

THE COMPUTER CORNER

No. 152. A New Computer, Sleep and Hibernation

- by Stan Kaplan, WB9RQR
 715 N. Dries Street
 Saukville, WI 53080-1664
 (262) 268-1949
 skaplan@mcw.edu

Well, I got tired of my old one. It was a bit slow, and I wanted something with a little newer technology. So, I did it. I built a new one.

Cost is always a consideration, but I had a number of components already, so that put a big dent in the price tag. I had on hand a perfectly good case, a floppy drive (yep, I still use one from time to time), a CD/DVD reader, a writer, a power supply (650 watts!) and a good hard drive. So all I needed was a new motherboard, a CPU, some memory sticks and a copy of the OS (operating system). Here is what I got and the cost (including shipping):

ITEM	CHOSEN	COST
Motherboard	Gigabyte GA-MA74GM-S2	56.24
CPU	AMD Athalon II X4	99.00
Memory	Patriot 4Gb DDR2 PC2-6400	90.40
OS	Microsoft Windows 7 Home Premium	167.99
	Total	413.63

The motherboard is more than adequate, and works well with that amazing AMD processor. The processor is a quad-core unit, which is like having four CPUs in your machine. When you have a computing job to be done, the four cores agree on how to split up the job among them, and then they go off and do their individual thing, then meet back again to put their pieces of the job back together as a single entity. Astounding! And fast! I spent hard cash on the memory to get two 2-Gb sticks that would work well with the CPU, Motherboard and OS. Although I have heard good things about Windows 7, everyone knows the new OS needs more memory than previous versions, so I went with 4 Gb.

Well, that was back in January of 2010, and I am writing this in August. What can I report? The new machine is plenty fast – no waiting for any processing job. And the new OS, Windows 7, is trouble-free, very stable and reliable. There are few things that I can complain about. One is, the computer tends to slow down after 10 or 12 hours of being on and working. It is not a severe slow down by any means, but it is noticeable. And, it is instantly curable by a reboot. I attribute the slow down to the OS, rather than to any hardware problem. Any OS accumulates errors with time, and a fresh reboot starts again with a clean slate. Also, the problem also does not appear if I put the machine to **sleep**, which would indicate it is the OS.

In Windows 7, one of the options next to the on-screen reboot button is the sleep button. According to Microsoft, “**Sleep** is a power-saving state that allows a computer to quickly resume operation (typically within several seconds when you want to start working again).” It puts your work and settings into memory, and does continue to draw a small amount of power to keep your memory alive. In my case, the machine appears to be shutting down and all lights, fans and the hard drive stop working. When I am ready to resume work, a couple of taps on the enter button bring the whole machine back to life within 3 seconds, at most. I just put the machine to sleep while editing this file, and when I woke it back up, the open file appeared when the screen came back to life. This is a painless way to save power when you will not be using the machine for a while.

Hibernate is another power saving method, used mainly with laptops. Hibernation puts your open programs and documents on the hard drive, and then turns the computer off. It uses the least amount of

power of any power-saving state. But turning back on takes the full amount of time, plus a little more time to reload your open programs and data.

A third power-saving method is **hybrid sleep**, simply a combination of sleep and hibernate. It puts any open documents and programs both in memory and on the hard drive, and then shifts into a low-power mode. A nice feature of hybrid sleep is that, if a power failure occurs, your work can be restored from the hard drive. In ordinary sleep mode, if the power goes off, your work is lost, because the memory goes blank with no power. And, since nothing was written to the hard drive, there is no way to recover your work. So, click that Save button before you put the machine into ordinary sleep.

Well, guess what? I just learned something new about my machine! Apparently, it uses **hybrid sleep**. Here is the experiment I did. I typed the following line in a new Microsoft Word document:

This is a test of sleep. I am going to save this line to disk.

Then I clicked the Save button in Word, which wrote that sentence to the hard drive. Then I typed the following:

Now I will write this sentence, put the machine to sleep, and then turn off the power.

That is exactly what I did. I typed the sentence, then while still in Word and without saving the document, I put the machine to sleep. Then I unplugged the computer. When I plugged it back in and rebooted, a new message appeared, previously not seen, indicating that "Windows is resuming", and after a bit, both sentences appeared on the screen. A very nice touch, indeed. Good programming.

You can explore and try out power-saving options in XP, too. Just go to the Control Panel and click Power Options. Depending on what model and style of computer you are using, there may well be an option that you will like and will save you some money on your electric bill. Try it.

Happy Computing!