

## **Slow Computers**

I'm sure you all have experienced speed issues when using your computer. Lots of things affect performance. We'll address a few here and tell you what to do about it.

### **CPU Speed**

Once you buy a computer, there isn't much you can do about the CPU speed. There are hobbyists that like to mess with the system and overclock the CPU (force it to run faster than it was intended) but I'll assume here that you are not one of those people.

### **Memory**

I see memory issues frequently. As Windows updates are distributed and the operating system itself grows as a result, memory becomes an issue. Note here that we are talking about Random Access Memory (RAM) here, not hard drive space. In Windows 98, a small amount of memory wasn't particularly a problem. When XP was developed, most computer manufacturers didn't put enough memory in their machines. There are still a lot of XP machines out there and chances are, if you have one, you could use a memory upgrade. To run decently, Windows XP should have 1 GB of RAM. 2 GB is much better. XP cannot see any amount of RAM above about 3.4 GB.

Windows Vista was a real memory hog. If you are unfortunate enough to still be running Vista, you should have 2 GB of RAM.

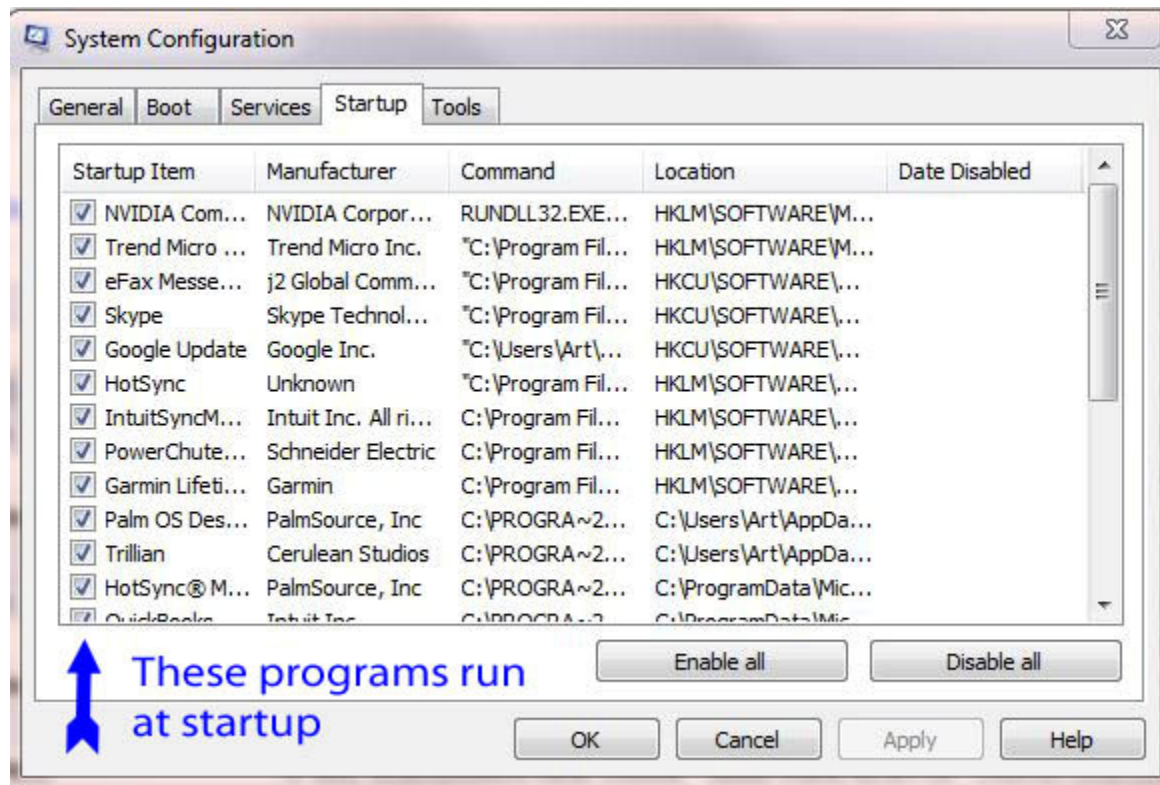
The most common Windows 7 version is Home Premium, 64-bit. It also comes in 32-bit. What does this mean? To you, it means that if you have the 32-bit version, you can only use about 3.4 GB of RAM. The 64-bit version which is much more prevalent. With it, computers generally come with up to 8 GB of RAM.

So—if your computer is acting slowly, one of the first things we do is look to see if a memory upgrade is appropriate.

### **Unneeded programs running**

When your computer starts up, Windows starts a number of programs for you. Some control your video card, some start programs like Weatherbug, some start Skype, etc. The more programs that start, the more memory is needed to hold them. Many times the result is that your system starts slowing down. You can find these programs by clicking on the START button and choosing RUN (Windows XP) or just go to the little white area above the start button in

Windows Vista or Windows 7. In that blank field, type MSCONFIG. You will see something like this:



Notice that every box checked on the left indicates a program that has started. I usually uncheck the programs that I figure are not needed and see if there is a performance increase. By unchecking an item, you aren't uninstalling anything—just telling it that it shouldn't start.

## Malware

This could also be a problem. If there is bad stuff running, you probably won't notice it, but it will be busy in the background gathering information about you and your computer and sending it to someone else. Many times there are malware programs that actually keep the computer from functioning correctly. When I suspect this, I usually run **Malwarebytes** (a malware scanning program. You can get it from [www.malwarebytes.org](http://www.malwarebytes.org)).

## Hard drives

If your hard drive is over about 75% full, performance will suffer. Remember, hard drives, like us, slow down with age. Also, be sure you run the error checking and defragmentation programs that come with Windows to keep your data organized on the drive and speed up access.