

Happy Camper Installation Testimonial: Linux Mandrake 8.1 on Sony Vaio PCG-505EX/64

You have no idea how gratifying this is to me. I've laboured over this for months now, ever since I got the new corporate PC with compulsory Windows 2000 on it, but consequently didn't need to have Windows on the old one any more. I'm not exactly new to Linux, but then again it's been four years since I had my last PC running Linux. Definitely feels like being bourne again! Let's make an alias for the shell, shall we? `rebash` sounds appropriate...

I grew up on System V, in a manner of speaking, because in the late eighties and early nineties I worked for a company that exclusively ran Unices of several flavours. My very first days as a computer user were spent on ASCII terminals connected to a succession of Unix hosts, Altos, Convergent, Sun, and I even had a brief stint on a QNX server. When PCs finally became cheaper than terminals, they gave me a dual-boot 486 with Linux and Win95. The sysadmin at the time (to whom I will be eternally grateful for having me introduced to nethack) told me that I didn't have to use the other OS if I didn't want to. Thanks again! This is how 'X window' became the first GUI I ever used on a computer. Desktop publishing, to me, always meant MicroEmacs and nroff, or later TeX, my best buddies were called `awk` and `sed`, which I had discovered all by myself as the perfect tools for manipulating all sorts of stuff, like customer addresses and other long lists of useful data, and I never had more innocent fun in my life than when redirecting banner output to my co-workers' tty in the middle of a boring meeting... Thus – and with the sole exception of Word 5.5 on a disk-and fanless Mini-PC I borrowed at the office to write my master thesis (reluctantly following my faculty's orders) – I managed to steer clear of Microsoft Products until 1998.

Then suddenly, the terror from Redmond struck after all: I changed jobs, and the new company didn't allow non-engineers to run anything but Windows on our desktops. Mind you, I had always been just a user. Knowing how to use a stream editor doesn't make you a guru quite yet, and so I didn't have a lot of arguments to back up my demand for a real OS when I signed my new contract. The admins at that company had simply too many workstations to take care of, so they imposed Windows on everyone in the company because they couldn't afford training for all those secretaries and sales people and accountants who, by then, all had 'PC skills' in their CVs, in reality often limited to double-clicking on an Excel or Word icon. One of the admins felt with me and tried to say something nice: 'Well, at least it's NT, you know,' but I never really managed to understand what was going on inside that thing, and I was missing my shell...

When the company sent me to Japan, I got one of the first Sony Vaio slim notebook models, a PCG-505EX with 64 MB RAM and a 2 GB HDD, a very pretty machine, albeit with a totally ridiculous 'port replicator' and pre-installed Win95. I had insisted on the Japanese version, so I could use it to learn some of the basic IT terminology like 'save' and 'attach file'. But I still wasn't allowed to change the OS completely because my company's admins had to install Lotus Notes and a VPN client and whatnot from the standard configuration everybody got at that time. The Vaio stayed with me during all these years as a very faithful companion, I upgraded it to Win98, and I even managed to keep it virus-free, ever since I deleted the virus scanner software, that is. Perversely, virus scanners nurture the treacherous belief that clicking on things must be ok because you have a virus scanner. It's only when you painfully discover you haven't updated the virus footprint database for six months that you realise: being paranoid is failsafe, but McAfee isn't.



PCG-505EX has been retired at the end of last summer, replaced by a Win2K VaioR505R/GK with three times the CPU speed, ten times the disk space, and any number of USB ports and Firewire and Memory Stick and DVD drives in the docking station, you name it. It was high time, too. My sweaty palms had corroded the areas left and right of the touch pad, and on the keyboard I had to switch a few of the little plastic supports that keep the keys in place, just so that the 'T' and the backspace key wouldn't come loose every two minutes. Besides, the 505 series has a rather obnoxious flaw: Apparently the isolation between the keyboard and the PC card slot or the motherboard or I don't know what isn't quite what it's supposed to

be, with the effect of dozens of ']]]]]]' being typed in rapid succession. As long as you stay on the Windows desktop, this only causes warning beeps, but in a text editor or e-mail client, this can be much fun – try hitting a backspace key that's coming loose just fast enough to erase the ']'s as they get generated... Really silly hardware architecture, and Sony must have had a reason why they changed the PC card slot location to the other side of the chassis for later models.

But then I decided that at the end of its lifespan and in view of its mostly flawless performance in spite of the many Windows hardships, my good old Vaio should be rewarded with a couple of years under a more benevolent Linux regime. My two main reasons behind this are rather idiotic, but there you go: 1. I wanted a Linux PC with a PC card slot so I could shove in a CF adapter and format a CF card with a DOS partition for the boot loader and a second partition with `ext2fs` in order to use it as root for a future Linux installation on a handheld PC, and 2. I wanted to play `nethack` again.

Ok then, here's my account of **'How I installed Mandrake 8.1 on a Sony Vaio PCG-505EX/64'**:

Several months ago I spent a couple of hours downloading the ISO images from one of the Mandrake mirrors, burned them on three CDs, put them in a drawer and forgot all about them. When I finally decided to give the installation a go, 8.2 was already out, but I couldn't be bothered to do the entire download process again, and besides, there's not much more to 8.2 that would make a lot of sense on a 233 Mhz processor, 64 MB RAM and 2 GB HDD notebook to begin with. So I just dusted off the disks, put them into the Sony's CD drive, changed the BIOS settings to booting from CD, and waited what happened.

Yes, well, nothing much, apparently. It took me a while to figure out how to go about the installation because the 505 doesn't have a built-in CD-ROM. Sony's 'CD5' drive connects via PCMCIA, and every time I booted from the installation CD 1, the computer instantly forgot it had a CD-ROM drive connected to it and quietly ceased all activities. Firing up the same installation disk images, but directly from the hard disk wasn't really an option: The total size of the disk was too little, with half of that already taken by the legacy OS, anyway. Probably mostly stray DLLs that didn't get deleted when I uninstalled MS Office to make space, I presume.

After some googling I came across a tutorial (<http://www.joechiu.com/computing/vaio/linuxon505.html>) that said I should type '`linux ide2=0x180,0x386`' at the boot prompt, but this merely took me past the first two steps or so, only to freeze completely while the installer tried reconfiguring the PCMCIA services. Some more googling finally told me that I would need a boot floppy with the right config file on it, so I downloaded that, and got a frozen screen again. Hm. Several minutes later (first spent scratching my head and rethinking what I could possibly have done wrong, then punching myself in the mouth, hard), it dawned on me that maybe I should have downloaded the `pcmcia.img` for Mandrake 8.1 rather than 8.2, after all. So when I got back to my last location on the FTP mirror site for Mandrake, I just went a few directories down and up again, downloaded the image file for PCMCIA-based booting, `rawrote` that to a floppy, and – bingo! After that, things became much more relaxed. The Mandrake installation helper software is user-friendly to the point of being almost too worried about user panic at any stage of the process, but I chose the recommended semi-automatic setup routine nonetheless because I didn't trust myself enough to go for expert mode, and besides, I had never seen a Linux installation wizard and wanted to see if it really worked.

When it came to repartitioning the drive, I was slightly annoyed to discover that DiskDrake, after computing the partition boundaries, announced that there was only about 200 MB of free space between them. I had originally planned to go for dual boot, because I wanted to keep my Visio installation. But despite erasing everything else I could lay my hands on, and a lengthy scandisk and defrag preparation I had submitted the machine to, the hard disk obviously didn't manage to make all my meticulously liberated 900 MB available to Linux. I took revenge on the Windows file system by deciding that I hardly use Visio, anyway, and went for a clean install of Linux over the entire hard disk.

And it worked! I installed the entire workstation suite, but none of the server packages because the root partition where all these would eventually go had been set by the DiskDrake wizard to 1 GB, and I decided

not to mess with these settings just yet. I also installed support for all the CJK languages, and maybe that ate into the available space I could have used for PostGRES or something like that, but hey, I can still make the partition larger at a later stage, can't I? /home doesn't need 750 MB...

I skipped the network configuration part because my LAN card goes in the same PCMCIA slot that was currently busy talking to the CD-ROM, and the printer settings would have to wait until later, too, because the idea is to use a network printer connected to the parallel port of a different PC in the house.

Nothing much to say about the rest of the installation, I set the root password, assigned a user, created a bootdisk, and then it was done. All in all about six hours from putting in the first CD to KDE login prompt, but actual installation time counting from the moment I decided to use the right boot floppy was only one hour thirty minutes. That's about an hour more than I had to invest in a recent XP installation, but that was on a desktop with a 1.8 Ghz processor and 512 MB RAM...

Surprisingly smooth: Reason Number One for getting Linux in the first place, my Compact Flash card adapter with a 256 MB CF in it, is recognised as ATA IDE right away, and I can set up an extra `ext2` partition on the CF card! This is wonderful! I went on to mount it as `hde2`, untar a mini-root file system to it, following instructions on <http://pc1.peanuts.gr.jp/~kei/install.htm>, and then I could finally use the CF to boot Linux on my antique NEC Mobile Gear II MC-R300 (and kill it in the process, but that's a different story).

Next stop: Online settings. I have a hybrid V.90/ISDN/Fast Ethernet card for the PCMCIA slot that surely must have been state of the art (and very expensive) back in 1999 when I got it, but was already next to impossible to install under Windows. Nevertheless, it seems that Linux has detected and identified the card as such, since it produces nothing but friendly green [OK]s during bootup wherever there's talk about PCMCIA services, card bus or `eth0` and some such. But when I try installing the network services using Netconf from the KDE menu, it presents a list of drivers none of which sounds anything like the one I'm looking for, namely Xircom CBEM56G-100. I can enter an IP address and net mask and DNS and everything, and do so, but I'm back to head scratching at this darn net driver dialogue. How would I go about finding the right driver and make it appear in that menu? Physically, the 100 mbit/s LAN connection must be present, because the bi-colour LED on the dongle happily glows orange whenever I pop the card in, so there's no doubt it is recognised. What shall I do?

Ask somebody who knows, of course. And sure enough, the Tokyo PC Users Group news server is the right place to find someone like that. The answer I get is concise but to the point: RTF log files. Good point, let's look at that. My last `/var/log/messages` says:

```
pcmcia: Starting PCMCIA services:
pcmcia: modules
pcmcia: cardmgr.
rc: Starting PCMCIA: succeeded
cardmgr[688]: starting, version is 3.1.29
cardmgr[688]: socket 0: Xircom CBEM56G-100 CardBus 10/100 Ethernet + 56K Modem
network: Setting network parameters: succeeded
cardmgr[688]: executing: 'modprobe tulip_cb'
cardmgr[688]: executing: './network start eth0'
network: bringing up interface lo: succeeded
ifup: RTNETLINK answers: File exists
network: Bringing up interface eth0: succeeded
```

Succeeded??? What? [Or "hein?", as it is a French Linux distribution, after all] Now wait a second, what does `ifconfig` say about `eth0`?

```
Link encap: Ethernet HWaddr 00:bla:bla:bla:bla:bla
inet addr:x.y.z.9 Bcast:x.y.z.255 Mask:255.255.255.0
```

```
UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
```

And to make me feel even worse, why don't I try pinging the gateway? Yeah, that's what I thought:

```
--- x.y.z.1 ping statistics ---
```

```
21 packets transmitted, 21 packets received, 0% packet loss
```

And oh yeah, why not, let's try the browser, where was that in KDE again, Konqueror, right? Ah, here [click]. Hm. Now let's click on this link right here, Mandrake Soft. Hm. Retrieving data. Hm. Loading complete. Hm. I seem to be online, albeit with a facial expression matching this →



What an embarrassment...

But then again, as a tribute to Lynton Kwesi Johnson: 'I always wanted to make a fool out of myself'. There's not much I've ever done to deserve being treated better than the rest of first time installers. I've been using Linux, but back then I wouldn't have been able to begin an installation of my own, let alone finish one successfully. Things have changed, haven't they.

Well, the network is up and running, so let's make a run for the legendary *nethack* now. This is the most addictive game on the planet, and for anyone who has never heard about it, you should really pay a visit to



the official website <http://www.nethack.org> and find out what it's all about. I used to play it when it was simply called *hack* and was part of every Unix installation, but when I rediscovered it earlier this year it had evolved quite a bit, with additional graphics and animations, and versions for DOS, Windows, Mac and PDAs, but the hard core fans are still very much sneering at the fancy stuff and stick to the ASCII character display. So, here we go: FTP works, good. Connect

to the official server, download the files with support for Qt2.3 matching the version my KDE comes with, *gunzip* and *tar x* the whole shebang, edit *.nethackrc* to my likings:

```
Konnichi wa Oblomow, welcome to NetHack! You are a lawful human Samurai.  
You are lucky! Full moon tonight.
```

Yippie! My second software installation in Linux ever, next only to the experimental Japanese IME I installed five years ago because my sysadmin wouldn't touch that stuff. And it works. There are sleepless nights ahead, spent entirely getting an innocently text-based, yet utterly scary whooping from a panoply of monsters, reading spellbooks, praying to *\$deity* and other good-natured nonsense.

Needless to say, more than just a few problems remain, but I'm totally confident that I can get those solved, with the help of the big friendly community out there. Here's a list of which hardware items get recognised automatically:

```
unknown      : Intel Corporation|430TX - 82439TX MTXC  
unknown      : Intel Corporation|82371AB PIIX4 ISA  
unknown      : Intel Corporation|82371AB PIIX4 IDE  
usb-uhci     : Intel Corporation|82371AB PIIX4 USB  
sonypi       : Intel Corporation|82371AB PIIX4 ACPI - Bus Master IDE Controller  
Card:NeoMagic (laptop/notebook): Neomagic Corporation|[MagicGraph 128ZV Plus]  
i82365       : Ricoh Co Ltd|RL5c465  
tulip_cb     : Xircom|Cardbus Ethernet 10/100  
xircom_cb    : Xircom|Cardbus Ethernet + 56k Modem  
unknown      : Virtual|Hub []
```

And here is what doesn't, any help greatly appreciated:

1. Sound chip (ESS Technologies ES1878, uses the Soundblaster drivers, I believe)
2. IrDA (this is what I'll need most, both as a printer port and for connecting to my PDA and mobile phone)
3. Built-in modem (I'll probably never use this for anything but fax, because it's only 33.6 kbps, but still, would be nice to have)

The sound chip has me somewhat puzzled, because I've googled around a lot and found that sndconfig should do the trick, but that particular tool is nowhere to be found on my machine.

One more thing: As the 505EX comes with its own stylus [and I've managed not to loose it in four years!], I'd love to get the touch pad that's currently being treated as a PS/2-compatible mouse to double for input, like, scribbling and handwritten character recognition, that sort of thing, any ideas how to go about this?

Oh, and where would I look for the battery status monitor? :-)

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