

Performance Tuning Windows XP

By Stephen Topilnycky/Top Cat Computing

Forward

Before I start, first and foremost before using any of the tips in this document, make a complete backup of your system. At the end of this document is a free backup utility that I have used for disaster recovery, but there are others out there also. Remember, back up, back up, and back up. On a second note, the author, or Top Cat Computing is responsible for any damage, data loss that may be caused by using the tips in this document. USE AT YOUR OWN RISK!

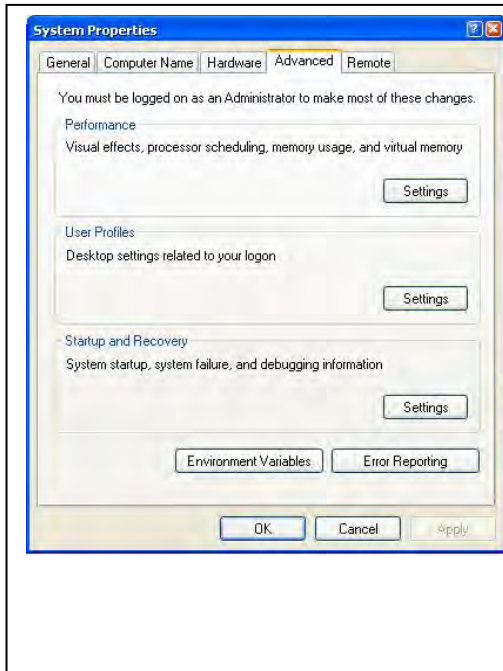
Introduction

There are many things that affect a systems performance, including CPU Speed, Cache size, Installed Memory, Page File size, disk fragmentation to mention a few. Some things you can't easily change, however there are a few things you can do to help improve performance.

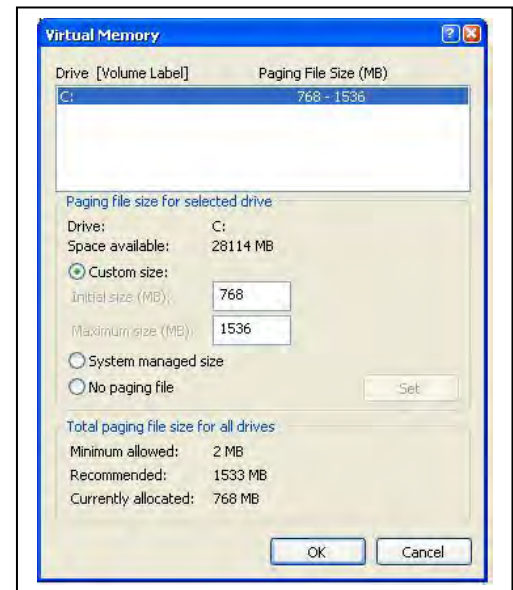
Unnecessary Startup Applications


First, only load programs that are needed. If you look at your system tray and see a bunch of icons there, do you really know what that icon is for? In short, if you don't need it, don't have it load at start up. Load the application when you need it.

Virtual Memory



By default Windows will manage the page file, allowing it to grow and shrink as needed. Since the page file is like any other file on your system, it can become fragmented and slow down your systems access as the system needs to find each piece of the fragment, and accessing a disk is much slower than accessing ram. A way around this is to make a permanent swap file, of one size. Normally you would do this as you first set up the system, to reduce the number of fragments, but it can be done latter one using a utility from SysInternals (now Microsoft) that can defragment this page file. But before defragmenting you must first set the size of the page file. As a rule of thumb, it should be 2.5 x the size on installed memory. If the number exceeds 4096 then set it to 4096.



- To set this value, locate the My Computer icon  and right click it, and select properties.
- Go to the Advanced Tab and click settings button in the Performance section.
- Click the Advanced Tab


Performance Tuning Windows XP

By Stephen Topilnycky/Top Cat Computing

- Click the Change Button
- Select the custom size option and set the initial size and the maximum size to the same value (2.5 x installed memory). If your computer has 1 GB of RAM then the calculation would be 2.5 x 1024 = 2560 (**Note: 1024 Mb = 1GB**). If the calculation is larger than 4096 then set the custom size to 4096, as that is the maximum size Windows (32 bit) allows.
- Keep clicking OK until you exit all the dialogs. You will receive a notice to reboot; this will allow the changes to take affect.


The next thing we want to do is to have the page file defragmented each time the system is booted. For this you will need to download PageDefrag from <http://technet.microsoft.com/en-us/sysinternals/bb897426.aspx>. Just unzip the file and place it in a folder, such as C:\Wintools. Double click the executable file and have it defragment after each boot. Until you defrag your hard disk it may not be possible to for this utility to optimize the page file, but that we will tackle a bit latter in this document.

System Clean Up

Windows is notorious for cluttering up your hard drive with temp files and unneeded stuff, so we need to do some house cleaning. Windows does have a Disk Clean Up utility ( -> Programs -> Accessories -> System Tools -> Disk Clean Up), however, I have found another free utility that does an excellent job of cleaning up your hard drive and registry, it's called CCleaner and can be downloaded from <http://www.ccleaner.com/> . I run the registry cleaner more than once per session until the program states that it can find no more problems. In addition to running this application, I also suggest uninstalling any applications that you do not use to save disk space and resources this also includes Windows components. The Windows Components can be removed from Add/Remove programs in your Windows Control Panel.

Disk Defragmentation

Disk Fragmentation occurs when a file is written to the hard drive in a non-sequential sequence. In stead of recreating the wheel, please view the following Wikipedia article on Defragmentation located at <http://en.wikipedia.org/wiki/Defragmentation> for a more detailed explanation of disk fragmentation. There are many disk Defragmentation utilities out there. There is even one that comes with Windows, however that one does not consolidate free space, but before you go out and spend money on a disk Defragmentation utility, try JKDefrag located at <http://www.kessels.com/JkDefrag/>. The tool is free and works without dragging down the system, at least in my opinion. Download the program and unzip it to a location of your choice, as above, I will use C:\Wintools in my examples. The first thing we want to do is sort the files/folders by name, but before starting, reboot your computer, to unlock any files that might be in use. Once rebooted do the following:

- Click your  and select **RUN**.
- In the run dialog box type `C:\Wintools\JkDefrag.exe -a 7` and press **OK**. This will start the first phase of the Defragmentation. The time it takes to complete will vary depending on the computer speed, installed ram and disk size.
- When complete we will run JKDefrag in fast optimize mode. In the run dialog box type: `C:\Wintools\JkDefrag.exe -a 3` and press **OK**.

Performance Tuning Windows XP

By Stephen Topilnycky/Top Cat Computing

To keep things running smoothly, use the Windows Task Scheduler to run JKDefrag regularly, using the following options: –a 3.

- To set up the Windows Task Schedule, go to your Windows Control Panel and select Scheduled Tasks.
- Double click it and select "Add Scheduled Task".
- Click Next.
- Click Browse and navigate to the folder where you installed JKDefrag.
- Next select the frequency that you want this task to be performed.
- Click next.
- Select a time in which you want the program to run.
- Finally enter you administrator user ID and password.
- Click Next.
- Click Finish.

That is all there is to it. It is also higher recommended that you review the documentation that is included with this program and the others programs described throughout this document.