

Technology - MacCentral

## ***A Pear of Projects Plan to Offer Mac OS on PCs***

*By David Legard, IDG News Service*

A team of open-source developers has released software which emulates the PowerPC processor architecture and enables users to run Mac OS and some Unix OSes on PCs powered by Intel Corp. x86-architecture processors.

The project, known as PearPC, is not yet stable enough or fast enough to be more than a tool for enthusiasts, the developers warned.

Using PearPC on a standard PC, the developers said they have successfully run Mac OS X 10.3, OpenBSD for PPC, NetBSD for PPC, Darwin for PPC and Mandrake Linux 9.1.

PearPC translates PowerPC instructions into x86 instructions, and currently "the client will run about 40 times slower than the host," the developers said.

Main developers Sebastian Biallas and Stefan Weyergraf are looking for extra people to help develop the project, which is now hosted at the open-source

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## ***Apple creates new iPod and Macintosh Divisions***

*By Peter Cohen*

Apple has reorganized its corporate structure into new iPod and Macintosh divisions. The iPod division will be led by Apple Senior Vice President Hardware Engineering, Jon Rubenstein, while Apple's Macintosh efforts will be led by Executive Vice President Worldwide Sales and Operations Tim Cook. Tim Bucher, who heads Mac system development, will head up the Mac's hardware engineering, according to a Reuters report.

A statement provided by Apple indicated that the "organizational refinement" has been done to focus the company's resources and talent on Macs and the iPod. News of the reorganization first circulated following an internal company e-mail sent by Apple CEO Steve Jobs. ●

site SourceForge, owned by Open Source Development Network Inc.

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**United We  
Stand**

### **KMUG MONTHLY MEETING**

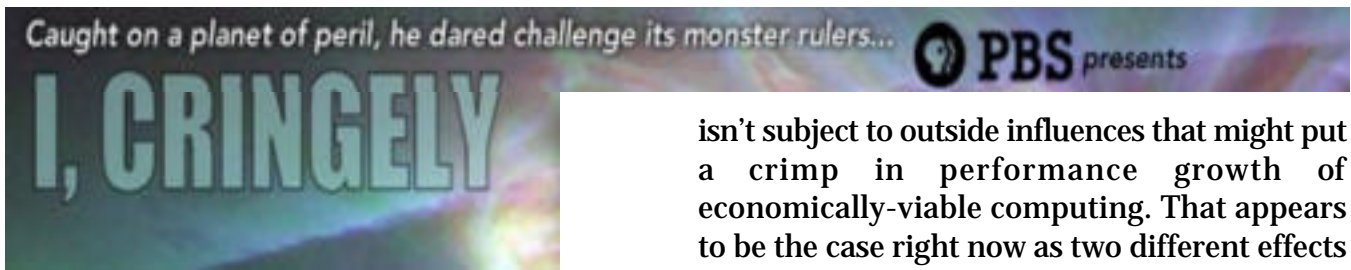
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## Speed Bump

**While Moore's Law Isn't About to be Repealed Soon, We Might See It Slowing Down a Little**

*By Robert X. Cringely*

(This editorial by Mr. Cringely is not Mac specific, but it appears to be a technical issue that Apple and PC manufacturers will have to face as CPU speeds increase. ed.)

The only certainty in the computer industry for the last 30 years has been Moore's Law, which says that computing power doubles every 18 months. From time to time, it looks like Gordon Moore is going to be repealed by some technical limitation, then clever engineers think of a dodge, and we're safe for a few more years. While Moore's Law probably won't go on forever, we are certainly safe through at least the end of this decade. But that doesn't mean even Moore's Law

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Another Mac/Windows compatibility project called SoftPear, also under development, will enable Mac OS X applications that have been developed for the PowerPC to be recompiled for x86 CPUs, according to SoftPear's Web site.

Most of the cross-platform technology that exists involves emulating the Windows PC environment on Apple hardware -- the opposite of what PearPC is attempting. Commercial products such as Microsoft Corp.'s Virtual PC compete with open-source projects like Darwin, designed to let users run the Wine (Wine Is Not an Emulator) environment with Windows applications on Darwin and Mac OS X systems. ●

isn't subject to outside influences that might put a crimp in performance growth of economically-viable computing. That appears to be the case right now as two different effects are just starting to be felt in the industry — effects that will tend to drive prices up, not down, and drive smaller manufacturers completely out of business. These effects are, not surprisingly, almost unknown to the people who will be hurt most by them.

Scientists at Stanford University have discovered that there is a finite limit to the speed at which you can apply a magnetic charge to recording media. We won't hit this limit for several more years, and there may be a way to get around it using magnetism and heat together, but either way, there is a huge and very expensive RR&D mountain to be climbed in the storage industry. Similarly, IBM has had a very difficult and expensive time getting its new 90 nanometer CMOS fab running in New York — an experience shared by ALL the leading-edge fabs as they come online. It is becoming so expensive to build these plants that there are likely to eventually be no more than a dozen or so around the world by the end of this decade. They will be built either by wealthy companies like IBM and Intel that can't afford not to, or by national consortia in countries like Japan and Taiwan that view this industry as a strategic national priority.

What this means to you and me is that in both disk storage and semiconductors, the big outfits get bigger and the small outfits consolidate or die. It is true that smaller feature size and bigger wafers ideally mean that semiconductor per-part costs drop along with energy consumption, but there are limits to this effect. While Moore's law can continue to march on for a while longer, the cost to make each step is becoming more expensive. At some point, perhaps soon, the

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*Con't from Page 2, Speed Bump*

cost to increase capacity could exceed the market value of doing so. The price, performance, and replacement march may be coming to an end, which is not all bad unless you make your living building this stuff.

But wait, there's more! Rapidly approaching from the opposite direction is EU Directive 2002/95/EC, "the restriction of the use of certain hazardous substances in electrical and electronic equipment," also called RoHS, or more commonly, Pb-Free. While this initial legislation is from Europe, it is being adopted globally (though most of the manufacturers affected don't yet seem to know that).

Pb-Free is primarily aimed at reducing the amount of lead dumped in landfills, but includes five other chemicals commonly found in electronic components, cases and cabling. Electronics contain lead because connections are made with solder that is a 63/37 mix of tin and lead, which melts at significantly lower temperatures than the same metals used independently. Pb-Free primarily means replacing solder with something else that usually doesn't work as well.

After July 1, 2006, you can't sell your product within the EU if it contains more than 0.1 percent lead, and adding ballast weight is specifically not allowed.

The key replacement for tin/lead solder is a tin/silver/copper alloy available exclusively from Japan. While first appearing to ignore the initiative, Japanese companies quietly developed and patented most of the 20-plus alloys needed to implement it. Ironically, silver in the water supply is much more toxic than lead to marine life, something we'll probably get around to addressing in later series of laws and regulations.

But going lead-free means much more than swapping one solder for another. Circuit board plating has to be changed to work with the new alloys. Soldering equipment has to be changed,

too. And because of process temperature differences, you can't easily combine old and new soldering technologies on a single board, so there can be no easy phase-in of production. It has to be done cold turkey, which means inevitable problems and supply disruptions.

For extremely dense assemblies like mobile phones or graphics cards that use ball grid mounting, another alloy adding bismuth to the mix is required to get the proper flow-out. The problem there is that the presence of lead in any quantity destabilizes bismuth alloys with contaminated assemblies literally falling apart. This might not be a problem if there was a standardized marking scheme to identify Pb-Free components, but at present, there isn't one. That isn't really surprising, though, given that there is also no Pb-Free qualification or standard for companies to build against. So far there is no place to take your product to get it certified lead-free.

This doesn't mean that there aren't already Pb-Free products. Sony's PlayStation 2 is Pb-Free.

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*Mac Lab Meetings*

*MacLab meets during  
the regular school year.*

*Since school is now out  
for the summer. The  
next MacLab meeting  
will be in  
September 2004*

### Con't from page 3, Speed Bump

So are some Nokia phones, though they also have half the life expectancy of Nokia phones containing lead.

Conventional wisdom in Pb-Free circles says that the new devices will cost 15 to 25 percent more, though that couldn't be wildly off in any direction. Power supply manufacturers seem to be especially behind in implementing Pb-Free and there will be shortages.

Again, this is a trend that will hurt smaller players. The Tier I (extremely high volume) manufacturers already produce some amount of Pb-Free, and their practices, standardized or not, will be entrenched by the deadline. But none of the Tier II manufacturers are ready, and Tier III hasn't even started looking at it yet. Due to the scope of the problem and the limited funds for Tier IIs (slim) and IIIs (zilch) to do R&D, I see both relying on published standards to get themselves in line. Only problem is THERE ARE NO STANDARDS. So some little companies will die and prices may be pushed up more as a result.

The great unanswered question is whether any of this will be noticed two years from now. There is certainly a speed bump of sorts coming, though I've given it some thought and the results are far from clear. Of course, it is a great time to be in the Pb-Free equipment business, or shortly will be. And procrastination is nothing new when it comes to environmental standards. If President Bush is still in office two years from now, he may well just push back the deadline, maybe forever.

If the deadline is firm, then the big will get bigger, but there will be other effects as well. If you have to replace all that wave soldering equipment anyway, what else logically falls out of such a decision? Given the current view that Pb-Free connections are less reliable, I'd see an even stronger move toward Systems On

Chip, which minimize the number of soldered connections. New environmental regulations have long been the impetus for technological development and is one of the few ways short of starting wars that governments can actually effect such change.

So I think this is going to be ugly and expensive, and there is going to be a lot of head-scratching and doom-saying rather like Y2K, but in the end, I'm just not sure how much it is going to add to the cost of goods. If the cost without Pb-Free would have been  $N$  and the cost to be Pb-free cost is  $2N$ , but some of that cost is payment to accelerate from 90 nanometers down to 65 nanometers, which itself drops the real estate cost by half and the power cost by even more, maybe we're lots better off Pb-Free. If probable connection failure drops the MTBF from 100,000 hours to 50,000 hours, will we really be inconvenienced that much?

What I find most disturbing about this is that hardly anyone is thinking about it, but then there is nothing new in that, is there? I first wrote about Y2K in 1990, the world didn't go berserk about it until 1998, but that was enough time. The saving grace here is people like the reader who brought this issue to my attention DO worry about these things. Sharing those concerns make it much more likely that we'll weather this storm, too.

The problem I find much more interesting is the one we started with, diminishing rates of return on capital investments in storage and semiconductors. Now this seems to present a wonderfully opportunity. You see when the hardware vendors stop doubling capacity every 18 months or so, they are going to have to squeeze out value some other way. In the past several years, there has been little done to improve the performance of software. So there is now a lot of room for improvement by just cleaning up and speeding up the existing code. That is, of course, if you haven't offshored all your best coding talent. ●

# *Apple, 30 Other Companies Named in JPEG Lawsuit*

*By Peter Cohen MacCentral*

Austin, Texas-based Forgent Networks announced late Thursday that its Compression Labs Inc. subsidiary has filed suit against 31 companies for patent infringement -- among them, Apple. Compression Labs alleges that these companies have infringed its U.S. Patent No. 4,698,672. The patent describes a "coding system for reducing redundancy" that Forgent says is integral in JPEG image compression.

## **A brief history**

Neither Forgent nor Compression Labs, which it acquired in the late '90s, developed the JPEG image compression format. JPEG itself stands for Joint Photographic Experts Group, which is the name of the committee that created the standard in the mid-1980s. JPEG has been adopted worldwide as a means of compressing image data, and its popularity and use grew with the increased public popularity of the World Wide Web in the mid-90s.

"Essentially, [our patent] is the mathematical algorithm that JPEG uses to do the compression of data," Michael Noonan, Forgent Director of Investor Relations, told MacCentral. "So while we can't claim all the steps in JPEG and certainly do not, our technology is an integral part of that process."

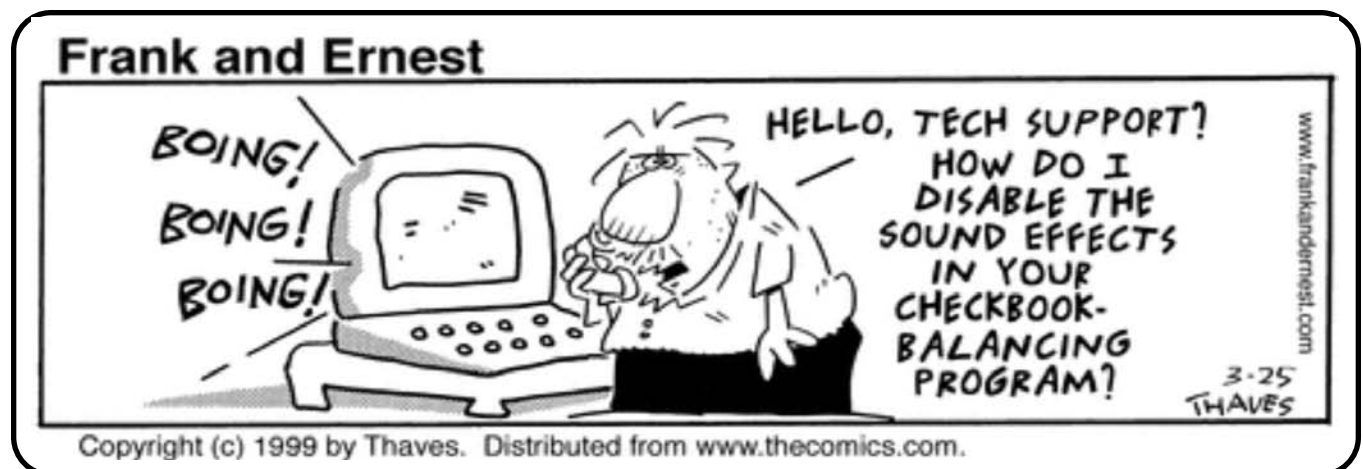
July of that year, the company issued a press release stating that it had "sole and exclusive right to use and license all the claims under the '672 patent that implement JPEG in all 'fields of use' except in the satellite broadcast business." Since then, Forgent has been negotiating arrangements with each of the companies named in this new suit. The suit was provoked after that negotiation proved fruitless, said Noonan.

At the time, Forgent's claim elicited a response from the JPEG Committee. "It has always been a strong goal of the JPEG committee that its standards should be implementable in their baseline form without payment of royalty and license fees, and the committee would like to record their disappointment that some organisations appear to be working in conflict with this goal. Considerable time has been spent in committee in attempting to either arrange licensing on these terms, or in avoiding existing intellectual property, and many hundreds of organisations and academic communities have supported us in our work."

Over the past two years, Forgent has struck licensing deals for this patent with companies in Asia, Europe and the United States worth about \$90 million. The

Forgent has been asserting its patent since 2002. In

*Con't on page 6, JPEG Lawsuit*



### **Con't from page 5, JPEG Lawsuit**

highest-profile company to strike a deal with Forgent was Sony, which Noonan said paid out a one-time licensing fee worth about \$16 million.

#### **Apple has company**

Companies beside Apple named in the suit include Adobe Systems Inc., Agfa Corp., Axis Communications Inc., Canon USA, Concord Camera Corp., Creative Labs Inc., Dell Inc., Eastman Kodak Co., Fuji Photo Film Co. U.S.A., Fujitsu Computer Products of America, Gateway Inc., HP, IBM, JASC Software, JVC Americas Corp., Kyocera Wireless Corp., Macromedia Inc., Matsushita Electric Corp. of America, Oce' North

America Inc., Onkyo Corp., PalmOne Inc., Panasonic Communications Corp. of America, Panasonic Mobile Communications Development Corp. of USA, Ricoh Corp., Riverdeep Inc., Savin Corp., Thomson S.A., Toshiba Corp. and Xerox Corp.

These companies are hardly the only ones who develop products that read or write JPEG, however. Would smaller publishers and developers of software that support JPEG possibly be liable? "Presumably," answered Noonan, though he refused to comment further.

Apple was not available for comment as MacCentral posted this story. ●

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### **Technology - MacCentral**

## ***Apple Extends iBook Logic Board Repair Program***

***By Peter Cohen***

Apple has extended the scope of its iBook logic board repair program to include models manufactured from May 2002 to October 2003. The original program, launched in late January, only covered iBooks made up to April 2003.

When the program was first announced, Apple senior vice president of Worldwide Product Marketing Phil Schiller explained that Apple initiated the program to correct a display problem caused by a component failure on the logic board of specific iBook systems. The component failure caused any one of the following symptoms: Scrambled or distorted video; Appearance of unexpected lines on the screen; Intermittent video

image; Video freeze; or the Computer starts up to blank screen.

"We are launching a repair extension program which will repair these components for free, and we will offer a full refund to customers who have already paid for this repair. Our first priority is to take care of our customers," said Schiller, in a statement provided to MacCentral.

The logic board repair extension program covers iBooks with serial numbers in the following range: UV220XXXXXX to UV342XXXXXX. Such iBooks may be referred to as iBook (16 VRAM), iBook (14.1 LCD 16 VRAM), iBook (Opaque 16 VRAM), iBook (32 VRAM), iBook (14.1 LCD 32 VRAM), iBook (800MHz 32 VRAM), iBook (900MHz 32 VRAM), iBook (14.1 LCD 900MHz 32 VRAM).

Apple's worldwide repair program covers the repair or replacement of iBook main logic boards at Apple's expense, including shipping. Apple will also reimburse customers who paid to have their iBook repaired for this defect, if the system qualifies based on its serial number. ●

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The information presented in the KMUG Newsletter does not reflect the opinion of KMUG, but is presented for its informational content.

# *Mac OS X 10.3.4 released;*

## *Panther Server updated*

*By Jim Dalrymple*

Apple Computer Inc. on Wednesday released an update to its Mac OS X Panther operating system, bringing the current version to 10.3.4. Apple also updated Panther Server, bringing it up to version 10.3.4, adding improved Server Admin application among other changes.

The Mac OS X 10.3.4 update includes many improvements to applications and networking technology including, improved file sharing and directory services for Mac (AFP), UNIX (NFS), PPTP and wireless networks; improved OpenGL technology and updated ATI and NVIDIA graphic drivers; improved disc burning and recording functionality; iPods connected via USB 2.0 are now recognized by iTunes and iSync; additional FireWire audio and USB device compatibility; updated Address Book,



Mail, Safari, Stickies and QuickTime applications; and improved compatibility for third party applications.

The 41MB update, which is available via the Software Update control panel, also includes previous standalone security updates.

Panther Server, which has also been update to version 10.3.4, includes improved reliability and compatibility of NFS file services and network automounts; enhanced Server Admin and Network Image Utility applications; improved Open Directory scalability and replication reliability, Active Directory integration; additional support for FireWire and USB devices; improved compatibility for third party applications and devices; and previous standalone security updates.

The 45MB Mac OS X Panther Server 10.3.4 update is also available via the Software Update control panel. ●

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### *Luncheon Meeting*

## *KMUG Minutes*

*May 20, 2004*

Don Diehl opened the meeting by welcoming back Frank Hartung and giving special thanks to Joe Williams for the great job he is doing on the Newsletter. Also to Gwen for bringing all the equipment and setting up at both day and evening meetings (as well as at Mac Lab Tuesdays) and the many other things she does for us. And to Roy for bringing such people as Shelley Watson to our attention as program presenters.

The special program for this month was an iMovie tutorial by Ross and Dee using photos Don took on

a bike trip with friends in April to Skagitt Valley to view the tulips. A good discussion of how to use iMovie took place during the program and afterward.

The questions and comments from 27 or so attendees included using a firewire connection between a laptop and desktop, flat panel displays that will work with TV's (have S Video input), looking for User groups at the Apple site when away from home for computer help, and using Virtual PC with Internet Explorer.

It was brought to our attention that the NY Times has articles by David Pogue on Thursdays and that we can subscribe to the paper for free online. ●

Submitted by Phyllis Robie

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<http://www.homepage.mac.com/kmug1>***

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or come to one of our meetings and sign up!

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To renew with the newsletter e-mailed to your computer, dues are \$20.

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Solarium Room, All Star Lanes,  
Myhre Road, Silverdale  
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**This month's newsletter editor was Joe Williams**



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