

Computer Maintenance & Security

Your computer is like your automobile. It needs regular maintenance. If you ignore it, just like your automobile, you will run into problems. I will try to outline for you some of the things you need to do to keep your computer running at its best level. Then we will go into discussing what you can do when your computer slows down. This seems to be a common problem I run into constantly.

There are several tools on your computer that you should utilize on a regular basis.

One is **Disk Cleanup**. This gets rid of all the extraneous pieces of data your computer puts on your hard disk in several areas. To utilize this go to **Start**, Click on **All Programs**, then **Accessories**, then **Systems Tools** and finally click on **Disk Cleanup**. Your computer will then ask which drive you want to clean up. By clicking on the little arrow to the right side of the small window bring up your Hard Drive which is normally your C drive. If you have two drives where you store things you will have to address them separately. After you bring up your C Drive, Click OK. Your computer will then give you a message telling you it is determining how much space you can clean. Then you will get a window showing you a list of files that you can delete. A check mark in the little box beside the name will allow your computer to delete that file. You should delete all your temporary files, empty your recycle bin, compress any files shown and if there are any other files listed you have no use for include those also. When you are completed, click OK. Your computer will then complete the action.

The next thing you want to look at is **Defragmenting**. When you save a file or a document, your computer drops it into the first empty place it finds on your hard drive. It compares to putting individual documents into a file drawer without any alphabetical files or any system. If you just drop papers into the drawer, and a year later you want to find one, you have to go through the whole stack to find what you are looking for. Your computer does this when you save a file or document. So when it is looking for something it has to travel all over the hard drive to find it, slowing down the operation. Defragmenting those files brings them together where it is easier for the computer to find them.

To defragment, we go to **Start, All Programs, Accessories, System Tools and Disk Defragment**. When you click on Disk Defragment you will see a window that shows all of the drives on your computer. You only need to defragment the drives where you store data, normally your C drive. So highlight the C drive, and then click on Defragment. You will see a lot of vertical bars of red, green and blue show up on each of two windows. The red lines are fragmented files you want to consolidate into blue (Contiguous) files. If you have never done this before it might take a long time. Just leave your computer on and walk away. You might do it at the end of the day when you don't need to use your computer anymore. But after you have done it the first time, I suggest you do it every month or so and it will not take very long.

There are a couple of other items you can do that clean up your computer.

One is **Error Checking** of your hard drive. This checks the surface of your hard drive for errors on the surface of the drive. To do this, click on **My Computer**. When the **My Computer** window opens, **RIGHT** click on your C drive. When the menu drops down, click on **Properties**. When the little window comes up you will see several tabs. Click on the **Tools** tab. You will see an option called Error Checking. Click on **Check Now**. Put a little check in the two blocks beside: **Automatically fix file system errors** and **Scan for and attempt recovery of bad sectors**. Then click **Start**. You will get a message telling you it cannot do the operation because some of the files are in use but do you want to schedule the disk check the next time you start your computer. Click on **Yes**. The next time you turn on your computer before it boots up you will see a blue window with white letters telling you it is going

to do the Check Disk. It will give you an opportunity to opt out. If you want to do the check let it run. It will do this in five (5) steps and takes some time. When the check is completed it will give you a report and will continue to boot up the computer normally.

The other item is a one time operation and is not necessary but gets rid of things you do not use. Typically there are a lot of programs on your computer that were placed there by the seller, and you may not use them or they duplicate what you do on other programs. There is no reason to keep those programs on your computer taking up hard drive space. Removing them is quite simple. Click on **Start**, then click on **Control Panel**, then click **Add or Remove Programs**. You will then see a window and after a short wait, you will see a list of all the programs on your computer in alphabetical order. If you highlight the one you want to remove and then click on **Remove** your computer will remove that program. Do not get impatient as sometimes it might take a bit, depending on the program. But when it is done, you will normally see it is gone and/or you will get a message that it has been removed. Sometimes it will request you turn off/and restart your computer. If so, do it. I would strongly recommend you know which program you are removing. Do not remove any of your Microsoft operating system or its updates.

We have covered the maintenance items for your computer and now I would like to talk about what can be done to speed up your computer when it slows down.

I constantly hear the comment, "When I purchased my computer it really worked well, but now it just seems so slow". What has happened and what can I do about it? First what has happened is your computer has put data all over your hard drive as I explained earlier. Second, Microsoft has added a lot of updates since you first got your computer and if you have been keeping them up to date that has added more programming. Also, sometimes you have a lot of programs starting up when you turn on your computer. There are some things that you can do that will help. I will try and outline them in the order of complexity.

In order to understand why your computer is slow you need to understand there are two different kinds of memory on your computer. There is memory on your Hard Drive and RAM. RAM stands for Random Access Memory. The hard drive memory is where all your programs and data are stored. Typically there is plenty of extra space there. But your RAM is the memory used to run your computer. When you turn your computer on, it immediately loads your Operating System (in this case Windows XP) into your RAM. The operating system takes up a good size chunk of your RAM. And as Microsoft adds updates that space increases. Then your antivirus takes up some more. If you open your email, Word or any other program it takes up additional RAM.

So let's first try to eliminate the number of programs that start up on your computer when you turn it on. In order to see what programs are started when you turn on your computer, click on **Start**, and then click **Run**. In the little window in **Run**, type **msconfig**. Then click OK. (For Vista computers you will need to type **msconfig** in the **Search** window and then hit **ENTER**.) When you do, you will get a small window with a number of tabs. Click on the tab that says **Startup**. You will get a window with a list of programs with little boxes beside them. Each one of these boxes that is checked is a program that starts up when you turn on your computer. The only programs you normally need to start when you turn on your computer are your antivirus, the program that shows the icons on your taskbar and some necessary windows program. The others just take resources from your RAM. If you do not know which to turn off, there is a program you can purchase for \$7.97 called Start Up Cop that explains what each of the programs running are. You can download this program from the following PC Magazine website. <http://www.pcmag.com/article2/0,4149,2173,00.asp> Vista has a program that does this included in the Vista operating system.

You can do the maintenance items we have already discussed particularly defragmenting on a regular basis. Those are fairly simple things to do and do not require any expert ability. There is one other simple thing that can be done easily. This is to set up your

computer for Performance. If you **RIGHT** click on **My Computer** then click **Properties** will get a window with a group of tabs. Click on the **Advanced** tab. At the top you will see a section on Performance. Click on **Settings**. You will then see several options for appearance and performance. The default setting is **Let Windows choose what's best for my computer**. If you want to improve the performance, put a dot in the circle beside **Adjust for best performance**. This may deteriorate the appearance slightly but I don't believe you will notice it unless you have some special set ups.

If after doing all these things your computer still is not fast enough, you will need to do some more difficult things. As I mentioned earlier the RAM is where your computer operates. When your computer runs out of RAM it has to go to the hard drive and borrow memory and this is very inefficient and slows everything down. So the obvious solution is to provide more RAM. First you need to determine how much RAM you currently have and will your computer be able to handle additional RAM.

To find out how much RAM you currently have, **Right** click on **My Computer**. When the menu drops down, click on **Properties**. When the window opens, look at the bottom right and you will see information about your computer. It will tell you how much RAM you currently have. If it is less than 1 Gigabyte with Windows XP (or with Vista 2 Gigabytes) there is a good chance your computer will run slow. Now you have to determine whether your computer can handle more RAM. You should be able to find this information in the manual that came with your computer or you can check online using the model number at your manufacturer's website.

There is also a program on the Crucial website at www.crucial.com that will scan your computer, tell you how much RAM you currently have and how much you can add and give you a price for buying the RAM from their company. When you go to the website, you may have to download a program from their website to do this. But if you follow the instructions you can get the information. If you do not want to order the RAM from Crucial, you can print out the information and go to one of the local stores and purchase it to be added or you can take your computer to one of the computer stores and have them add it. I would not add more than 3 GB as the XP software has a limit of how much RAM it will see. If you have a little bit of mechanical ability you can add the RAM yourself as it is not very complicated. You must open your computer tower to install it.

The speed of the chip on your mother board also affects the speed of your computer but changing that is an expensive alternative. The above suggestions should go a long way to improving the speed.

If none of the above improves your speed, the final act is to reformat your hard drive to bring it back to its original speed. However, this is an extensive project of several hours and you want to make sure you know what you are doing. You will need either a CD or DVD with the operating system (i.e. Windows XP) along with one of the drivers for other equipment on your computer. If you made Restoration Disks when you first got your computer you created disks that will allow you to go back to the original set up. However you will have to download all the Windows updates since you purchased your computer.

So much for maintenance. We also had planned on talking about computer security and antivirus and other malware software. We will try to cover as much as we have time for.

Everyone should have an antivirus program running on your computer and you should keep it up to date. It is only as good as the latest update. Most antivirus programs have an automatic update setup and you should be sure that is in place. In addition to antivirus software you should be sure that your Windows Firewall is up and running unless you have a separate firewall that is a part of your security software. To check on the Windows firewall setting, got to **Start, Control Panel and Security Center**. At Security Center you can check that your firewall is set up, that the updates from Windows are set for Automatic and that your antivirus is working properly. Sometimes if you have a firewall built in you Antivirus program it

may turn off the Microsoft firewall. Also at the **Security Center**, you can click on **Internet Options**. When you click on **Internet Options** you will get a small window with tabs. Click on the **Security** tab. This gives you several options for setting your Internet security from Medium to High. This is a two edged sword. If you set it too high you may find it does not allow you to go to certain sites that are not blessed by Microsoft. Some may be perfectly OK but some may be suspect. I usually keep mine set at **Medium-high**, but you can set yours wherever you are comfortable. If you find it restricts you too much you can always go back and change it. There are also some options for you to put sites in that you trust and only go to those sites.

You can also click on the link under **Security Essentials** which takes you to a window with security suggestions that you can follow. That link is **What's new in Windows to help me protect my computer**.

As for antivirus software there are numerous companies producing them. There is usually a free or a trial program on your computer when you purchase it. You may chose to use that one. For some time the Norton software was really clumsy and slowed down computers starting in about 2006. However, I understand that the 2009 version is much improved. There are several free antivirus programs that can be down loaded from the internet.

I would caution you if you purchase antivirus software and want to extend your paid subscription that you buy it where you get a disk. Then if you have problems you can always uninstall it and reinstall it. When you have to deal with someone on the web after you have downloaded their paid software you sometimes have difficulty reaching a person you can talk to. So if you have paid your money and cannot resolve the problem you are out of luck. However if you download free antivirus software, you can always go back to the site and download it again. There are a couple of reputable free antivirus programs that you can download from the internet. One which I have used for a number of years is Avast. Their web address to download their free software is:

http://www.avast.com/eng/avast_4_home.html At this website you can both download and get the registration. You can click the download button for the software download. After you have installed the software go back to the website and click on the Registration button which will allow you to obtain a license number. You will need the license number to register your copy of the software. This is good for 14 months and then you will have to register again. You will normally get an email with the license number. Highlight the license number and copy it into the place where it goes.

There is also a free antivirus software called AVG which can be downloaded from <http://free.avg.com/download?prd=afe>

If you already have antivirus software on your computer and you change to a different one, please be sure to **Uninstall** the old one before you install the new one. Having two antivirus programs running at the same time will cause you problems. Also, if you are going to uninstall programs I have explained how to do this earlier. But before going to **Add & Remove Programs** you might check with the list of your programs from **Start, All Programs** and locate the program in that list. See if there are **Uninstall** options. This is usually a good idea for any program but even more important on antivirus programs.

There are also some Malware programs that can be downloaded free. One is a Windows program called Windows Defender which can be downloaded from the Microsoft website at

<http://www.microsoft.com/windows/products/winfamily/defender/default.aspx> Be very sure that you go to the above site. When I Googled Windows Defender, I got some other options that were not the **Microsoft** Windows Defender. There is a Malware program called Win-defender and it will corrupt your computer and blackmail you for money to repair it. I recently

talked to someone who got caught up in this scam and he said he and his son worked several hours trying to get his computer cleared of the things they put on his computer.

There is also a program called Ad-aware SE which can be downloaded at : <http://www.download.com/Ad-Aware-SE-Personal-Edition/3405-8022-5153545.html> This has to be manually run. The edition that you pay for I believe runs automatically.

One more free malware program is Spybot-Search & Destroy which you can download from http://www.download.com/Spybot-Search-amp-Destroy/3000-8022_4-10122137.html This is also a manual run program

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