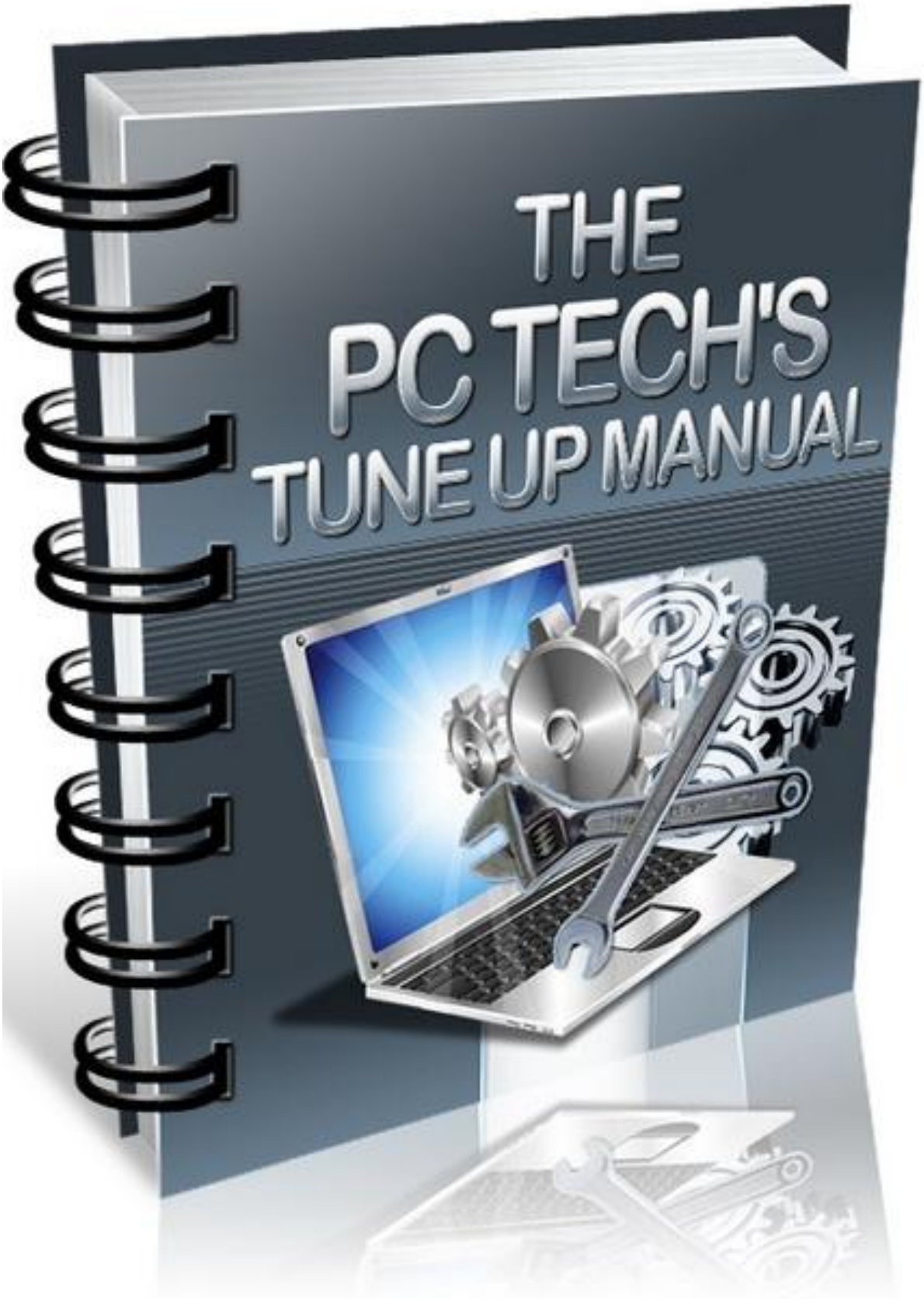
THE
PC TECH'S
TUNE UP MANUAL

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PREFACE

First, I would like to thank you purchasing your copy of The PC Technician's Virus Removal Manual!
In case you are wondering why I wrote this Tune-Up Manual, I will explain why now.

All computers seem to be very fast, responsive and (usually) reliable when first purchased. Clicking the mouse usually opens up the intended program, or windows, instantly. The computer can remain powered on for long periods of time, without any problems such as crashes, freezes, blue screens, stutters, strange pop-ups and more. After using a computer for several months to several years, it can slow down dramatically and become a literal pain in the butt to use!

Also, malware infections such as viruses, spyware, Trojans and rootkits, usually cause harm to a computer that remains even after the malware has been removed. More often than not, a computer infected by malware may have unpredictable errors, the loss of certain services within Windows (such as Security Center being disabled permanently), programs that fail to install correctly, intermittent lock-ups and freezes caused by a damaged registry, and much more. The fact is, tuning up a computer is no longer a luxury for those that have had a virus infection, or an old computer; it is a NECESSITY.

How many people throw their computers in the trash or give them away once the performance and reliability starts to decrease? How about very few? Many people in the time of dire computer need, will rush to their nearest local shop, technician or consultant, IF they are lucky. The majority of people however, are forced to visit the nearest "big-box," name-brand, expensive (for example: *Geek Squad* & *Staples*) retail stores, to pay a hefty premium. If you could survey the majority of these people who know nothing other than these stores, most will tell you that their problems weren't fixed, or that the amount of money paid was very high compared to the service given and the final results. Meaning: **RIPPED OFF**!

The PC Technician's Tune-Up Manual, was designed to show you step by step details on how to properly and successfully tune up a computer. The "secrets" shared in this manual are tricks that many "technicians" (especially the retail store techs) do not even know exist. That is 100% fact! Also, this manual was free to you, but the value is priceless. You are being taught the same resources, tools and tricks, that we have used for years, doing business at TekTime IT Consulting. Just ask any of our customers here, or search us in your favorite search engine online, for proof! This stuff is **no fluff**, and when you have the time to read through this manual and perform the steps shown, you will notice that you can tune-up a computer in an instant. You WILL have customers/clients/family/friends applauding you!

So go ahead, read this manual and get to tuning up those computers, starting with your own. If you have received any value from this manual, feel free to drop me a line/testimonial by emailing us here.

Thanks for taking the time to read this handbook!

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Speed up the hard drive by disabling “search indexing”

The “indexing” feature isn’t necessary in Windows. It can be disabled, which will improve disk speed, without negatively impacting the “search” feature.

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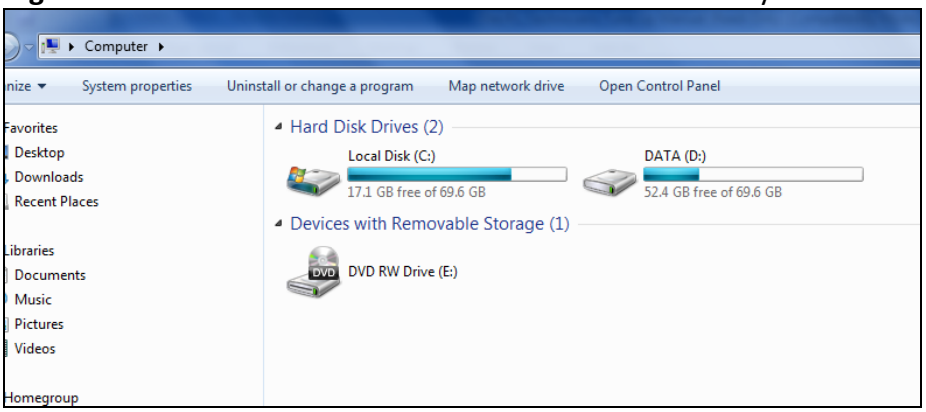
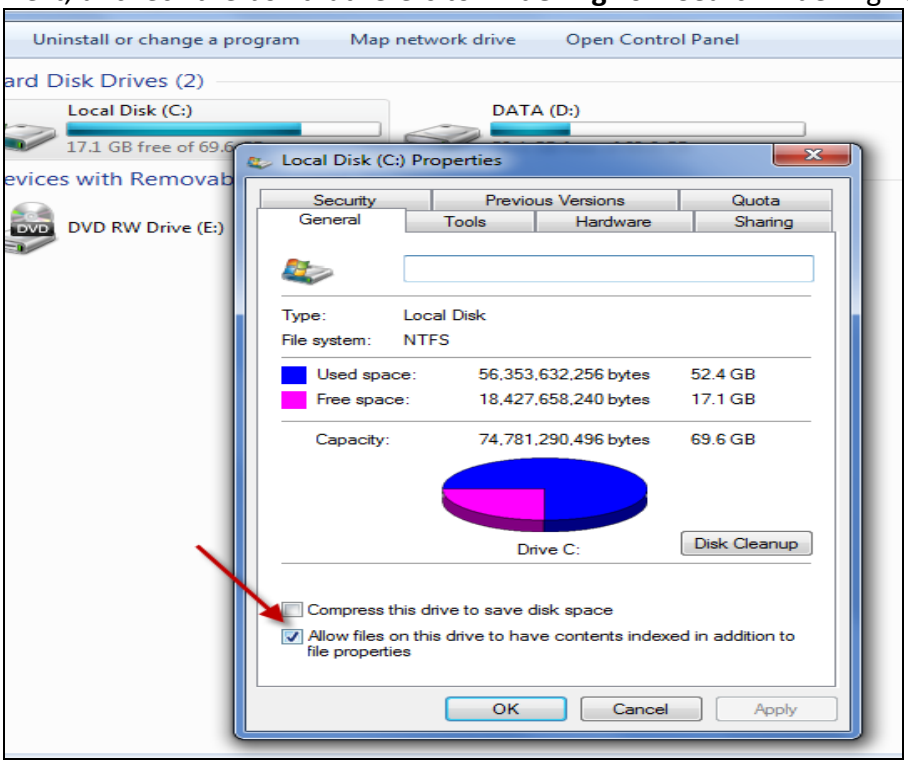
Navigate to **My Computer**.
Right click on the root drive - the hard drive that contains your installation of Windows.



Choose **Properties**
Next, uncheck the box that refers to “**Indexing**” or “Search indexing” etc.



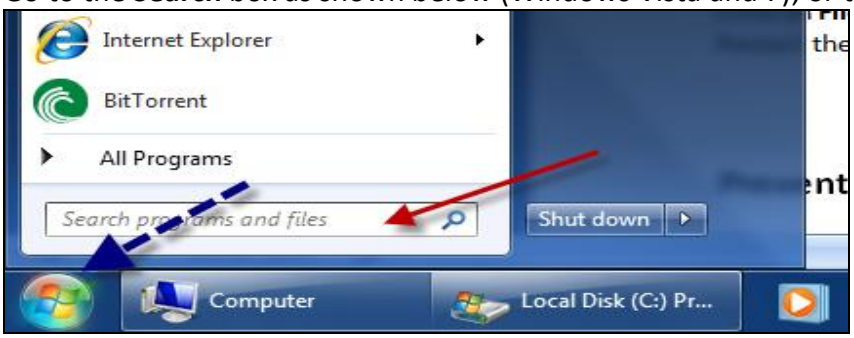
Click **Apply** and wait for the drive to scan and make the changes!

Speed up the program menu by editing the registry

This procedure will decrease the time it takes for programs to show in the start menu when browsing through programs, documents and menus. The speed increase is more noticeable in Windows XP, as well as certain themes in Windows 7 and Vista.

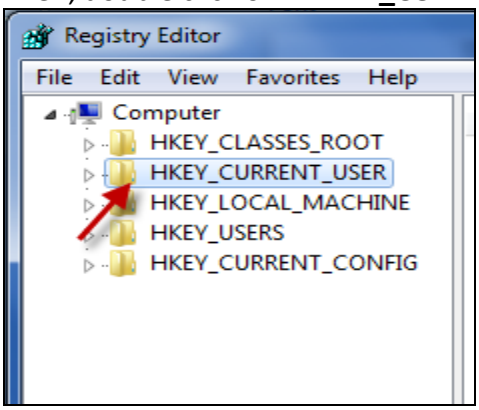
—

Go to the **Search** box as shown below (Windows Vista and 7); or the **Run** box (XP and prior)

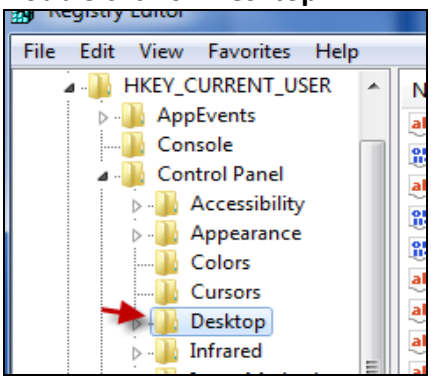


Next, type: **regedit** and hit **Enter** (the *Registry Editor* will appear)

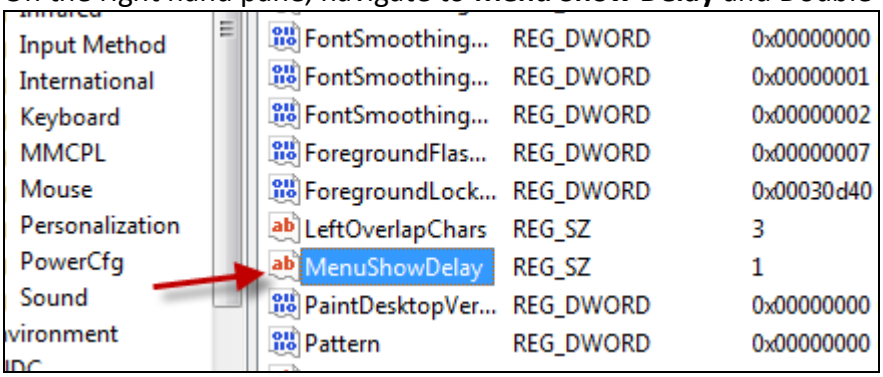
Then, double click on: **HKEY_CURRENT_USER**



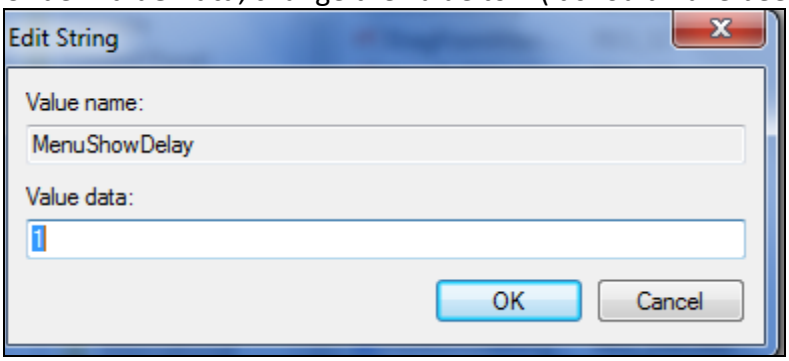
Double click on **Desktop**



On the right hand pane, navigate to **Menu Show Delay** and Double Click it

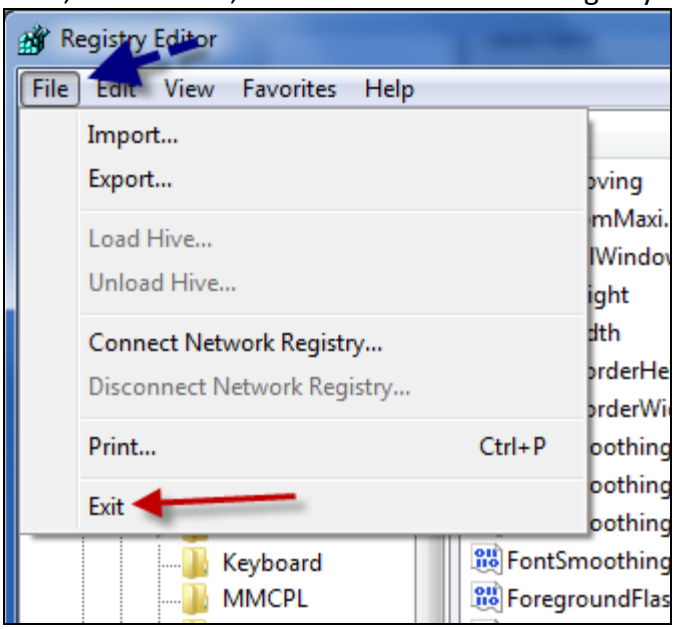


Under **Value Data**, change the value to **1** (it should have been *400* previously)



Next, click **OK**

Now, click on **File**, then choose **Exit** in the Registry Editor



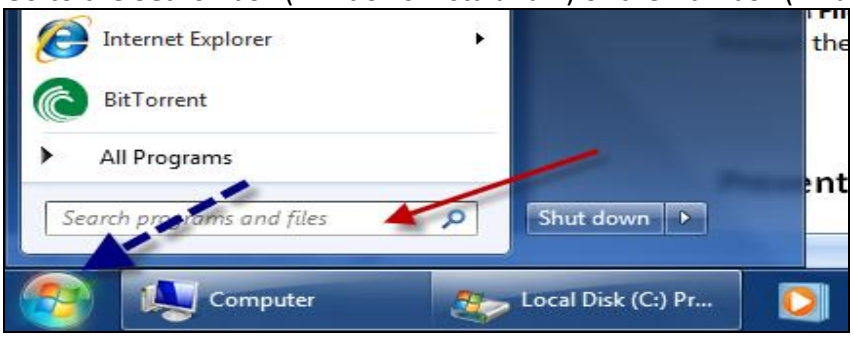
Restart the PC, and the program menu should load much faster!

Prevent drive fragmentation - turn on auto defragment

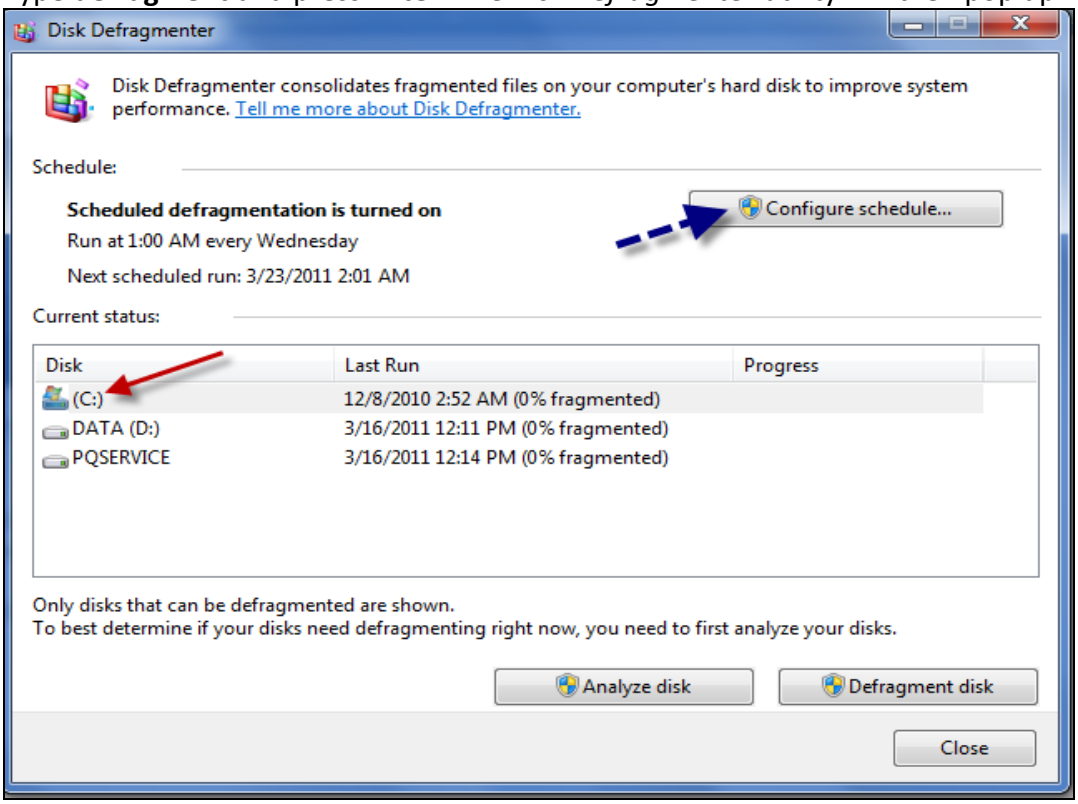
Hard drives become “fragmented” or “disarranged” after long periods of computer usage. In order for a hard drive to continue working efficiently, the files on the drive must be “sorted” regularly for better access. Defragmenting files helps to ensure reliable computer performance.

—

Go to the **Search** box (Windows Vista and 7) or the **Run** box (XP and prior)



Type **defragment** and press **Enter.** The *Disk Defragmenter* utility will then pop up.



Click on: **Configure Schedule** and choose a custom scanning schedule that you prefer.

Click **OK** when done, then close. The disk will be defragmented at the time that you have selected. If you desire, you can actually click on **Defragment disk**, as shown above, for immediate defragmenting of the drive!

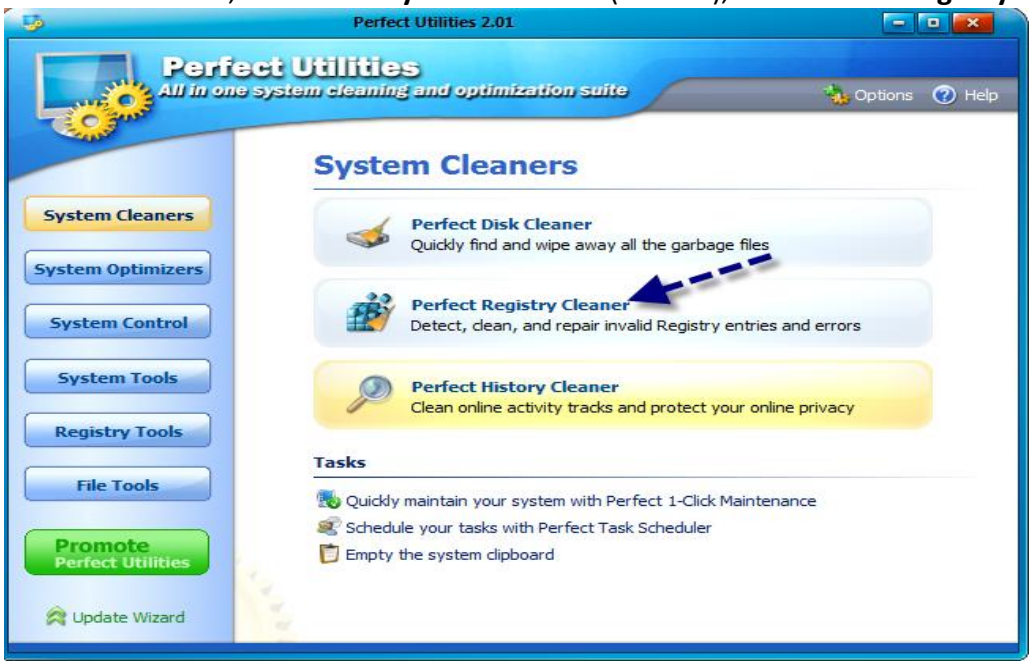
Correct registry errors and clean the registry

Registry cleaners will remove errors from the registry that may have been remnants of uninstalled software, improperly installed software, icons deleted, malware entries and more. It is important to clean the registry after a tune up. Please be careful; make a backup copy of the registry in case the original registry becomes corrupt or damaged as the PC may not boot.

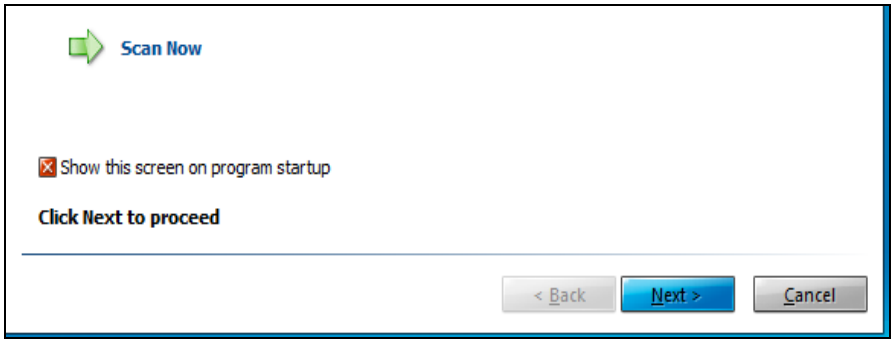
—

Download *Win Utilities* by clicking here.
Install the software after it has downloaded.

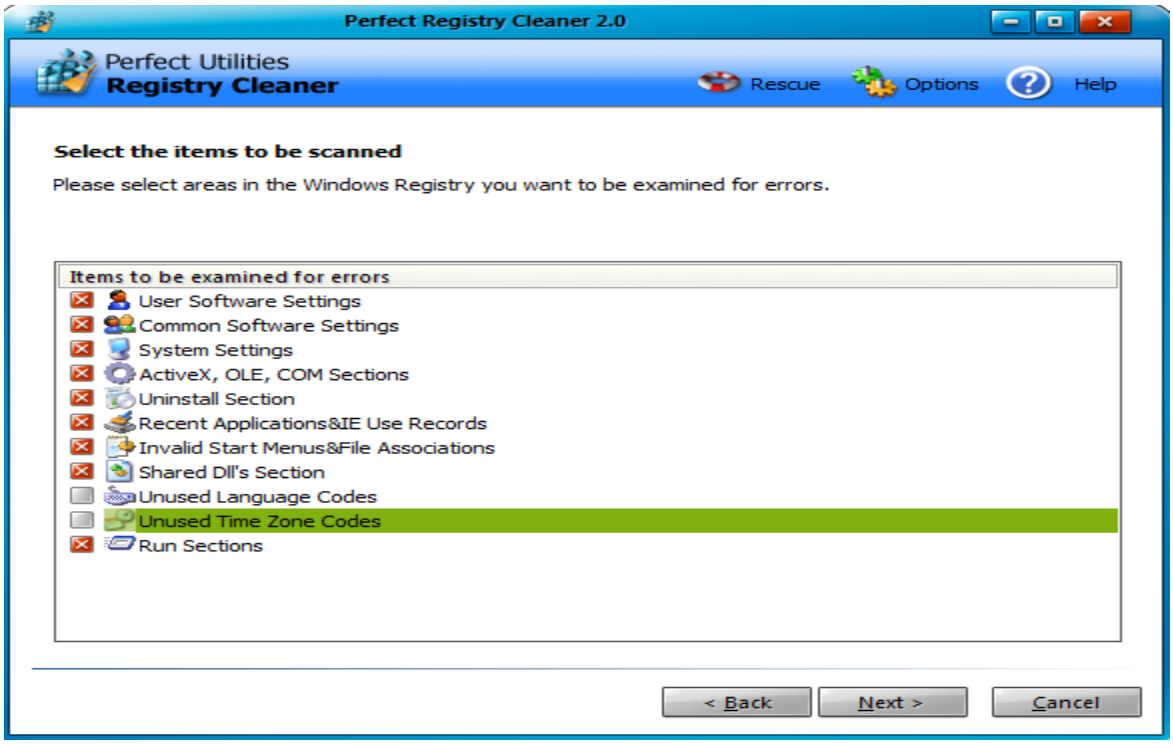
Run the software, and under **System Cleaners** (default), click **Perfect Registry Cleaner**.



Click **Scan Now**



Click **Next**



Now, allow the software to check for errors (it could take several minutes)

Once it reads “Found [amount of] errors,” click **Next** to fix the errors.

Click **Next** again, to allow the software to **Create A Restore Point**.

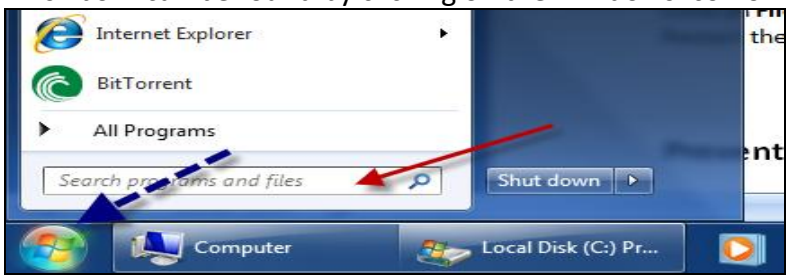
Click **Finished** once completed and exit the program.

Defragmenting the Windows swap file

Defragmenting the swap file may not show any noticeable difference at all, but is handy in increasing the overall performance of the computer when performing a tune-up. The swap file is virtual memory used by Windows in many instances such as when RAM is low or to access drive data quicker (without necessarily accessing the drive for that data). Can't hurt to try it!

—

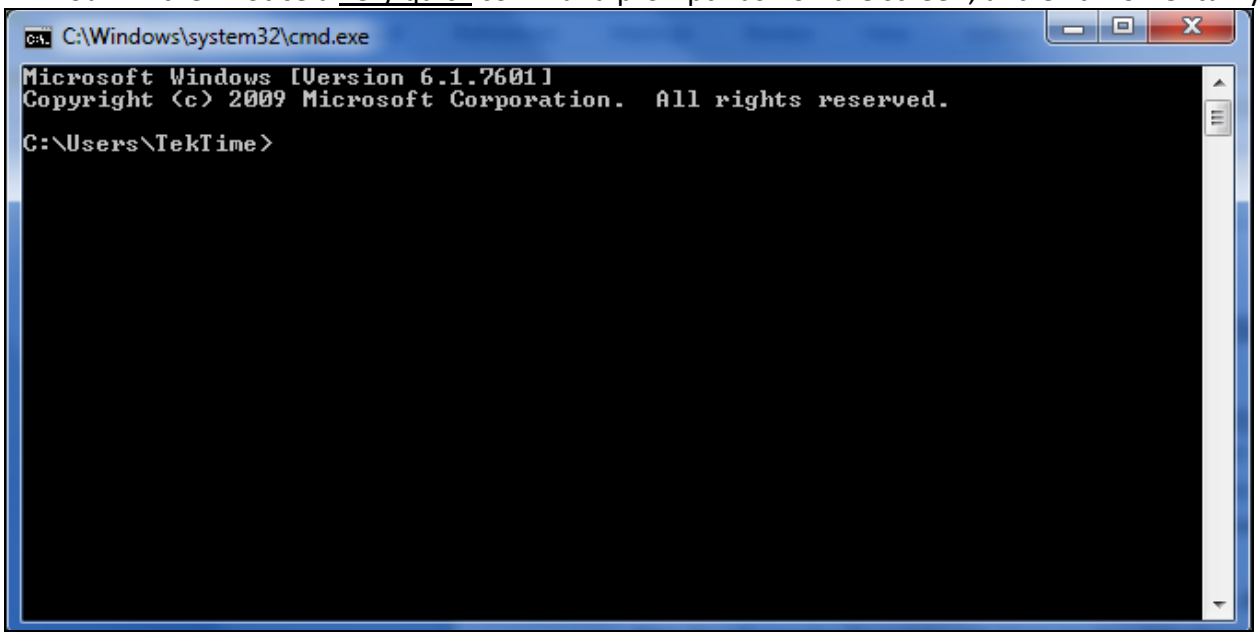
Go to the **Search** box (Windows Vista and 7) or the **Run** box (XP and prior)
This "box" can be found by clicking on the Windows icon on the left lower side of the desktop



Type in the box: **defrag c/b**

Hit **Enter**

You will then notice a very quick command prompt flash on the screen, and exit momentarily.



It should take a total of 2 seconds, **all done now**!

Clean temp files

Temporary files should be deleted, to recover hard drive space and to increase the performance of a computer significantly! **Did you know that many viruses and Trojans like to hide in temporary files and can remain there even after the virus is removed by antivirus software?** Also, remember that temporary files can and will clutter a PC quickly, and bring it to a **crawl**. This is why new computers seem to "slow down" after only several months of use.

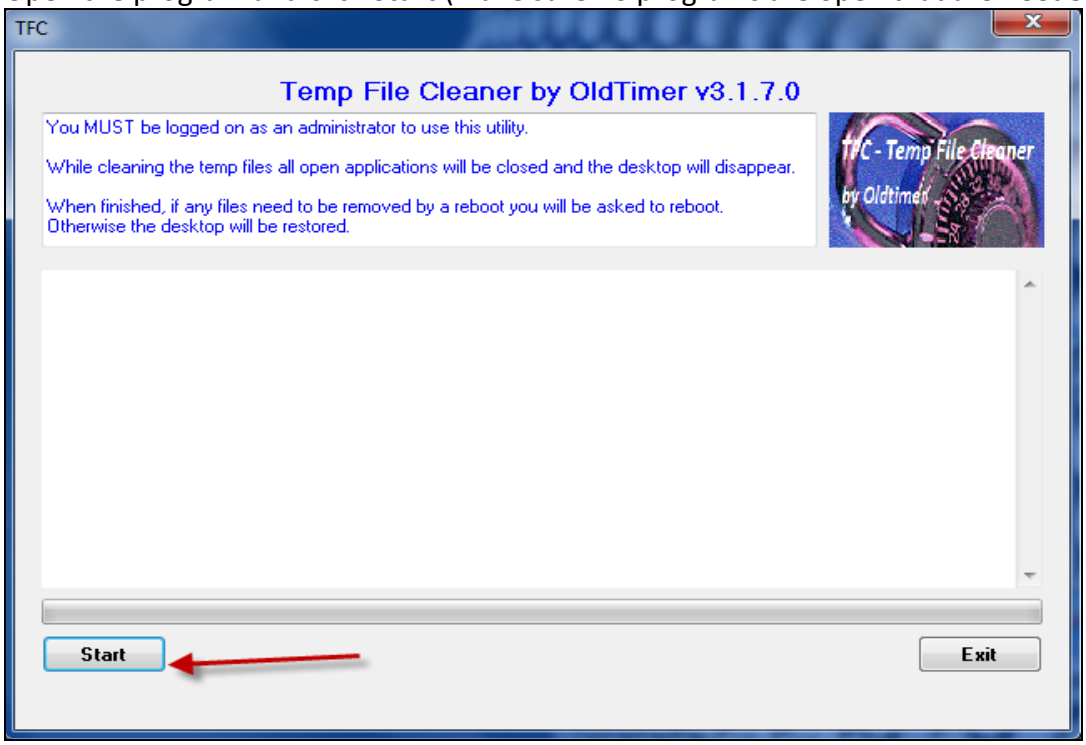
—

Temp File Cleaner is an excellent program to use for cleaning temp files that most other software "misses." Our technicians use it religiously when performing tune ups, and for computer maintenance.. *Note this software will delete internet cookies, possibly browsing history, and other temporary files not "needed."

Temp File Cleaner can be downloaded by clicking **here**!

Install *Temp File Cleaner*

Open the program and click **Start** (make sure no programs are open that are needed)



The program will usually need to restart the computer after scanning, if not it will return you to the desktop.

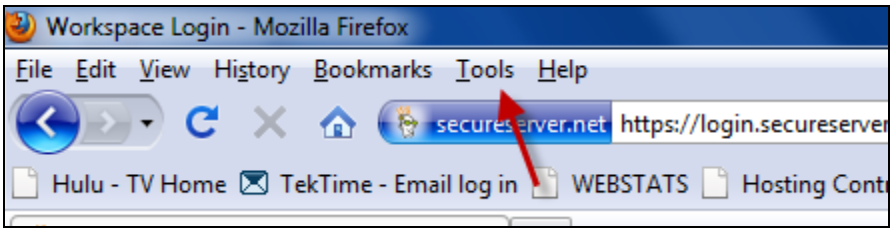
Encourage the PC user (or yourself) to do this regularly (weekly) for **best performance**!

Clear saved browser cache etc

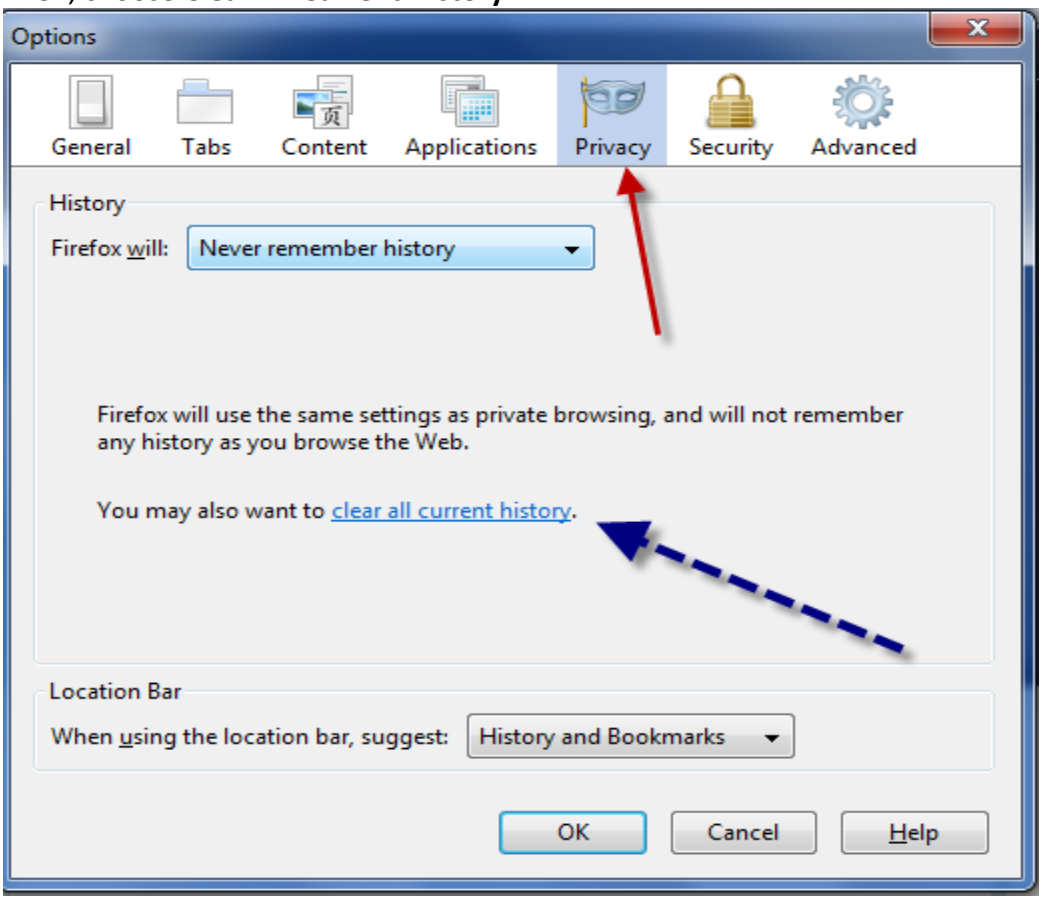
Browser cache is data that is stored by your internet browser, for quicker page loading, faster image loading and many other reasons. Unfortunately, saved browser cache can eat into a computer's hard drive space and can cause slow internet browsing as well as web pages failing to load at all. Always clear or delete browser cache during any tune up.

Mozilla Firefox Users:

Click **Tools**

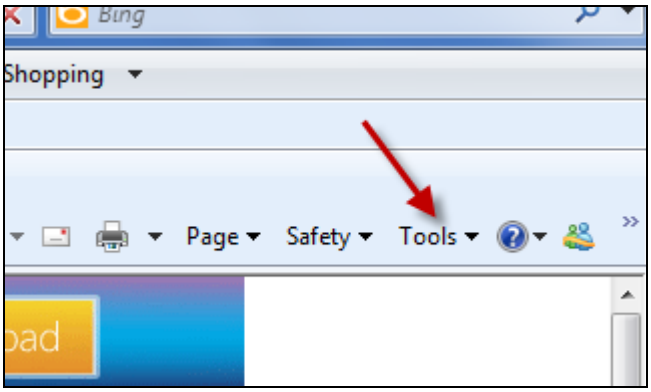


First, go to **Options**
Next, navigate to the **Privacy** tab
Then, choose **Clear All Current History**

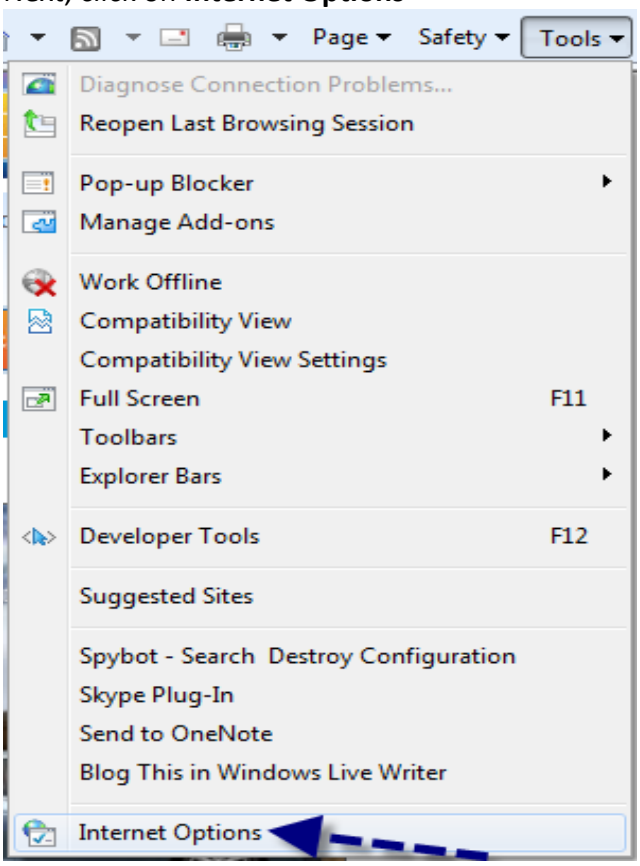


Internet Explorer Users:

Click **Tools**

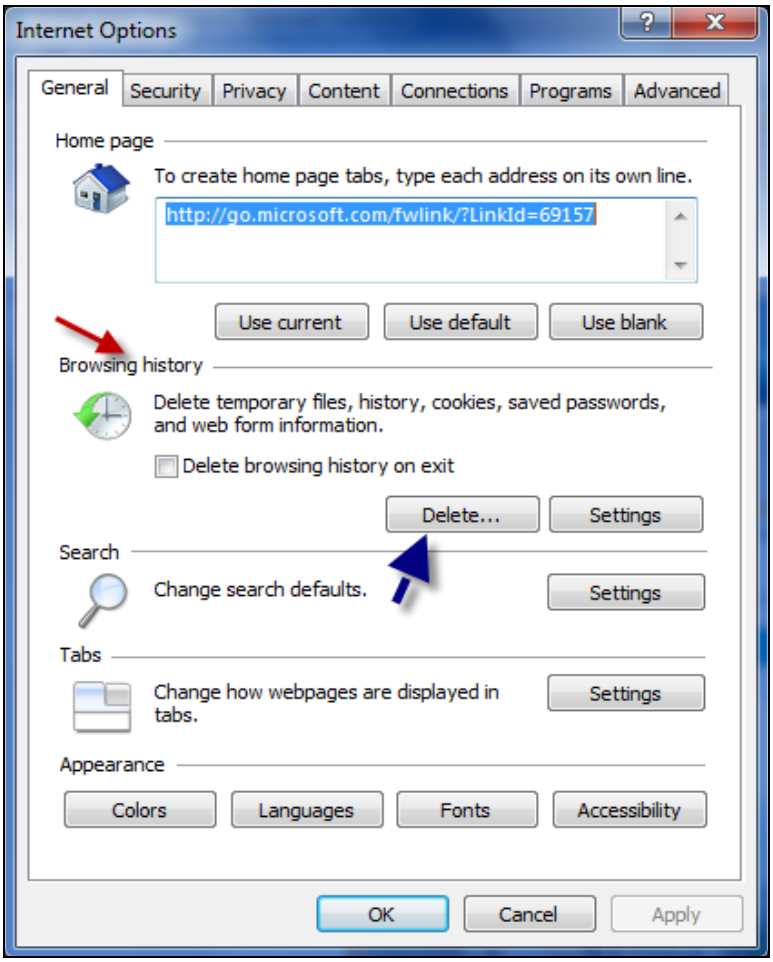


Next, click on **Internet Options**



Now, click on the **General** tab

Under **Browsing History**, click on **Delete** *(see next page for diagram)*



Make sure everything is checked, except **Form Data, Passwords** and the last box.

Click **Delete**, and you are all done!

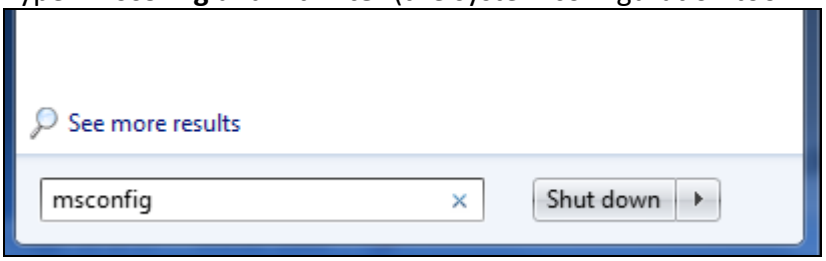
Streamline startup programs to gain speed

Programs that don't need to startup with Windows, can be removed from the startup menu to increase loading time, increase the amount of available memory (RAM), and overall improve a computer's speed and performance.

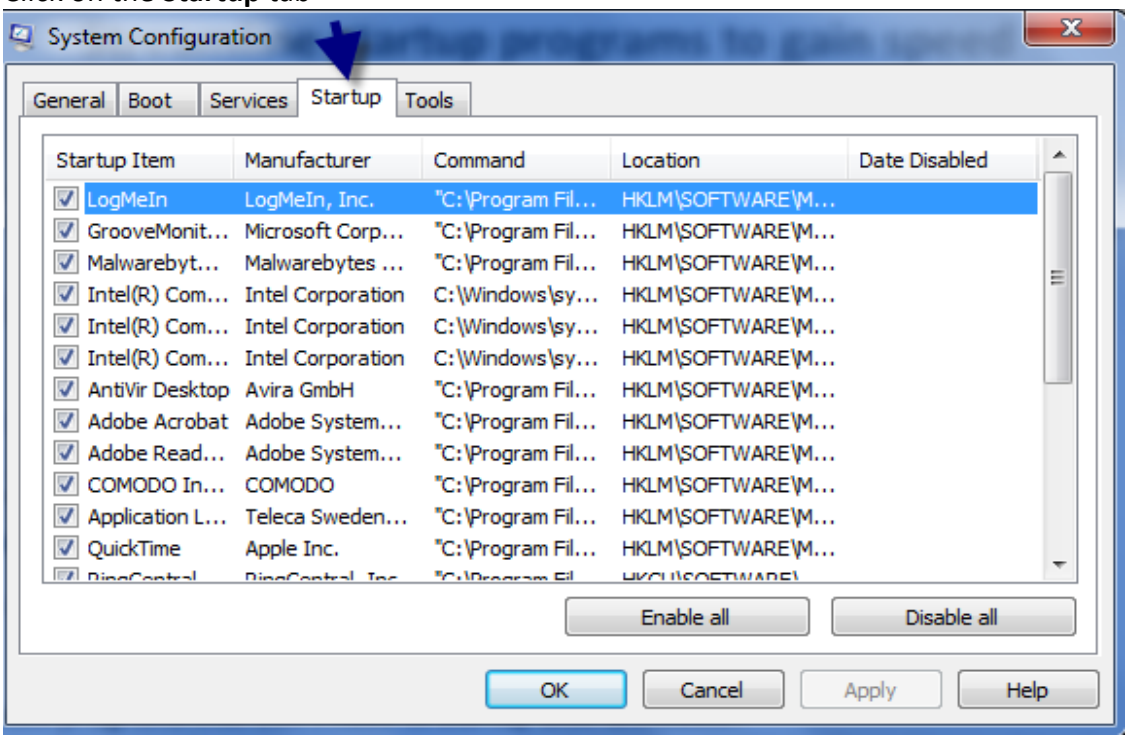
–

Go to the **Search** box (Windows Vista and 7) or the **Run** box (XP and prior)
This "box" can be found by clicking on the Windows icon on the left lower side of the desktop

Type: **msconfig** and hit **Enter** (the system configuration tool will appear)



Click on the **Startup** tab

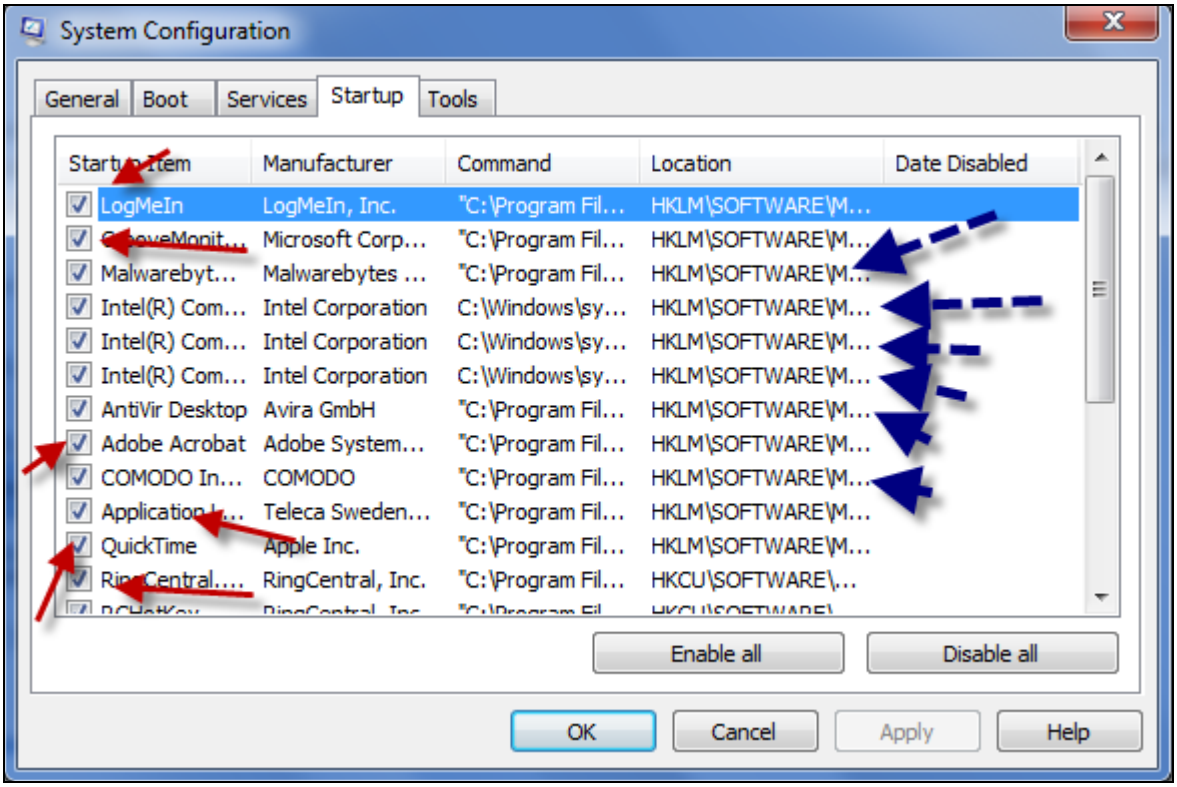


Uncheck programs that don't need to startup with Windows!!

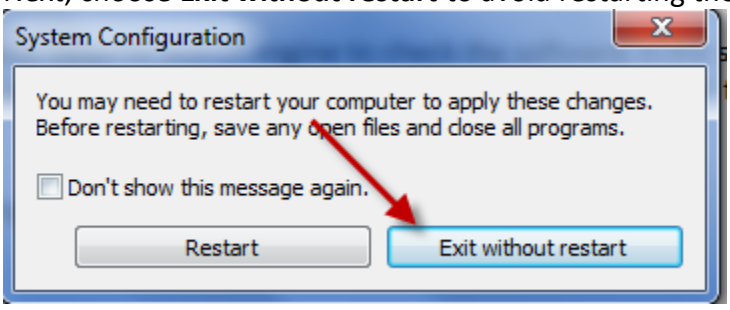
** Rule of thumb – for instance: If the computer has an ***Intel*** CPU, *Intel* graphics card, *Intel* chipset etc, then don't uncheck any programs that show *Intel* in the **Manufacturer** column.

Make sure that antivirus software remains checked, third-party firewall software remains checked, and any other program that NEEDS to startup with Windows. When in doubt, use your favorite search engine to check the software in the startup menu to make sure it isn't a program that is needed to start with Windows for proper functionality and security of the PC.

In the example below, programs that are needed for the functioning and security of Windows, have a BLUE arrow. Programs that aren't needed by Windows during startup, have a RED arrow.



After the changes, click **Apply**
Next, click **OK**
Next, choose **Exit without restart** to avoid restarting the PC



If you would like to test the computer out after making the changes, restart the computer.

Check for malware infections such as trojans & viruses

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Use your virus scanning software and check for malware such as viruses and Trojans, and remove any that are found. It is always best to do a full scan, as well as updating your antivirus definition files prior to doing any scanning. *The PC Technician's Virus Removal Manual* is the step by step detailed manual that technicians prefer, to remove any and all types of malware.

Click here for more information and to download a sample copy that will teach you the professional's approach to preparing a computer for scanning. If you do not want to visit the website to request a copy, feel free to email us by clicking here, to request a FREE sample copy of *The PC Technician's Virus Removal Manual*!

Change Windows appearance to “Classic”

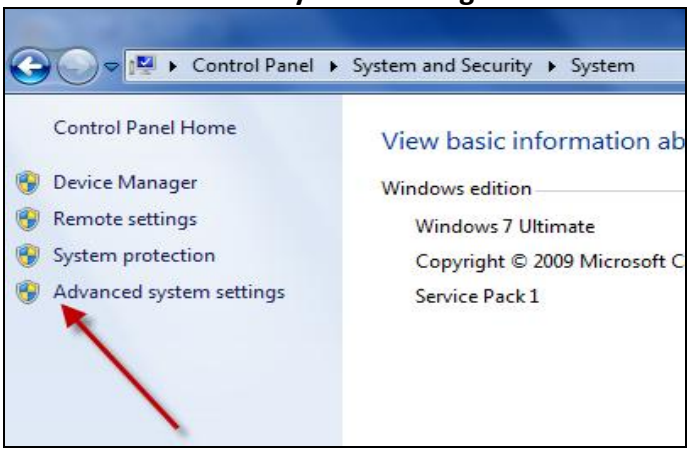
This will eliminate most of the “eye candy” in Windows, but is very effective in freeing up processor and video resources for faster gaming, video editing, audio production and more. You will notice at LEAST a 30% increase in overall speed and responsiveness of the computer. This procedure is NOT recommended for those interested in keeping their current theme, color scheme, AERO desktop; such as corporate offices, internet surfing home users, picture lovers, etc. This Windows mode is recommended for video production, video editing, graphic design, audio production, gaming and other processor hungry tasks or professional tasks.

Windows Vista and 7:

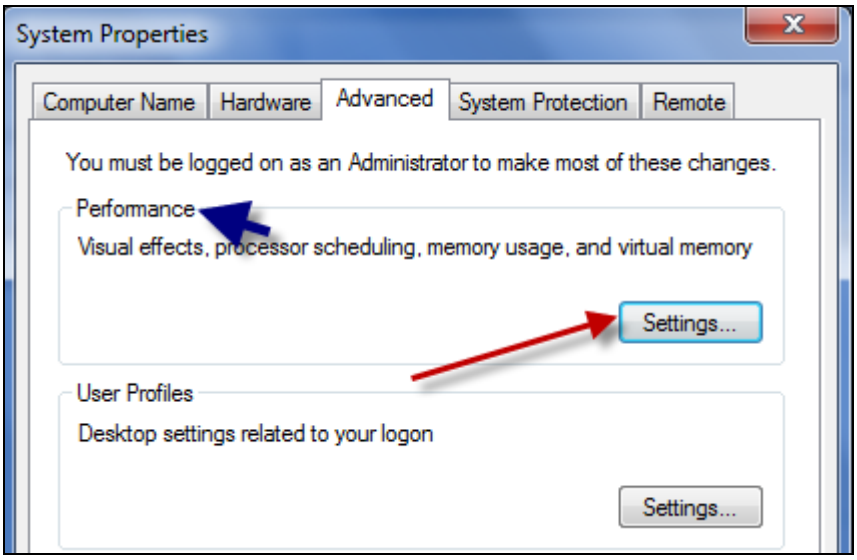
Navigate to **Control Panel**
Then go to **System and Security**

Next, click on **System**

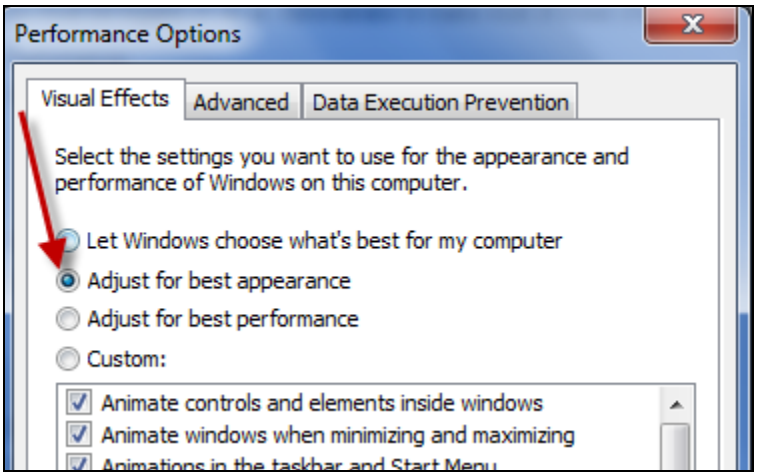
Then click **Advanced System Settings**



Click on the **Settings** button, under **Performance**



Choose **Adjust for best performance**



Click **Apply**, then **Ok**

<u>Windows XP:</u> (illustration shown only in the premium version of this manual)

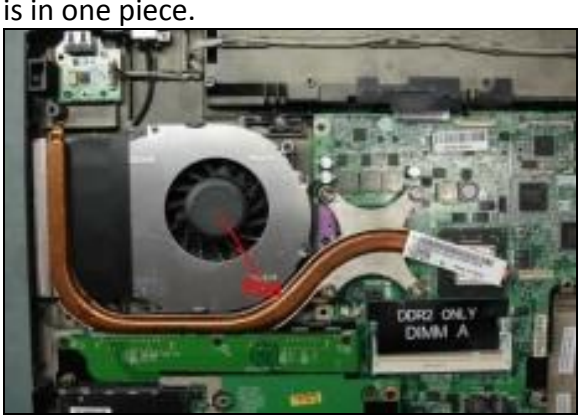
Right click the mouse on the desktop
Click **Themes** (tab)
Choose **Windows Classic**
Click **Apply**
Click **OK**

All done now!

Clean fans in PC, PSU, ducts, etc

This may seem like a “no-brainer”, but cleaning the fans on/in the computer can really help with preventing heat build-up (which causes premature hardware failure) as well as the ensure proper airflow to cool the computer and prevent buildup of debris. Get a can of compressed air, and spray into the fans of the computer while they are not moving (while the computer is OFF).

If the computer is a laptop, flip the computer upside down (while closed), and spray compressed air into the fan while rotating the nozzle in order to clean the entire fan. If you can disassemble the laptop, that will help to remove any debris that can’t be accessed while the PC is in one piece.



With a desktop, you can remove one or two panels from the tower, and spray the compressed air directly into the fans. Remember to clean the CPU fan, around and within the heatsink of the CPU, the fan and ducts of the power supply, any fans connected to the tower, as well as the video card fan. Clean any additional fans such as case fans, motherboard fans, PCI/PCI-E slot fans, etc.

Uninstall “resource hogging” security software

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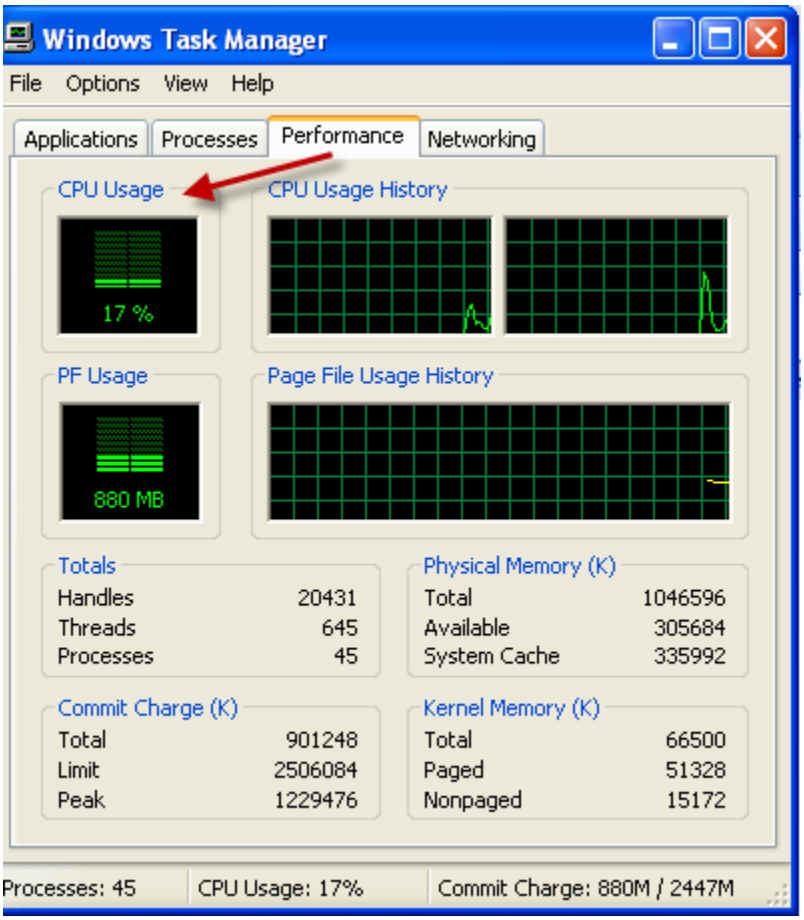
Programs that consume a high percentage of a computer’s resource (RAM, CPU cycles etc) should be avoided when possible, to ensure better overall computer performance.



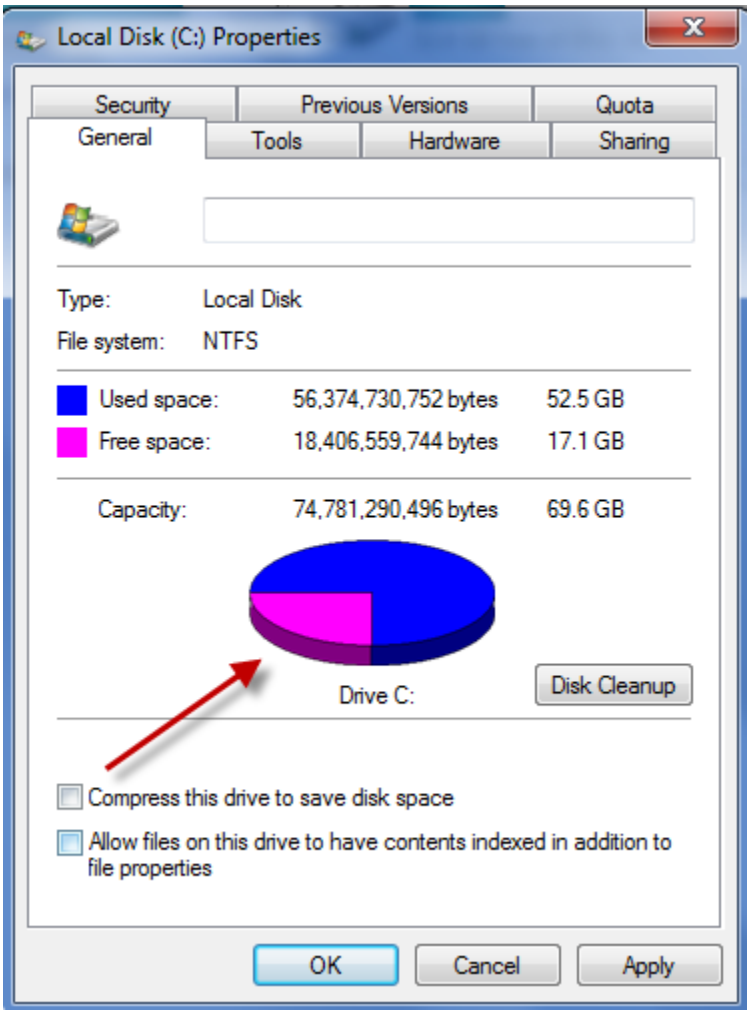
One program in particular that is known to be a resource hog (though some will say the program has been written better to alleviate those issues but we haven’t noticed) is Norton Internet Security. This program, and other resource intensive security programs, should be avoided for more robust alternatives, some of which can be found FREE!

A good program that comes to mind for internet security/firewall/traffic management, is Comodo. For antivirus applications, we recommend Avira Antivir and Microsoft Security Essentials, for reliable resource friendly protection. Check your performance monitor, as pictured above, to get an idea of which processes are “hogging” your system’s resources.

Diagnose and monitor free hard drive space

It is highly recommended to monitor the C: drive, or the main drive in which the tune-up is being performed, to ensure the available disk space is at or more than 60%. If a hard drive has a total of 100 gigabytes, and 65 gigabytes have been used, the remaining space on that drive is 35 gigabytes, or 35%.

It is important to keep at least 40% of a hard drive free to decrease the time needed for the hard drive to retrieve stored data. For best performance, **two** drives should be used; one drive for the Operating System and another drive to save data such as: music, video, documents, pictures and more.



Suggesting a backup strategy is a must, to prevent data loss in the case of a "disaster" or user related computer crash.

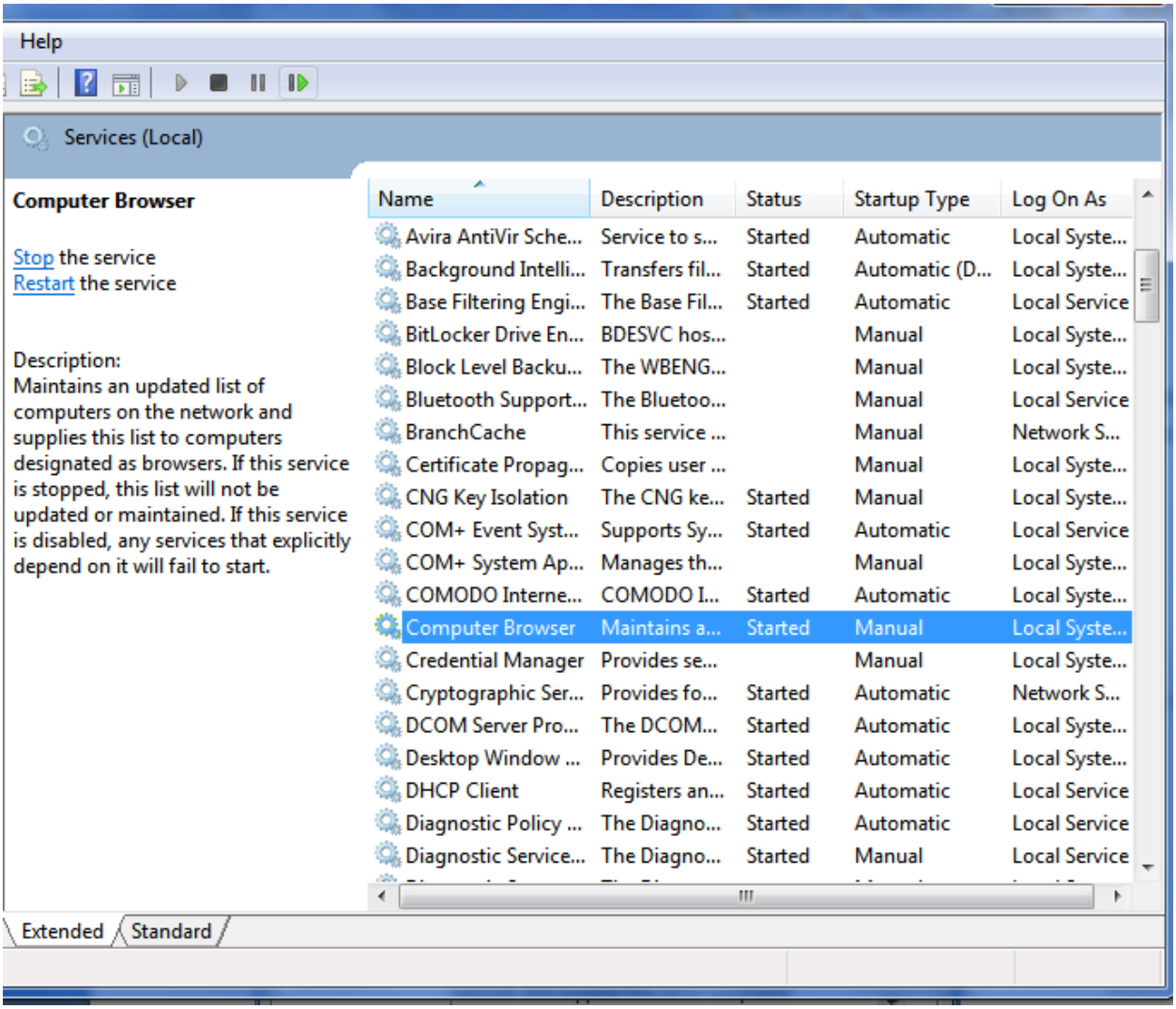
When a drive runs low on data, transfer the data and get that performance back!

Turn off un-needed services

—

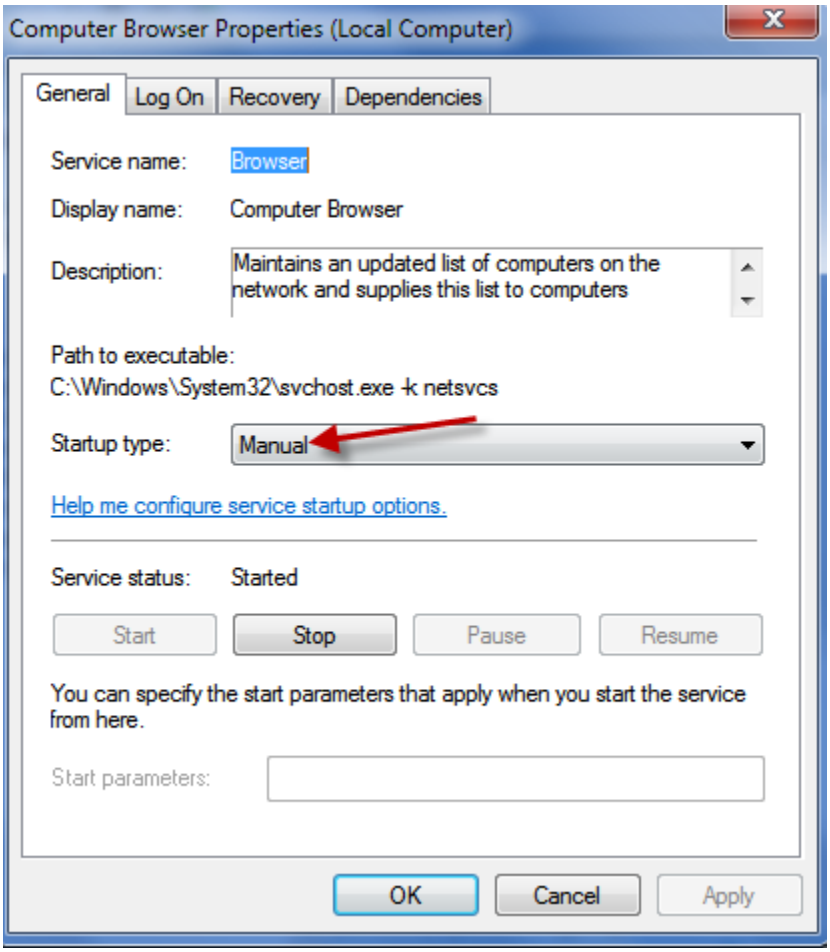
Below are services that you can set to “manual” to speed up the computer in the Windows 7 Operating System, as well as many settings that can be changed in Vista (and some in XP).

To access the Services menu, go to the search box, and type in **services.msc**



Next, press **Enter…**

When the **Services** pane opens, you can disable the various services shown on the next page, by changing the *startup type* as shown below.



—

Settings that can be changed (depending on the other factors as noted below):

**Computer Browser (unless the computer is connected to a network)*

Desktop Window Manager Session Manager (don't change if using the **Aero theme)*

**Diagnostic Policy Service*

**Distributed Link Tracking Client*

**IP Helper*

**Offline Files*

**Portable Device Enumerator Service*

**Print Spooler (do not change if a printer is being used)*

**Protected Storage*

**Remote Registry (it is best to keep this disabled, for better security)*

**Secondary Logon*

**Security Center*

**Server (do not change if your computer is connected to a network)*

**Tablet PC Input Service*

**TCP/IP NetBIOS Helper*

**Themes (only change this setting if using the Classic theme as noted above)*

**Windows Error Reporting Service*

**Windows Media Center Service Launcher*

**Windows Search (If you don't use Windows Search feature frequently)*

**Windows Time (If you don't want to update system tray clock time using Internet)*

Make the needed changes then restart the computer. It is advised to have a good benchmarking program, run prior to making these changes, and thee again after making the changes, to compare readings. Feel free to check your favorite search engine for recommended computer performance benchmarking software.

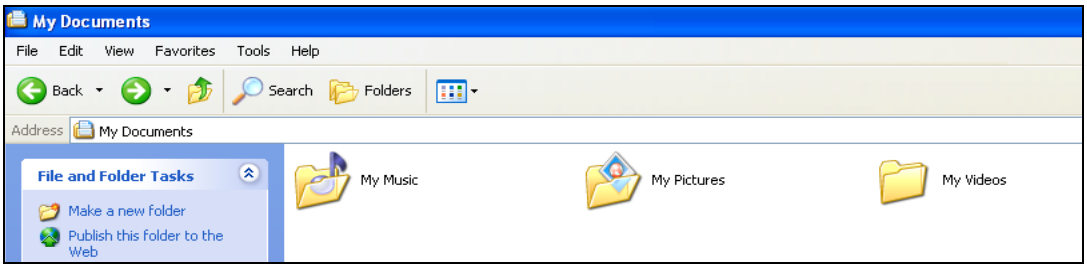
The benchmark SHOULD be significantly higher after making the changes. If so, mission accomplished!

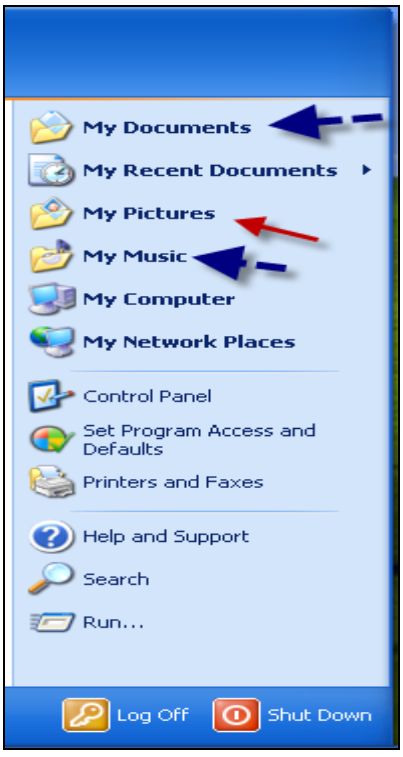
Keep video/music/picture files all separated by folders

—

A good way to minimize hard drive fragmentation which in turn will speed hard drive access times, is to separate files by categories. For instance, ALL music files should be kept in one folder that is labeled (named) accordingly; and the same applies to video files, pictures, bookmarks, documents etc. Windows has default folder locations for files such as: “My Documents”, “My Pictures”, “My Videos etc, which work perfectly in separating and centralizing these file types.

Separating files by folders and categories will help to make backing up data a much easier process; as easy as “copying and pasting” a few folders onto an external hard drive or other backup medium. This procedure will also ensure that a user knows exactly where his/her files are located at any given time.



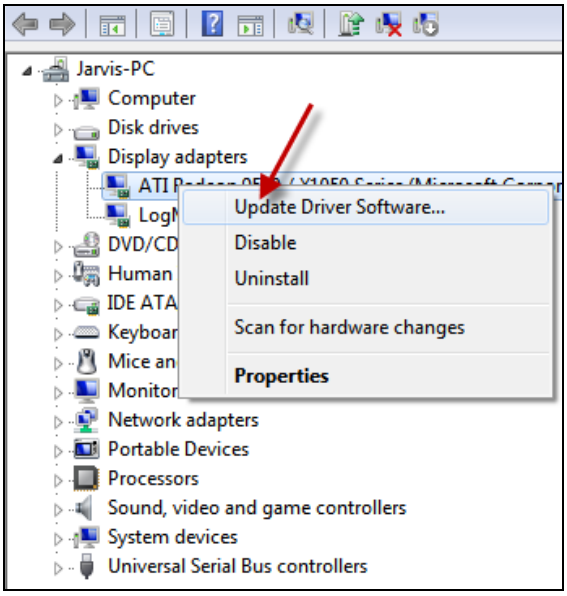


Update all software drivers

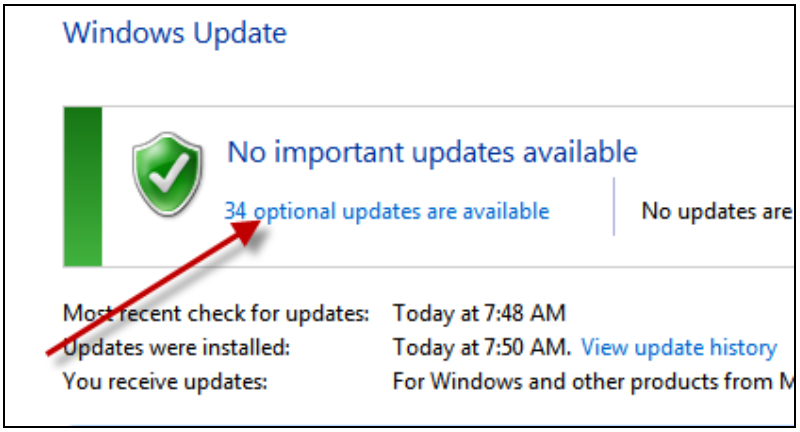
—

This may really seem like an obvious fact, but driver updates are an essential part of tuning up a computer, and is a step that several technicians actually forget to do! Updating software drivers helps to increase a computer's reliability due to incompatibilities and bugs being reported by computer users then fixed by the software authors (creators/coders).

Driver updates can be performed in device manager…..



Driver updates can also be performed by using Windows updates.



Another benefit to updating Windows drivers, is that newer drivers with enhanced features and options are released regularly, by Microsoft. In saying this, Bob decides to run Windows Updates to check for new critical updates. When Bob is alerted that there are "Mandatory" updates available, he also notices there are "Optional" updates available as well. When he clicks on the optional update link, he notices several drivers that he didn't have prior: "Enhanced Accelerated Video driver", "7.1 HD Audio driver" and others.

Prior to the updates, his video driver was "Intel Graphics Display Driver", not the enhanced video driver which will provide higher resolution graphics and more vibrant colors! His previous audio driver was "5.1 Generic Audio" with crappy audio quality, not the 7.1 HD driver with 7.1 surround sound and DVD quality audio!

Do you get the point here on how Windows releases better drivers for third party company software, and all it takes is a few Windows update checks? When you are unable to update a particular driver by using Windows update or the "update driver software" option, going directly to the manufacturer's website (of the computer), will guarantee that you find a driver, if one is available at all.

Keep those drivers updated for best performance, security and reliability, even if it means going to the hardware manufacturers' websites! **Below is a list of the driver download pages, for each of the major PC manufacturers**. If the computer does not have a "brand" name, find out the manufacturer of the motherboard, and then click on the respective website below.

ACER - http://support.acer.com/us/en/product/default.aspx

ASUS - http://support.asus.com/download/options.aspx?SLanguage=en&type=1

DELL - http://support.dell.com/support/downloads/index.aspx?c=us&l=en&s=gen

EMACHINES - http://support.gateway.com/us/en/emac/product/

GATEWAY - http://support.gateway.com/product/

IBM (Lenovo) - http://www-307.ibm.com/pc/support/site.wss/TPAD-MATRIX.html

HEWLETT PACKARD - http://www8.hp.com/us/en/support-drivers.html

LENOVO - http://support.lenovo.com/en_US/downloads/default.page?

TOSHIBA - http://www.csd.toshiba.com/cgi-bin/tais/support/jsp/home.jsp?nav=download

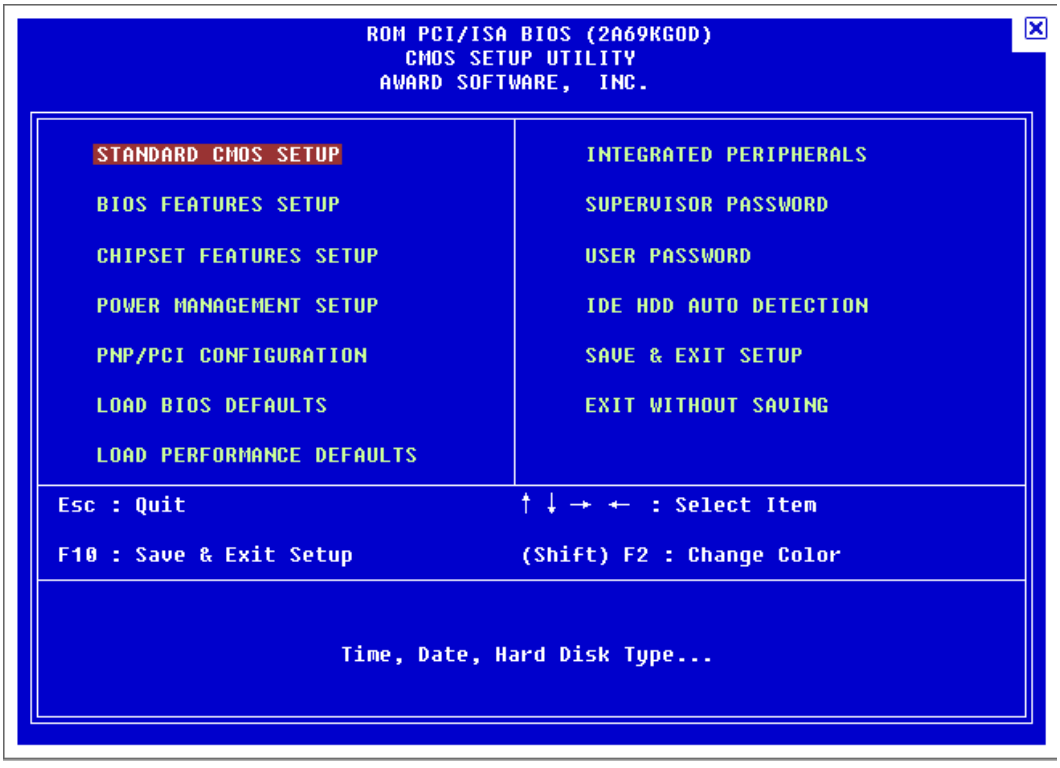
Update BIOS (if applicable)

—

Updating a computer's BIOS is usually not necessary, unless there is a problem with the computer. Problems that might be fixed with a BIOS update include: fixing of a hard drive size limitation (when an old motherboard can't detect a drive larger than 127GB for example), addressing incompatibilities with certain chipsets & hardware that cause crashing or general unreliability, adding features to a motherboard (BIOS menu) that weren't available or accessible in a previous BIOS version, increasing the "over-clocking ability" of a hardware component such as a CPU, RAM, etc, as well as fixing bugs in a motherboard's ROM that caused unreliability issues.

Most BIOS updates can be performed within Windows, by using the manufacturers' software, which is usually bundled with the motherboard driver/utility disk.

Updating a motherboard's BIOS should be done with extreme caution, as many BIOS chips are soldered directly into the motherboard and cannot be "re-flashed" (re-programmed) if improperly updated.



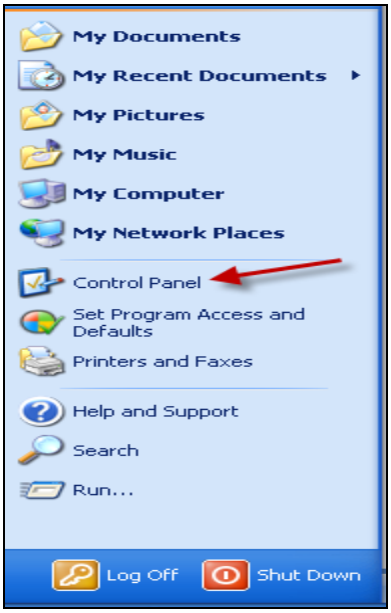
In the event a BIOS chip is rendered useless after a bad flash and the computer will not POST (Power On Self Test), **feel free to contact me for tips on *hot flashing*!**

Check/change transfer mode for hard drives (DMA/PIO)

—

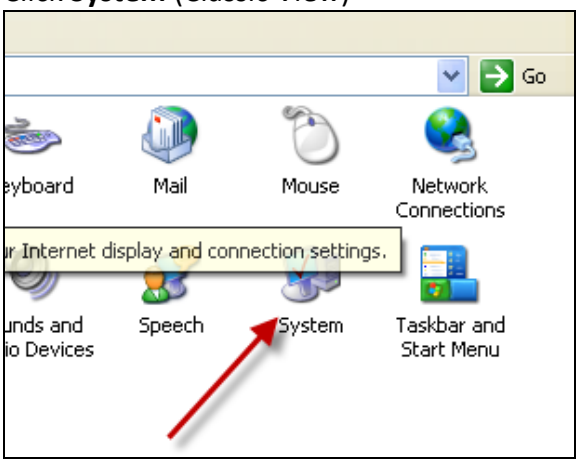
New computers will usually always have DMA Transfer Mode set, instead of PIO Mode. PIO mode drastically decreases performance in a computer, which includes several signs such as slow data transfer, high processor (CPU) load, choppy video, stuttering audio, and more. It is always best to use DMA Transfer Mode when available, for top performance. To enable DMA or to ensure DMA is selected:

Go to **Control Panel**



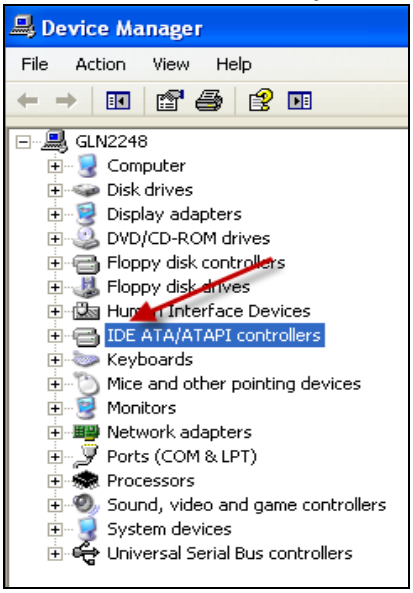
Click **Performance and Maintenance** (Category View) or….

Click **System** (Classic View)

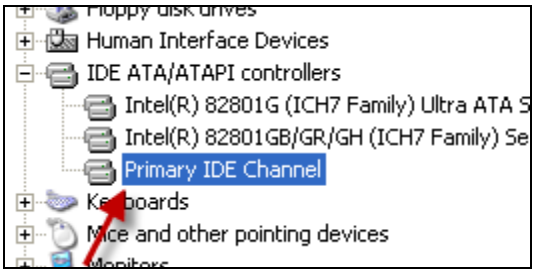


Click **Device Manager**

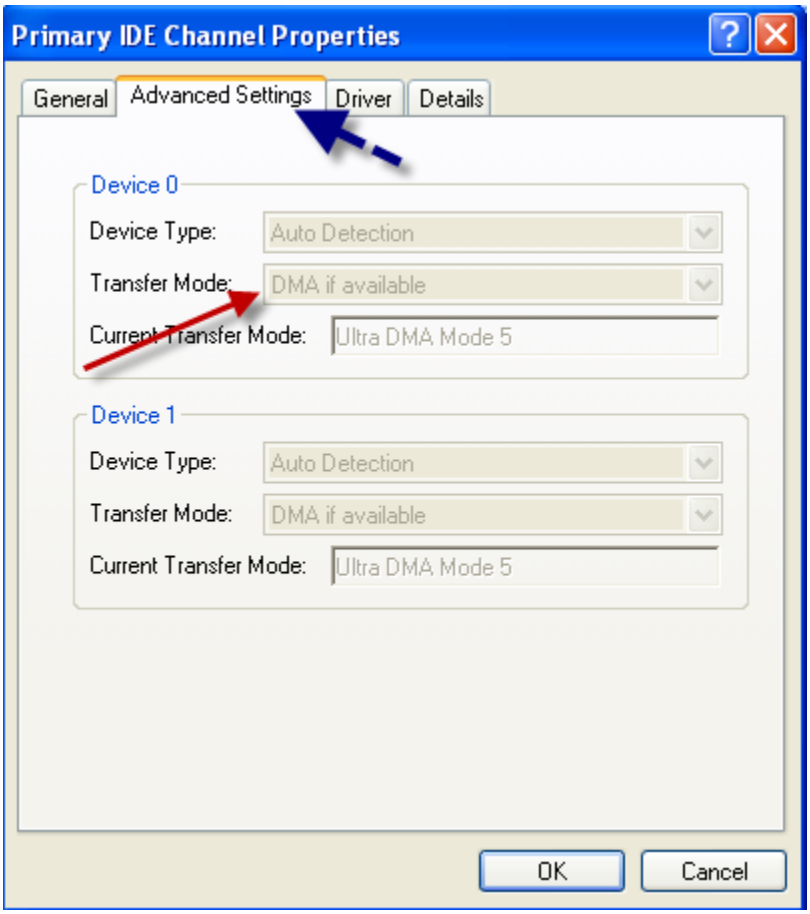
Double click on **IDE ATA/ATAPI controllers**



Double click **Primary IDE Channel** (or similar wording)



Click the **Advanced Settings** tab



Under *Transfer Mode*, make sure the current mode reads: **DMA if available** , not **PIO**

If *PIO* is currently selected, change to *DMA*… then click **OK**.

All done!!

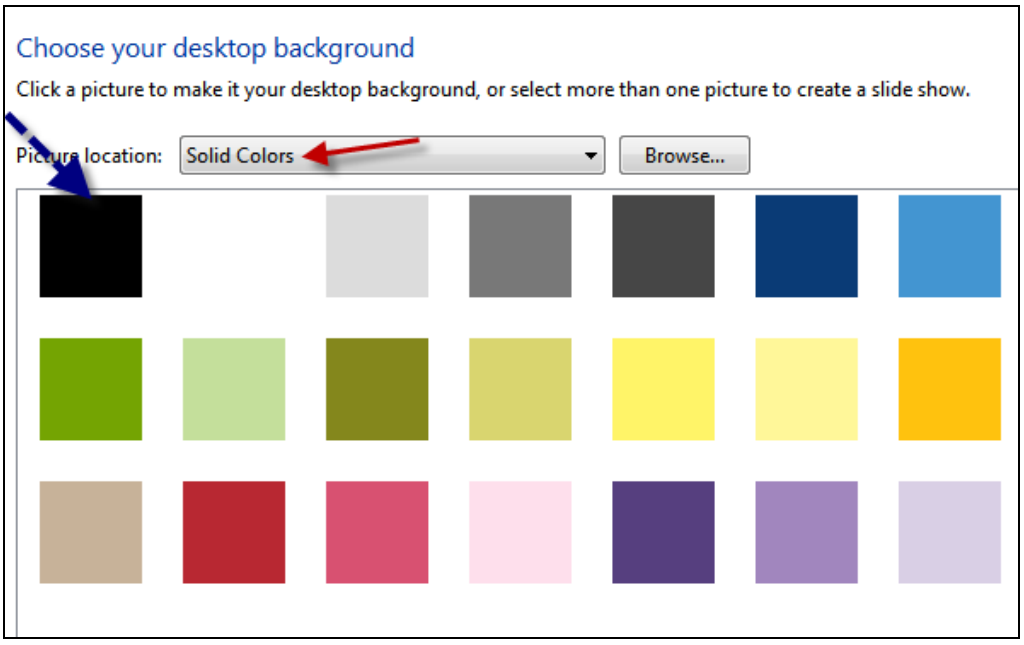
Disable screensavers & desktop backgrounds (as needed)

Last but not least, let's discuss video memory, and increasing performance by changing a few customizable settings. Computers that have separate video cards with their own processor (GPU) and memory, will not necessarily need these settings to be tweaked, unless the cards are very old, and have a very small amount of video memory (such as 64 MB). Computers with separate, stand alone video cards will have increased video performance due to the CPU not rendering the video - thus leaving more "processor cycles" for other tasks.

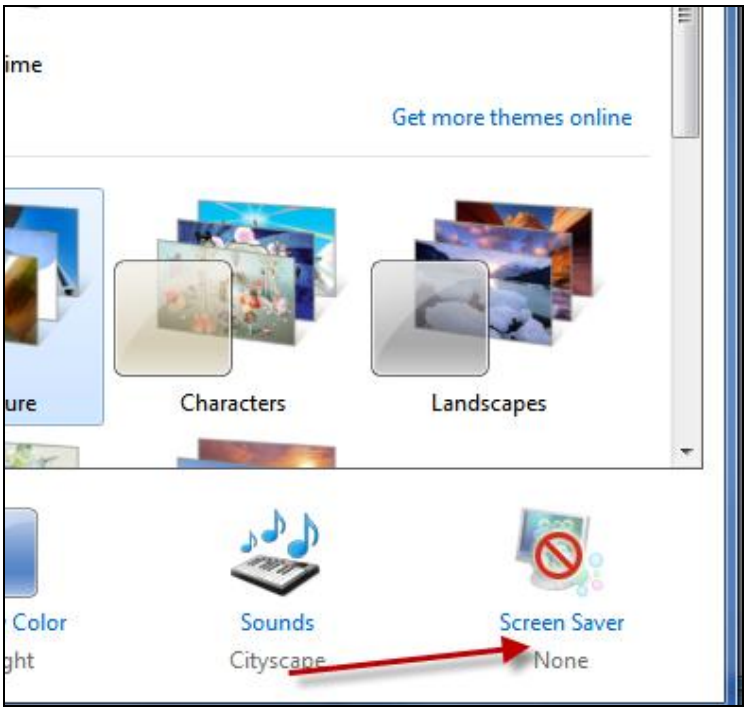
—

Computers that have video cards built into the motherboard (onboard video), "share" the same memory that the computer uses for carrying out important tasks (RAM). Depending on the amount of physical memory that is allocated to the video card, watching DVDs, streaming video, gaming and other graphic intensive tasks may be accompanied by slow responsiveness, choppiness, stuttering, freezing, crashing, artifacts on the screen, random computer restarts and other anomalies.

To remedy these problems (to an extent) in computers without stand alone video cards, it is best to disable any screensaver, and remove the desktop background. Removing the desktop background consists of replacing the colorful, picturesque varieties, with a solid colored background as show below. The methods required to disable the screen saver and/or change the background, will vary depending on the version of Windows that you are working with.



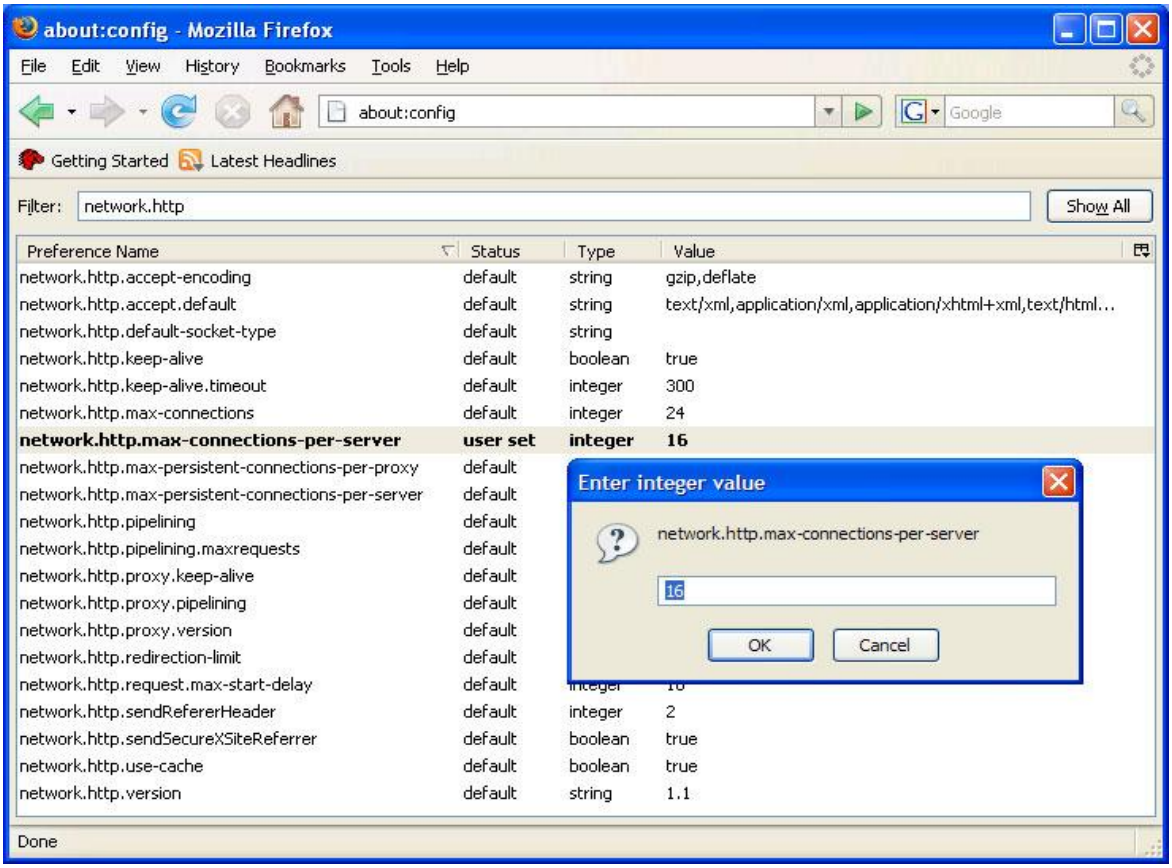
Although disabling these features won't make a "slow" computer play your favorite game or watch your favorite Blu-Ray movie, the computer will have more memory "freed" up for better performance and multitasking.



Configuring Mozilla Firefox for faster browsing

—

Many computer users make the mistake of using Internet Explorer as their browser of choice. Unfortunately, even with the most recent updates and security features that were added to Internet Explorer, it still has "flaws" that allow hackers, viruses, malicious scripts and other threats, to infect a computer. If needed, download Firefox totally free, by clicking here!



Open Firefox, and in the address bar, type: **about:config**
Next, look for the settings below, and change the value to the numbers shown below:

network.http.max-connections: **48**
network.http.max-connections-per-server: **16**
network.http.max-persistent-connections-per-proxy: **12**
network.http.max-persistent-connections-per-server: **6**
network.http.pipelining: **true**
network.http.pipelining.maxrequests: **8**
network.http.proxy.pipelining: **true**

After making the changes, exit out of Firefox and then restart it. Notice the speed increase?

Thanks again for choosing this publication, and feel free to contact me with any questions, concerns, issues or comments that you may have now…and forever!

HAPPY COMPUTING!

Jarvis Edwards – Senior Technician/Author

TekTime IT Consulting & Computer Repair

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