become more important in multi-core systems. One is the bus that transmits information from the core to other components. With two or more cores sending information over the bus, both speed and bandwidth will have to increase to handle the increased load. The CPU depends on the computer RAM for the source of its data and instructions. Therefore memory speed is also important and will need to be increased. Finally, information is read from and written to the hard disk. Even with the increased speed and bandwidth associated with SATA drives, this can be the largest bottleneck in the system. So these problems can prevent the user from gaining the maximum advantage pro-

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two applications can be run simultaneously. If the dual core also supports hyper-threading, as some of the Intel Pentium D CPUs do, then it could handle four applications or four threads in multi-threaded applications. Now you may think you really don't do any multi-tasking. However, it you are running an anti-virus program, a firewall, or any other application in the background while you also do word processing or emailing, then you are multi-tasking. A dual core CPU would permit this to happen more efficiently, if not more quickly. Frequently, I am writing, checking a spreadsheet and pulling data off the web. This is also multi-tasking.

I suspect that if you plan to replace your computer within the next year (or two), you will have a dual-core 64-bit processor in your system. With a couple of Gigabytes of RAM, you'll be all set to run Windows Vista as a 64-bit operating system.

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An End to Computer Annoyances

By Gabriel Goldberg, APCUG Advisor; Columnist, AARP Computer & Technology Website, www.aarp.org

Many of us have mixed relationships with computers and technology. They enrich our lives but can be maddening at times. Books and magazines often tell us how great they are, but an O'Reilly book series addresses the dark side of the story by describing their annoyances and offers "help for newbies and powerusers alike."

The format of the books is similar to Q&A dialogues or lists of FAQs (frequently asked questions). They're not meant to be read from cover to cover but explored based on a particular need or curiosity. This search is assisted by good tables of contents and full indexes. The books are written in conversational English, pairing annoyances with their fixes, and include an abundant amount of clear and helpful screen shots.

While flipping through these books, the handy tips boxes lead to many "aha" moments and I was able to identify many solutions to current and future problems. Some of the content overlaps between books, such as Internet topics being addressed in its own book, Internet Annoyances, also being mentioned in both PC Annoyances and Home Networking Annoyances. You may want to read a general book along with those specific titles that address your main interests. Some books are in their second edition, making it worthwhile to check print dates and edition numbers before purchasing them.

Steve Bass, author of PC Annoyances, provides a good introduction, stating that "Many people are now realizing that they've been putting up with programs that have downright annoying features and yes, bugs. It's high time they learned they aren't alone, it's not their fault, and, most important, there are solutions and workarounds."

Bass' book isn't overly technical. It addresses topics such as e-mail, Windows, the Internet, Microsoft Office, Windows Explorer, music, video, CDs, and hardware. Many all-too-common problems are identified and solved, but it's not all-inclusive. For example, it doesn't mention Thunderbird e-mail or Firefox browser, both of which I like a lot, but they can be annoying too! Coverage of Windows XP SP2 is localized and not mentioned places where it would be appropriate. Varied software is recommended, free and purchased, downloaded and store-bought, and advice is provided on configuring Windows and applications. And non-annoyance bonus mate-

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rial, such as "IM Netiquette rules," which was both entertaining and valuable. I was happy to learn how adding a work menu to MS Word gives instant access to frequently-used documents.

Another book in this series, PC Hardware Annoyances, covers diverse topics including computer setup, keyboard, mouse, startup, BIOS/CMOS, memory, processor, maintenance, and battery. Some annoyances are offered up as questions, such as "Do I need specialized PC cleaning supplies?" The helpful and short answer is "no", since common materials, used appropriately, work just fine. Because everyone has unique interests and concerns, even the book's specialized items are useful and thought provoking.

Other Annoyances titles address computer privacy, home networking, the Internet, the Mac, Windows XP for geeks, and some Microsoft applications (Access, Excel, and Word), all of which are listed on the O'Reilly Annoyances Central Web site. This site also offers additional resources to combat computer-related annoyances with it's Experts' Blogs (a good way to get your unique questions answered before they appear in a book), the Daily Fix (a stream of individual items from the books), and Robert's Rant (the slow-paced blog of Robert Luhn, the Annoyances series Executive Editor, who addresses topics such as whether Wikis can be trusted and the origin of his book series).

Specifications

Title: PC Annoyances
Author: Steve Bass
Paperback: 252 pages
Publisher: O'Reilly Media
ISBN: 0596008821
Price: $19.95

Title: PC Hardware Annoyances
Author: Stephen J. Bigelow
Paperback: 266 pages
Publisher: O'Reilly Media
ISBN: 0596007159
Price: $24.95

Note: Meeting Place:
North Canton Public Library
185 North Main Street
North Canton, OH 44720
I-77 Exit (Portage) turn *EAST*.

From Rt.77, take the Canal Fulton/North Canton Exit (Portage St.)

Head east on Portage St. (If traveling north, you will turn right. If traveling south, you will turn left.) Follow Portage for approximately 1 1/4 miles to a sign that reads: "All thru traffic bear left."
Do not bear left. Continue straight on Portage until it dead-ends at Ream St.

Turn left on Ream. The Library is the 2nd building on your right. Small amount parking alongside and more across the street at rear of building.

Contact ACPCUG Newsletter Editor:
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