

Upgrading Your Office PC? How Not to Over-Spend

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You're a Small Business owner or you have a Small Office/Home Office. You have several personal computers being used in your business. You've started to notice that some of the computers **not** on your desk seem to have more zip to them. Worse, others have had occasion to use your computer and you had to put up with them whining "your PC is soooo slooooooowwww" and then glancing at you sidelong with that pitying look as though you'd just missed the last lifeboat off the Titanic.

But you've had this old faithful PC for years. Sure it's almost ten years old. Sure it's running an operating system that hasn't been officially supported for half a decade. But for your business, damn it, it works!

Still, you think, maybe it's time to upgrade. You deserve it, right? And you can't help it: you're starting to feel sorry for yourself. So you decide to get a new computer. But what should you get?

Games machine vs Business machine
 So you've decided to **upgrade**. But, like buying a car, do you buy a brand new Porsche or just a more recent model of your old clunker? When is good enough, good enough?

If you're an avid computer gamer, you'd want a state-of-the-art computer. You'd buy the most powerful, top-of-the-line, bleeding edge, ego-tripping, whiz-bang computer hardware your wallet or your plastic will allow. In practical terms, computer games are the software applications that really push the limits of the hardware. That's why gamers debate and agonise over "256MB 3D cards", "1 Gig of RAM", "250 Gigabytes of hard disk", "overclocking" and "cooling computer chips".

But as a business owner who doesn't expect herself or himself to be playing computer games at work (or at least, you don't expect your staff to play games), do you really need all that gadgetry? Do you really need to drive a Formula One car just to go to the grocery store? Maybe, maybe not. Ask yourself this: how come your old computer still "does the job", even if it's (comparatively) slow as

molasses?

So, What Does My Office Desktop Need?

The table below is a summary of today's typical SoHo software applications and their corresponding hardware requirements. Software manufacturers usually specify **minimum** and **recommended** system requirements for their products. Here, the values recommended by the manufacturers were taken since the point is to have a machine that **feels** fast. To make sure your replacement PC can run with today's office software requirements, you should **meet or exceed the highest values** in the table. Like the power-to-weight ratio in cars, the more you exceed the highest values (highlighted), then the faster your computer will feel.

Typical* Office Software Applications	Hardware		
	CPU	RAM	Hard Disk**
Office Suite (e.g. MS Office XP)	450Mhz+	128 MB+	410 MB
Internet Browser (e.g. I.E v6)	300Mhz+	32 MB	12 MB
Email (e.g. Outlook XP)	300Mhz+	128 MB	1.5 GB
Accounting (e.g. Quicken, MYOB)	300Mhz	64 MB	75 MB
Customer Database (e.g. ACT!)	133Mhz	64 MB	60 MB
Operating System (e.g. Windows XP)	300Mhz+	128 MB	1.5 GB+ (20 GB)

***Typical:** Microsoft and Microsoft-compatible products were chosen here. This is because, for good or ill, Microsoft Windows is the most widely-used operating system on the planet, and because of that, Microsoft and Microsoft-compatible products are the most widely-used in small business. There are alternatives which could save you a lot of money, but that's for another article.

****Hard Disk:** The size of your hard disk drive should be decided upon based on how much data you tend to (and intend to) keep on your computer and how many applications you want to install. These days, people hardly blink at having a 20 Gigabyte Hard Disk (and today's computer ads sport PCs with 250GB Hard Drives!). **For a Small Office/Home Office, 20GB should be more than plenty.**

Some assumptions:

You'll want your PC to have the following hardware:

- Keyboard,
- Mouse
- Floppy disk drive
- CD-ROM
- USB ports

- Sound
- SuperVGA computer monitor
- Internet modem and/or Local Area Network

Desirable Options

A CD-Writer or even a DVD-Writer would be very useful – especially for making backups of your data.

But My Office is Different. If your business doesn't fit the "typical" mould (for example, if your office applications deal heavily with graphics and/or multi-media), you should make your own table to help you decide on what your new computer needs.

First, make a list of the software applications you'll be installing. Insert a corresponding entry for each into the left-hand side of a table (four columns, and with as many rows as you have software applications).

Second, get the hardware "system requirements" from the software packaging and note down the requirements for **CPU, RAM and Hard Disk Drive.** If you can't find the details, you can try the Internet: visit the software manufacturer's website (**Google** (www.google.com.au) can be a big help here if you don't know the website of your softwares' manufacturers. Try searching for "<plug software name here> system requirements" in the search field). Their websites should tell you what you need to know.

Third, plug the values for CPU, RAM and Hard Disk requirements into the appropriate columns of your table.

Finally, highlight the biggest figures on your table and you're done.

Your Typical SoHo Computer

So, for your intents and purposes as a small business (SoHo) user, the specs below are enough for what you need:

	Specifications
CPU Clock Speed	450Mhz
RAM*	256 Megabytes
Hard Disk Drive	20 Gigabytes

***RAM:** According to Microsoft's website, the **Windows XP Professional, or Windows XP Home Edition** needs "128 MB of RAM plus an additional 8 MB of RAM for each Office program (such as Word) running simultaneously." Instead of trying to calculate how many applications you expect to run simultaneously, let's just double that 128 MB to 256MB (ok, that's 16 applications running at the same time). 256 MB is plenty.

What's Selling Now?

Now, a quick browse of current (March 2004) computer ads came up with this:

- **Intel Pentium 4 (3.4GHz)**
- **1024MB DDR SDRAM**
- **250GB Hard Disk Drive**
- Microsoft Windows XP Home Edition
- 256MB ATI Radeon Graphics
- Sound Blaster Live! 5.1 Sound Card
- DVD+RW Combo Drive
- 17" CRT Monitor
- 56K Modem
- Surround Sound Speakers with Subwoofer

Price: \$3,499 (+ Delivery: \$99)

These specs are obviously those of a top-end machine, and the price reflects it. (Note: A GHz = a gigahertz = 1000 Megahertz)

State-of-the-Art vs. What Your SoHo Needs

	Good enough	Top-end	Note re Top-end
CPU	450 MHz	3.4 GHz	Over seven times the speed you need.
RAM	256 MB	1024 MB	Four times more than you need.
Hard Disk Drive	20 GB	250 GB	Twelve or more times what you need for a typical SoHo.

The Difference Between 'Need' and 'Want'

The advice is **not** that you shouldn't buy a top-end machine. The advice is that you don't necessarily **need** to buy a top-end machine, regardless of what all the advertising is making you **want**. It doesn't take much of a desktop computer to run typical office applications, as we've seen. In fact, a 450MHz PC is considered "obsolete". It's all a matter of need. If you do want to play today's crop of games on it, and/or run applications that require a computer with real horsepower, then you should go for a high-end machine. Otherwise, you can aim lower and still be totally satisfied with the performance of your machine.

Okay, but where to buy lower-end machines?

To get a lower-end machine you have basically two options: Buy it second-hand and buy it brand new.

Buying Second-Hand

You can go to a computer auction, check out the newspaper classifieds and Trading Post, try your luck on eBay or go to a Computer Bazaar.

Obviously, there's a matter of risk in terms of lack of warranty with these options, especially if you buy privately and not from a dealer. However, even buying from say, a Computer Bazaar, you do get some limited warranty. The bazaar I frequent has

the same traders week after week. As long as you keep your receipts, I've found them more than willing to listen to complaints to try and keep their customers happy. **A tip: Check your receipts as soon as you receive them – make sure they're detailed enough in case you need to discuss specifics later.**

Example:

Recently, a client complained about her PC being "too slow". It was a 133Mhz, 64 MB RAM machine and made a good role model for what typical office software applications an office desktop computer runs. The problem was, her role required her to have several applications running simultaneously. After contacting **Funai Pty Ltd**, her boss agreed to upgrade her machine. A replacement PC was found for her at a computer bazaar (633Mhz, 128 RAM, 10 GB hard disk plus 17" monitor, keyboard, mouse, LAN, sound) for less than \$300. Her response? "I love it!" And so did her boss, who'd expected to fork out around a thousand dollars for a "new" PC.

Buying Brand-New

Just because you're not going top-of-the-line doesn't mean you have to buy used goods. Your local computer shop dealer should be more than willing to build you a PC according to your specifications (as long as they still have the parts for the lower end of the scale). They'll try to talk you higher up the scale, of course, and you'll probably end up agreeing to at least some of the hard sell, but you'll probably still be surprised at how much money you can save.

Example:

I bought a 2.4Ghz machine a few months ago from a local shop (for work AND play). By my reckoning, I saved several hundred dollars by getting it built from scratch according to my specifications. The technician called my configuration an "entry level" machine and tried to get me to go higher up the scale. He managed to talk me into getting a more powerful 3D Graphics card, but that was okay as I was still within my budget. Also, I picked it up from the shop myself which theoretically saved me the \$99 delivery fee some companies charge.

Spend the Money Saved on Go-Faster Stripes

The money you save on not buying computer power you don't really need you can spend on other things that could improve your computer experience. Some of these items include:

- wireless keyboard
- wireless mouse
- WiFi (wireless access)
- web cam
- USB memory cards/key rings

- printer
- scanner
- digital camera
- microphone
- good speakers
- Flat panel monitor

These items are not permanently tied to your current PC. The next time you upgrade your PC box you should still be able to use these gadgets with it.

After buying it, what next?

This task can be bigger than buying your new PC. You'll have to do several things, including:

- Reload software (operating system, applications)
- Reconnect the PC to the LAN, Internet, printer(s)
- Reset scheduled tasks (e.g. Backups)
- Migrate data (emails, documents, customer data)
- Test the setup before switching over completely to the replacement PC.

Final Words

It's amazing how much power today's computers have. In fact, they're over-powered for typical office work. It's been said that NASA's Apollo guidance computer had the computer power equivalent only to today's kitchen appliances or your pocket calculator, and it was enough to go to the moon.

Remember that PCs don't appreciate in value with age. They don't become distinguished, they just become obsolete. Computer years are like dog years: time flies faster for computers as well as for dogs. But even old dogs can still have a big bite.

Allan Naguit is an IT Consultant for Funai Pty Ltd, an outfit that provides "IT Handyman Services" for small businesses and SoHos based in the Sydney Metropolitan Area (Australia). This monthly e-zine is part of their services, giving ideas for curing IT headaches, and exposing people to their IT opportunities.

He has helped many clients upgrade their PCs, from go to whoa.

As for his own PC situation, he owns too many. But for the last two years, his main desktop PC workhorse has been a 400Mhz, 192 RAM machine and looks to continue that way. It's good enough for him. His 2.4Ghz machine is gathering dust as he's having problems finding the time to play any games.

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