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This Week's Feature

Champagne Hardware on a Beer Budget

I remember getting into a whale of an argument with the fellow who ran the Microsoft certification program several years ago when I worked as a technician and trainer at a local community college. I was upset because I caught him counseling students to buy at least two of the most powerful computers they could find, and go into debt if necessary to do this.

Yeah, a practice lab is something of a necessity for those of us who work in Information Technology (IT), but going into debt for it shouldn't be and anyone telling you otherwise is dishing out bad advice. If you're hurting for hardware to play with but can't find the cash to pay for it all, be of good cheer – this article is for you.

Let's start with the free stuff

That's right, I said "free." Every day in every city and town there are people throwing out perfectly good hardware. Sure it's old and used, but it still has some life left in it, and the

HEADLINES

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Today marks the first day of availability for CompTIA's fully revised i-Net+ cert exam. Also, more details have been released on the upcoming Security+ certification.

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The IEEE (those guys who created the 802.X network standards) offers a vendor-neutral software development certification that is definitely not for the weak of heart (or mind).

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Linux Certification Can Boost Your Value

price is certainly right.

One of my previous hobbies used to be "dumpster diving" for discarded hardware that I could salvage. I donated most of it to a local charity that provided free computers to low-income families. I would cruise through nearby office parks later in the evening and go through their rubbish bins. Here are some of my better finds:

* A box containing 12 IDE 2 GB Fujitsu hard drives (all working)

* 8 14" SVGA colour monitors

* At least 20 functioning 486es

* More motherboards and CPUs than I could count

* Old laser printers with worn drums that still had some life in them

* A Hewlett Packard NetPro server with 128 MB of RAM, dual Pentium Pro 200 MHz CPUs and three 4 GB SCSI hard drives. Some idiot threw it out because the RAID controller was baked. It cost me $80 to fix it and I turned around and sold it to a client for $400

* Tower cases with functioning power supplies and floppy drives

You know what they say about one man's trash being another man's treasure…

Thrifty is nifty

Like the idea of a fifty dollar PC and a twenty dollar monitor? There are always bargains to be had if you know where to look for them.

Auctions – It may be an estate auction, a bankruptcy auction, or a business unloading old equipment that is no longer needed after an upgrade. Make a point of keeping tabs on local auctions for great deals on used equipment.

Classified ads – Some of my best bargains are found in the local classifieds. I'm constantly amazed at the number of people I find selling equipment for far below its value. The important trick here is to keep track of the ads over a four or five week period. After you've seen the same printer advertised at $50 for five weeks in a row, it's a pretty safe bet that you can phone that person and knock them down to $25--they'll just be happy to get rid of it.

Friends and friends of friends – I make sure that all of my friends know I'm a hardware hound who gladly accepts donations. This works out well because there are now a fair number of people out there who either just give me an old

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piece of hardware when they upgrade their system or let me have it on the cheap (Sure, I'll give you $5 for that old 16 MB ATI Rage video card).

My favorite type of friend is the one I call the "compulsive upgrader." This is someone who will spend $450.00 on a new video card the week it hits the market and then sell it to me for $75.00 three months later when a newer model comes out at $500.00 (all in the name of 10 more frames per second in Unreal Tournament).

Government surplus and end of fiscal year – The number one rule for budgeting in both the public and private sectors is "use it or lose it." In plain English, if a government department or a private business unit doesn't spend all of the money they've been allocated each year, they can expect to have those funds taken out of their budget the following year.

This is why it's not uncommon to see public and private outfits buying a ton of new computer equipment just to burn off any remaining budget funds and let the old stuff go at fire sale prices. Keep an eye on the local business section of your newspaper so you can track which companies and government departments have reached their fiscal end of year. There are lots of bargains to be had here.
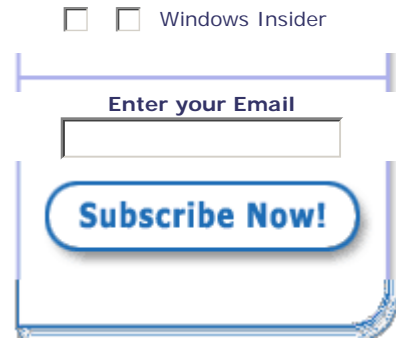
A little goes a long way

Never buy more PC than you need for the task at hand. I recently passed my Microsoft Exchange 5.5 exam after spending two weeks beating the tar out of a practice system I had set up at home. The practice system in question was a Compaq DeskPro 5133 (133 MHz, 64 MB RAM, 2 GB HD, 8x CD) that I picked up for $50.00.

Note: Any prices you see in this article are in Canadian funds. $1.00 CDN = $0.63 USD.

While purchasing a 15" monitor for $10.00 I got talked into taking home an AST Pentium 75 MHz with 32 MB of RAM for an additional $5.00. It's sitting to my left at the moment running a 120-day evaluation copy of Windows 2000 Advanced Server. Those in the know will exclaim that this is impossible because you can't install W2K Adv Server on an old junker like mine with less than 64 MB of RAM and a 133 MHz CPU. Technically speaking, this is true. I performed the installation on a Pentium II 350 MHz with 256 MB of RAM and then swapped the hard drive into the Pentium 75. The initial boot up took forever (over half a day, actually) and it pages RAM to the hard drive so often that it sounds like a leaf blower, but it does run. At least well enough for a person to learn the operating system and pass a few W2K exams.

Got an old 486 in your basement that you don't know what to do with? I do. Here are some of the things I've done with it so far:

* Windows NT4 file and print server
* Windows Terminal Services client
* Citrix ICA client
* Linux file server using SAMBA
* Linux DNS/DCHP server
* Linux proxy server using SQUID

Sometimes you really DO need a kick butt machine to practice on, but more often than not you don't. Never be afraid to push the limits when it comes to running newer software on older hardware.

One piece at a time

So you've absolutely gotta have a new PC for what you're doing, but there's no way you can afford it unless you go with some sort of monthly payment (ain't no way you're buying it all at once). Don't take out that loan just yet…

In my case, there are two things preventing me from purchasing a new PC. The first is the high cost of infant formula and diapers (try saving with an infant in your home – you can't). The second is the fact that my wife has a mile long list of yard projects she's working on this summer and we've come to an "understanding" that all savings are going towards landscaping and a new fence.

Since I couldn't bring a new PC into the house all at once without repercussions, I surreptitiously upgraded an older system over several months this past winter:

* Used motherboard and 900 MHz CPU from "compulsive upgrader" friend for $70
* 256 MB stick of RAM found on sale for $45
* 40 GB 5400 RPM hard drive found on sale for $95
* 32x CD-ROM acquired for free
* 3 1/2" floppy drive acquired for free
* OEM Soundblaster 128 Live on sale for $18
* 3Com NIC at $42

Aside from the case, I'm practically running a new system! How did this compare to financing? The cost of this computer was no more than a monthly payment would have been and I didn't pay a dime in interest (over four months it worked out to $270, or $67.50/month for a system that retailed at over $600). Yeah, it takes you four months to put together a decent system, but it's a darn sight better than buying an underpowered piece of garbage from those crooks at Buck-A-Day that takes many years to pay off!

(BTW, my wife caught me and loves her new Athlon 900. That's okay, I'm perfectly happy with the Athlon 850 she had before.)

Magpie shopping

Ever seen a magpie in action? These birds will swoop in and steal the one shiny object that attracts their attention and then disappear in a flash. This is more or less my philosophy when it comes to shopping for new computer parts.

Most computer stores offer sales where they feature "loss leaders." The idea is to price one item at or slightly below cost and then use it as bait to lure you into their store. Once you're there they set their sleazy salesmen on you to try and "up sell" you more items. Just buy the "loss leader" item and leave the store. Bide your time, wait for the next sale, and strike again. This is a great way to build a computer for a savings of up to 50% off normal retail prices. >:-)

When a good deal isn't a good deal

I used to think that AOpen network cards at $8 apiece were a great deal - until I tried to get one working under Linux, that is. They aren't any easier to configure under FreeBSD, Netware 5, Solaris UNIX 8, or even BeOS for that matter. Any cheap piece of hardware will do when you're running MS Windows, but heaven help you if you decide to run an alternative operating system. I finally cracked and replaced all my el-cheapo network cards with brand-new 3Coms, which are supported by practically every OS straight out of the box.

Be very careful to double check and make sure that any hardware you plan on purchasing is supported by all of the operating systems you plan to use it with. It's not a bargain if you can't use it or if you waste a week trying to get it running (your time is worth money too).

In a nutshell…

If you work in IT you need some sort of practice network that you can play around on and try the things that would get you fired at work in a production environment. The trick is to build your practice lab without going broke. Keep an eye out for freebies – they are out there. Buy used whenever possible and make sure that you let the early/compulsive upgraders eat the majority of the depreciation. If you have to buy new, be patient and wait for sales because that's where the most significant savings are.

Most importantly, never buy more than you need today. You may need a powerhouse of a system four months down the road, but in four months you can get it for half the price. Kind of justifies the wait, doesn't it?

Sean McCormick
The "King of Thrift"
(No relation to Michael Jackson, the "King of Pop")

This Week on CramSession

NAI Ethernet Cramsession

This week's new study guide is the Cramsession for **NAI** exam 1T4-202, Ethernet Network Analysis and Troubleshooting. Exam topics include: Ethernet overview and frame formats; Ethernet Sniffer Pro hardware; Ethernet physical and data layers; troubleshooting methodologies; Ethernet bridging and switching concepts; 100 Mbps Fast Ethernet; and Full Duplex Ethernet.

NAI Ethernet Cramsession

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