

What does an operating system vendor do when its main platform manufacturer announces that it plans to switch to a different, arguably inferior CPU architecture? Port to the “new” platform? Give up? Or do as Terra Soft Solutions, developers of Yellow Dog Linux have done, and get smart, leveraging every strategic relationship and alliance that its built-up as a Linux leader for almost a decade? **Jason Walsh speaks to Kai Staats, chief-executive of Terra Soft Solutions, about the company’s future plans for desktop Linux on the PowerPC platform**



# The rise to power?

## Linux on the Power PC

**K**ai Staats, chief executive of Terra Soft Solutions holds a B.S. in Industrial Design from Arizona State University, College of Architecture and Environmental Design. Terra Soft Solutions, the company behind Yellow Dog Linux has developed a massive amount of technical expertise in Linux, the PowerPC processor and the Apple Macintosh, but came into existence in an unlikely way - as a graphic design company. Of course, ultimately this makes more sense than it at first might seem - web design brought together the Mac on the desktop and Linux on the server.

“Having moved to Colorado in 1994, I soon thereafter started a marketing, consulting and website development firm. I was introduced to Linux by the owner of my local ISP. Dan Burcaw, co-founder of Terra Soft was then a part-time systems administrator for this ISP, became my sysadmin, and in 1997, converted two of my beige G3 Macs to Linux web servers,” said Staats.

“Around the same time, I and a few colleagues pitched a website rebuild and a handful of television commercial concepts to Apple, the process of which granted me

He helped us those first years with direction and assistance, working to establish a reseller network and strong marketing material. Simpson, the infamous ‘Crazy Linux Guy’ (no longer with Apple) and his associates remain valued advocates of our ongoing effort,” Staats said.

There have been a surprising number of official operating systems on Macintosh computers over the years, the obvious two being the classic Macintosh system (later called Mac OS) and the NeXTSTEP-derived Mac OS X. But that’s far from all of them - Apple’s own Unix, A/UX, was popular with many American ISPs in the 1990s. AIX also ran on Apple servers - though



**“Companies such as Sony, Mercury/Momentum, Genesi, and Terra Soft are leading the way. Stay tuned... good things are coming”**

contacts who enabled our story to be posted on Apple’s website, which if I recall correctly, was at the time the single most successful third-party story published on the Apple website. It received 200,000 hits a day for three weeks straight until Apple mar-com removed it for fear it was stealing limelight from Mac OS 9. It seems even our first interaction with Apple was one of passion... and frustration.”

But PowerPC Linux wasn’t destined to stay in the server room forever, and Staats would play a vital role in moving desktop PowerPC Linux forward.

### THE CRAZY LINUX GUY

“Just one month later, Morgan Simpson, then Apple’s senior manager of business markets development flew to Colorado to encourage us to launch a Professional Linux desktop and cluster distribution for PowerPC.

these weren’t really true Macs - and most surprisingly of all, Apple even had their own Linux distribution. MKLinux, or Microkernel Linux, was a Linux distribution based not on the normal monolithic kernel used in other Linux distributions, but on the Mach microkernel. Sound familiar? It should do. Apple’s OS X has a very similar foundation.

As Apple have announced their plans to abandon the PowerPC, Terra Soft’s relationship with Apple is at a turning point. This can’t be easy - Terra Soft sell the premier Linux distro for the Mac as an Apple “value-added reseller”. But perhaps it also comes as something of a relief. Apple don’t help developers of competing operating systems, and every new product revision from Apple has forced Terra Soft to undertake a massive reverse engineering effort to support the new machines. Despite this, every Apple machine released from 1997 onwards, and

quite a few before, will comfortably run Yellow Dog Linux despite Apple’s lack of interest and occasional obstruction.

### JOBS FOR THE BOYS?

For Kai Staats and his team, finding ways to work around Apple’s intransigence is all in a day’s work.

“The path to where we now reside is riddled with wonderful stories about industry relations and industry manoeuvres, our staff, and our customers. Growing up is hard work, and a great deal of fun. Given the time and space, I would enjoy sharing the hope found in the darkest hours, the number of times we pulled through close calls, the moments we held our breath and took long shots - for these stories have made these half dozen years a great adventure.”

“Some of the best stories concern our interactions with Apple. Unfortunately, it

would be unwise to publish most of them for another few years, until certain individuals at Apple have moved on or the statute of limitations has passed.

Included would be the tour of Apple's halls based upon where key employees were fired by Jobs (including one at a particular urinal); the MacWorld key note we nearly (accidentally) shutdown; and how the drunken president of another PowerPC Linux distribution would have, unintentionally, abruptly terminated all Apple-Linux vendor communication if it were not for the intervention of a quick thinking Apple employee. And did you know that part of the Apple website used to be served by Yellow Dog Linux?"

Though Apple itself used Yellow Dog

Linux, that doesn't mean the company's management looked at the project with affection. A combination of fear and indifference is probably more likely, but despite this Terra Soft soldiered on.

There have been, and still are, other Linux distributions for the PowerPC: Apple's own MKLinux of course, LinuxPPC, SuSE PPC, Mandrake PPC, Debian and Gentoo have all booted on Mac. TurboLinux and Red Hat even made their way to the PowerPC-based IBM RS/6000 series of machines, but it was Yellow Dog which brought significant numbers of users to the platform. Why has Yellow Dog succeeded where others - including major players in the Linux world such as SuSE and Mandrake - have failed?

## “Did you know that part of the Apple website used to be served by Yellow Dog Linux?”

### APPLE LINUX

According to Staats, the answer is multi-tiered: “[Firstly] We remain too damn stubborn to give up. We have probably suffered every blow a company of our size can receive. At some point, the shock value is reduced. Unphased, we take a deep breath, smile, and dive back in to welcome the new challenge. We get hit hard, we bounce back harder.”

“A small company such as Terra Soft can manoeuvre quickly, out-pacing larger companies whose internal processes are cumbersome, whose market positions are slow to evolve, and whose higher level employees no longer interact directly with customers. As we have grown, we have worked to keep the communication between

our customers and internal staff open in order to make certain customer feedback is not lost in the filters of traditional hierarchy.”

“To address the [other] individual distros, I believe it is fair to state that Jason and Jeff of LinuxPPC did not have the same goals in this market space as we have. They got the ball in motion and played a significant role in the history of PowerPC Linux. But when we surpassed them, they had to decide to compete or exit.”

“Recall that MKLinux was Apple's own Linux OS, distributed freely for two years to test a MACH microkernel on a UNIX foundation prior to development of OS X. It was not designed nor expected to survive long after Apple let it go. But MKLinux did in

fact help launch our company as it was the foundation for our first PR and subsequent interest within Apple by certain key players who saw the potential for what Linux could do for Apple.”

“Concerning SuSE and Mandrake, I believe our being US based helped a great deal. It's not about “Made in America”. Rather, the ability for us to cater to a particular culture with marketing and a user experience that is familiar. It takes a great deal of effort for a company to sell into a culture that is not their own. We respond quickly via email, phone, and in person. It is challenging to do that without a strong, local presence and deep seated understanding of customers' needs.”

“We have always used ‘corporate

# Genesi - a new beginning

**Worried that PowerPC Linux desktops will be hard to obtain after 2007 when Apple leaves the PowerPC marketplace? Don't be. Jason Walsh spoke to Bill Buck and Raquel Velasco from Genesi, manufacturer of the Open Desktop Workstation, about the PPC desktop - and a lot more**

Anyone interested in PowerPC Linux cannot fail to have heard of Genesi, the company which designed and built the Genesi PowerPC board and the Open Desktop Workstation, a fully-featured PowerPC computer. Readers from the wider Linux world may be less familiar with Genesi, but that could be about to change.

Genesi came out of the Amiga world, not the more obvious Linux or Macintosh arenas, so how did they end up shipping the first - and currently only - PowerPC Linux desktop workstation?

“Originally our market was mainly disenfranchised Amiga users who had been left stranded by the end of Commodore and Gateway's eventual abandonment of the Amiga technologies,” explained Buck.

Genesi's original operating system wasn't Linux, rather it was MorphOS, a new PowerPC OS which was compatible with the vast majority of legacy 68K Amiga applications, so why the move to Linux and free-software?

“The Amiga has seen ten years with no major corporate support and we eventually came to realise that there wasn't much of a market left. Meanwhile

companies like Red Hat and Montavista were showing that there was a big future in open source. In the beginning we spent a lot of money promoting to the Amiga community - hiring developers and so on - but we saw it wasn't going to come to anything, so we asked, who should we be aiming at with this? We thought IBM, but they were less receptive to us than Freescale, so that's where we're focussing now: Freescale silicon and open-source software,” said Buck. “This is not so say we've forgotten about MorphOS. At the back of our minds in everything to do is MorphOS.”

Is the Open Desktop Workstation a compelling alternative to a Mac?

“I hope so. We're trying to target developers. Right now the Open Desktop Workstation is an expandable platform which can run a number of operating systems and, through, a combination of our implementation of Open Firmware (IEEE1275) our hardware abstraction layer (HAL), we can take advantage of commodity PC hardware - this stuff just works,” said Raquel Velasco.

On their blog, Buck and Velasco were even more explicit: “MorphOS could target the orphaned Apple PowerPC users. Genesi could target a bunch of disenfranchised developers. Freescale could target Sun. Sun needs an embedded market. We should probably be thinking real hard about a Pegasos laptop: mobile, low power, low temperature, maybe even low frequency to get things started -

all based on open source software - a super blackberry of sorts. There is still plenty of life in the 32bit space and convention seems to forget that the G4 contributes the most to Apple's computer sales at a rate of roughly 5:1 to the G5.”

As it stands the Open Desktop Workstation is US\$799 - £439 - only £100 more expensive than a Mac Mini, but unlike the Mac Mini the Open Desktop Workstation is expandable: you can upgrade the CPU, graphics card - or use more than one graphics card - as it has three PCI and one AGP slots.

It's also not short of ports: multiple FireWire and USB, serial (RS/232), a PC gameport/MIDI port, IrDA and a lot more besides. In fact, unlike any Apple other than the XServe, the Open Desktop Workstation comes with two gigabit Ethernet ports.

### FREESCALING

The Open Desktop Workstation also shows Genesi's ability to develop excellent working relationships with other companies. First up is Freescale, formerly Motorola semiconductor, the world's largest semiconductor manufacturer: Genesi's PowerPC-based home cinema system won the best of show award at the inaugural Freescale Technology Forum - running entirely on free software, it's worth noting.

Secondly there's ATI. All of Genesi's products currently use ATI graphics units, so it's obvious that they have developed a significant strategic relationship. And Freescale's recent hook-up with Nvidia suggests there's more to come.

The big question for users of IA32 Linux is why should they switch to PowerPC? Freescale may be the world's largest chip company, but not in terms of desktop CPUs.

“Our hardware is about value and choice for the consumer and developers,” Velasco explained. “I feel that a cool-running PowerPC can provide better reliability - lower temperature, lower power consumption mean that the silicon will last longer.

“We have people who booted-up on January 2004 and have never switched off,” he said. This is not mere hyperbole. A quick look at the Netcraft statistics for Pegasos.org, a Swedish Genesi users' site, on June 26th 2005 showed that the server - a Genesi Pegasos board running Linux - had been up an running for 405 days straight.

“Other than that, there's the Altivec engine. There is no other 1GHz processor that can do the things which we demonstrated at the Freescale conference,” said Velasco. Things like real-time high definition video conferencing.

Bill Buck also points to other concrete benefits for software developers: “Freescale do an amazing job with their CPUs. They maintain compatibility in the registers and core CPU. This makes time to market a lot shorter.”

### LIFE AFTER APPLE'S FALL FROM GRACE

It's not just the desktop that Genesi have plans for. Genesi's home cinema system, the Home Entertainment and Communication Hub, is already an award winner and the combination of free software and

PowerPC silicon points squarely in the direction of the home. And the car. And anywhere else where performance per-watt is an issue.

“Look at the Freescale 5200 system on a chip (SoC). Everything that runs on the Pegasos and Open Desktop Workstation runs on the EFIKA 5K2 which we designed around the 5200. Genesi are driving towards a two-chip solution. The network, USB and memory controller being built in to the CPU. Future Freescale CPUs will have other features integrated into the SoC which will allow this kind of board to become a new form-factor laptop, a super Blackberry, a video phone - anything - as the frequency levels are increased, which Freescale has in the works,” said Velasco.

“The cost of the hardware could come down to under \$100 which would mean a computer in the sub US\$200 range running open-source software. This could be a big hit. Think about how third-world countries could build their own software and IT infrastructure. We're happy to deal with OEMs [original equipment manufacturers],” said Buck. “This September we'll be demonstrating the EFIKA 5K2 running off a solar panel at the next Freescale Technology Forum in Tel Aviv.”

Genesi are a small company and they make no attempt to hide this, but they do have big plans. “Production runs are in the hundreds and our sales are in the thousands. Unit sales are progressive and growing. Our objective is to work with original equipment manufacturers (OEMs) who can facilitate larger

production runs,” said Buck. To this end Genesi have partnered with Directron who will manufacture new editions of the Open Desktop Workstation and their Linux-PPC based home cinema system, the Home Entertainment and Communications Hub.

Meanwhile, Genesi's hardware designers, bPlan are based in Germany.

“I do believe that we're on the verge of an explosion in the IT industry and we're going to be right in there due to the PowerPC and open source software.

“When it comes to our hardware we're seeking compatibility with developer aspiration. This is why we like MorphOS. It has been ported to the MobileGT which is perfect for small systems. 128MB isn't enough for many systems, but it's more than enough for MorphOS and the drive towards telematics should suggest interesting future directions,” said Buck.

“The PowerPC isn't necessarily the fastest CPU out there, but it's the most efficient. Governments, corporations and individuals can make a choice. With PowerPC and a variety of operating systems our products can be used in a variety of scenarios. Even right now the Open Desktop Workstation can be used as a thin client, a desktop computer, a development machine, a router, a file server or a node in a cluster,” explained Velasco.

For now the Open Desktop Workstation comes with Yellow Dog Linux, Gentoo, Ubuntu and Debian preloaded and can also run MorphOS, Mandrake, CRUX,

HOLOM, Knoppix and Montavista. Soon a myriad more OSes will be added to the list, including Zynot, Open Darwin, Haiku, AROS, OpenSolaris, NetBSD, Fedora and QNX. If Genesi play their cards right, we're sure to hear more of them very soon.

### THE SUN ALSO RISES

Sun Microsystems are another major company with an interest in the Pegasos and Open Desktop Workstation. “Sun will be certifying Java on the platform soon,” said Buck, something which will be of enormous interest to developers, particularly ones targeting a whole new range of Java-compatible devices in the home, but that's not all.

OpenSolaris is on its way to the Open Desktop Workstation. “We were invited into the OpenSolaris pilot programme at a very early stage and were happy to support the pilot project. Pegasos has become the primary target of OpenSolaris,” said Buck.

Then Blastware occurred: “Blastware was a spontaneous event which happened because a lot of developers decided they wanted to target a RISC architecture. The Open Desktop Workstation was perfect because of Freescale's CPU. Sun are still supporting Sparc of course, but with their use of x86 we can also see a widening of their interests.”

Buck is alluding to the fact that Sparc's roadmap looks a lot grimmer in the long term than the PowerPC's. “Freescale's CPUs are uniquely efficient - it's a good match. Sun wants to get everyone plugged into the Sun Grid. It want to draw people to where it

“I do believe that we're on the verge of an **explosion** in the IT industry”

makes its real money: storage and computational power.

In the meantime Genesi are trumpeting their own support of free software developers: “We've provided over 200 machines to the open source community. Between us and Freescale the total is over 500. These have gone to developers on MySQL, Debian, Gentoo, OpenSolaris, CruxPPC NetBSD and Open Darwin,” said Velasco.

**Genesi homepage**  
<http://genesi.pegasosppc.com>

**PegasosPPC site**  
[pegasosppc.com](http://pegasosppc.com)

**Genesi Developer Support Site**  
[www.ppczone.org](http://www.ppczone.org)

**Genesi MorphOS Support Site**  
[www.morphzone.org](http://www.morphzone.org)

**Bill Buck and Raquel Velasco's blog**  
[bbrv.blogspot.com](http://bbrv.blogspot.com)

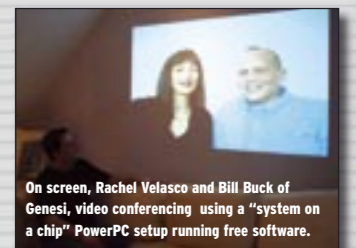
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**Blastware OpenSolaris**  
[www.blastware.org](http://www.blastware.org)

**OpenSolaris official site**  
[www.opensolaris.org/os/](http://www.opensolaris.org/os/)



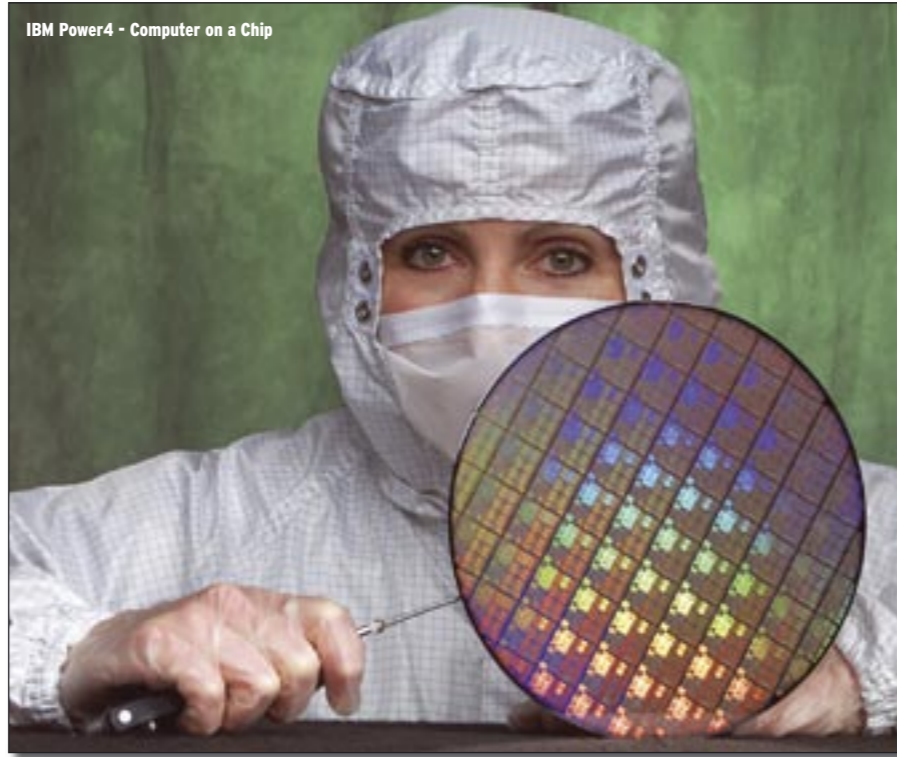
## ■ Whither Power?

storytelling' to pass along the good news, enabling one customer's satisfaction to become contagious. As such, we were early-on accepted into the Department of Energy and Department of Defence, NASA, and University labs, entrenching our foundation. These large name customers help end-users feel more comfortable, knowing Yellow Dog Linux is trusted in high places. Through our distributor Kudzu Enterprises and partnerships with Amulet (Japan) and more recently IXSoft (Germany), we have been able to gain a stronger presence outside the US, growing our userbase."

"Finally, our 100 per cent focus on PowerPC (and now the entire Power Architecture family) has granted us the world renowned reputation as experts in our field. In this respect, we never really felt we were 'competing' with SuSE or Mandrake. I feel it is fair to state that our installation and userland environment on PowerPC has always been and remains more complete."

### NOT CRASHING

When Linus Torvalds sat down to develop Linux he had a goal in mind: a free Unix that ran on commodity IBM PC-compatible hardware. Learning from Minix and taking advantage of freely available GNU tools, Linux soon developed into a serious Unix-like operating system for the IA32. However, one early criticism was that it wasn't portable, that it would only work on Intel-based hardware. One look at Linux on ARM, Sparc, MIPS or PowerPC should disabuse anyone of the notion that this still holds true, but the



## "We get hit hard, we bounce back harder"

fact remains that the majority of Linux users - particularly on the desktop - are using Linux on Intel or Intel-like x86 CPUs.

Where does this leave desktop Linux on PowerPC? Why use it at all and why use it if you're an Apple-user?

"I used to respond to this question with a balanced perspective, being cautious to hold

back my personal opinion in order to state 'It's about personal choice.' But given the advances that Linux has made in the past two years, and the fact that I tire of hearing people say 'Linux is not ready for the desktop', I will instead state, 'It's about personal choice.'"

"And I choose Linux because, personally, I can't stand OS X. It drives me nuts. I feel as though someone is dragging me back to kindergarten where I have to colour within the lines along with the rest of the class. And if I do something different, I am slapped on the wrist, reminded again I am subservient to the operating system."

"I am smarter than OS X allows me to be. I want multiple desktops (by default, for those of you who will point to downloads). I want speed. I want my applications to just open without icons bouncing or swimming or flying. I want to change a document from ".html" to ".shtml" without my operating system popping up a message every single time. I want to export the display from a machine half way around the world without configuration of either end. I want the desktop to default to a tree view, not icons so large I could throw darts at them from twenty paces. I want my apps to run for months, even years... not just hours without crashing."

## The rumour mill

David Scott writes: Terra Soft Solutions are much more than just a Linux distribution developer. They are also an Apple "value-added reseller" and a reseller of all kinds of PowerPC-based equipment up to and including the IBM BladeCentre JS20, and experts on the Power chip.

What Terra Soft can't do is manufacture computers in any kind of volume. But Mercury - Momentum can. What Mercury-Momentum can't do is sell to the public with all the support headaches which inevitably ensue. But Terra Soft can. What if Mercury-Momentum were to build systems which Terra Soft would then sell and support?

If you think this sounds unlikely, think again. Mercury and Momentum are PowerPC experts - they even build IBM's PPC 970 (G5) evaluation boards. Terra Soft already do what all commercial Linux vendors do - support their users. What's most important to note is the lowered "bomb cost" of bringing a product to market, particularly one which uses expensive materials. Manufacturing costs are falling all of the time, particularly in southeast Asia where the EU's Rose directive doesn't apply.

Mercury-Momentum would find it difficult to enter the consumer workstation arena due to support costs - after all, this company currently offers a five year warranty on its PowerPC systems, something unheard of on the desktop. But Mercury-Momentum and Terra Soft complement each other so well that a partnership seems inevitable.

In the medium to long term, Apple's exit from the market may turn out to be a positive boost for the PowerPC, allowing many other smaller companies to work together to bring a real alternative to the desktop. Genesi have already proven that a PowerPC-based workstation is a saleable product, and Terra Soft arguably have an advantage over Genesi because they're already well-known in both the Linux and Macintosh worlds.



"I have heard many people say OS X is perfect, the ultimate desktop with a terminal too. But OSX covers up so much of its UNIX foundation that the original reasons people used UNIX are lost. Ultimately, I want complete control for the sake of efficiency and stability over eye candy and full integration."

"Perhaps most important of all, I want the knowledge that if something is broken, I can talk directly to the author and get it fixed. That's community. And community works," said Staats.

#### CRACKING WINDOWS

As a company Terra Soft Solutions supports a wide range of hardware, but has always seemed very Apple-oriented. This was a real boon for

customers such as myself and remains the key reason why YDL is my main Linux distro. What does this mean for the future?

"Terra Soft grew out of my personal passion for Macs. Not one of my employees came to Terra Soft a Mac user, but all have converted. And as we tell our customers (for lack of a more appropriate phrase), "We eat our own dog food", explained Staats.

"In this respect, what you experience when installing Yellow Dog Linux for the first time is exactly what we experience in-house. If it breaks for you, it breaks for us too and so we are motivated to fix it. I am often baffled when I hear that some Linux integrators/VARs run Windows corporate-wide (you know who you

are). I couldn't feel honest in my work if we did that."

"We use Apple. We sell Apple. And over the course of the next year we will turn our attention to IBM and with some good timing, a whole new line of Power products not too far into the future."

"Our relationship with Apple has been a strange mixture of love for the Product and desire to move Apple hardware into places where OS X could not go, but disdain for the endless series of roadblocks created by Apple's failure to acknowledge Linux as a viable alternative to their own OS," explained Staats.

"There were times when we would ask for assistance with new product bring-up and call a

key Apple engineer for assistance. His response was, 'Well, I have everything here on my desk, I have the data you need, but I'm not allowed to give it to you. Sorry guys. You know how it is.' As such we have, with the assistance of the IBM Oz labs and the PowerPC Linux community, reverse engineered every single Apple product that has shipped since the inception of our company. And at the same time, there are individuals at Apple who have gone out of their way to assist us, enabling amazing events to unfold within the confine of religious borders. Since we came on as an Apple VAR, we have enjoyed three fantastic account managers who worked miracles on our behalf."

#### BITING THE HAND THAT FEEDS

"Once past the pure shock of Apple's switching to Intel, to be honest, there was a distinct sense of relief. No longer will we have to bite the hand that feeds us. There are companies that embrace what we do and will stand behind us 100%," he explained.

The world of corporate non-disclosure agreements means that Kai wasn't able to tell us who was planning to release new hardware.

The future now dictates that PPC Linux will have less opportunity for easy desktop penetration. What is Kai's response to this proposition?

"I disagree. The future holds some incredible opportunities. Maybe not as sexy as Apple G5s or Mac minis, maybe not as religious in its following, but we need the desktop workstation and will not stop until it is replaced with greater variety in form, function, and price," said Kai, adding on a positive note: "It will take time, but there will be options. Some will already have come to market by the time this interview is published."

#### IN SPITE OF APPLE

### What if Mercury-Momentum were to build systems which Terra Soft would then sell and support?

From the perspective of a Linux user, rather than a Mac user, what are the specific benefits to be had from the Power/PowerPC architecture?

"I can address this most effectively from the point of view of Terra Soft, as a provider of High Performance Computing clusters. Understand

## Whither Linux and Power?

**NIGEL BECK IS IBM'S VICE PRESIDENT OF TECHNOLOGY MARKETING AND CHAIRMAN OF POWER.ORG**

IBM have done a lot of work with the POWER/PowerPC but at present only have one offering on the desktop, the rest is all very high-end?

"That's right, although we do have the OpenPower which is a lower-end - by our standards - server product based on the Linux on POWER project."

How do you see the future of PowerPC and Linux?

"I think both will be important. The POWER architecture is not only gaining in the embedded market which now requires all kinds of processing power for media applications, but also in many other places. IBM is also happy with Terra Soft's Linux efforts on the POWER/PowerPC. Kai [Staats] is supporting us at our Power.org event in Barcelona. They have a distro which just works."

What about getting PowerPC hardware out there? Would IBM support Terra Soft if they became a reseller of new PowerPC equipment?

"We're very excited about the entry of anyone into the marketplace with POWER architecture hardware. Whatever Terra Soft might do to all of the work in the gaming world with Sony, Microsoft and Nintendo to the latest Cell stuff with Mercury."

Does IBM have any plans to enter the desktop space with PowerPC and Linux?

"I don't have an answer for you on that, I'm afraid."

But what about developers? Without relatively inexpensive hardware will they be stymied when it comes to developing for POWER and PowerPC Linux? IBM doesn't want this to happen and so has put a plan in motion to make sure it doesn't: the OpenPower project.

"We want to open up the hardware. We have the OpenPower project specifically aimed at giving developers access to POWER architecture hardware - just log on to the hosted hardware."

Indeed, under the slogan "Power for Linux - Linux for all" the OpenPower project is ideal for developers who want to test out the latest OpenPower servers, running Linux. Users get remote, non-root, shared access via SSH to the latest POWER5 processor-based OpenPower servers.

**Power.org**  
[www.power.org](http://www.power.org)

**Open Power project**  
[openpowerproject.org](http://openpowerproject.org)

**IBM OpenPower servers**  
[www-1.ibm.com/servers/eserver/openpower/](http://www-1.ibm.com/servers/eserver/openpower/)

that all Linux vendors have a revenue stream deeper and more broad than the sale of a free OS. Terra Soft is building custom, turn-key integrated solutions built upon Power hardware and the Linux OS.

"To enable these back-end systems, whether embedded in a single board computer or in the form-factor of a rackmount cluster node, Terra Soft relies upon seamless code migration from the desktop workstation (host) to the backend target (embedded or clustered system)."

"I know, this sounds terribly boring to the average end user, but it actually makes sense if you see that in our circle of life, these high end systems invoke the demand for a high quality distribution that works every time. We deliver this. Power/PowerPC delivers this."

Staats explained exactly what this meant: "The drive to satisfy our high-end users brings back to Yellow Dog Linux a level of stability and reliability and commitment to excellence."

One of the biggest historical problems for PowerPC Linux has been Apple's refusal to assist in developing for the Macintosh. Yellow

Dog bettered other PowerPC distributions through sheer graft in engineering. Not having to perform technical acrobatics simply to keep Linux booting on the most popular PowerPC platform may actually improve Linux: "In all honesty, PowerPC Linux has never been on par with x86 Linux for multimedia support for that has simply not been our internal focus, nor that of our immediate user base. Internal to Terra Soft, we historically spent so much time and effort just getting Apple boxes to work in spite of Apple, that by the time we got the basics supported a new model hit the streets and we started all over again. Even this week we are fighting to get dual-head support completed (for the third time in a single calendar year) for Boeing."

"That is changing, for with new OEMs and an increase in the diversity of the Power Linux userbase, we have already seen an improvement in support for audio, video, and multimedia applications. Companies such as Sony, Mercury/Momentum, Genesi, and Terra Soft are leading the way. Stay tuned... good things are coming."