



## PERFORMANCE & MAINTENANCE GUIDE

### ***Introduction***

We at Data Doctors understand that many consumers are baffled or scared by their computers. Unfortunately, this leads to computer users not understanding or maintaining their investment. Computers, just like automobiles, require regular maintenance to run smoothly and to avoid costly repairs. In this guide, we hope to show you how easy and painless it is to perform computer maintenance.

## ***Normal Wear & Tear***

Just like your vehicle, simply using a computer can cause minor maintenance issues. Even though you don't see it, your computer is constantly rearranging its stored information to free up space for new information, or to make better use of the space occupied by existing information. This works much like the lubrication system in your car, where oil is constantly being pumped throughout the engine to remove dirt and reduce friction. As you already know, after about 3,000 miles, the system requires maintenance. Think of regular maintenance as "changing your computer's oil"; it's a simple and easy process, but if not performed regularly, can lead to serious problems.

Many companies will try to sell you expensive products to take care of this problem. Unfortunately, these software packages frequently contain many useless features or programs and cause widespread, annoying problems. Fortunately for us, the informed computer users, there are simple, reliable, and safe solutions built right into Microsoft's operating systems. Even in their first operating system, Microsoft realized the necessity for tools used to keep the computer running efficiently.

## ***Disk Defragmenter***

Imagine your hard drive as a filing clerk in a large room full of filing cabinets. When you ask for a piece of information, the clerk has to check his catalog for the location of the information, then run over to the correct filing cabinet, pull the file, and hand it to you. When you are done with the file, the clerk places the file back in the cabinet. Occasionally, the file you return to the clerk will be larger than the file he gave to you, and there won't be any space left in that particular cabinet. The clerk must then either move the file to a different cabinet or put the original contents of the file in the original cabinet, creating a new folder in a new cabinet for the new information. In both cases, the clerk dutifully writes down in his catalog where the files were placed so he can retrieve them quickly, if necessary.

Now, expanding upon that scenario, make the room the size of a warehouse, give the clerk a rocket sled to move around on, and start requesting about one thousand files every hour. This new scenario is much more like the speed and activity in your hard drive. It's easy to see that over time when files are moved around from cabinet to cabinet, it will take longer and longer to get the files you need. This is because the poor clerk has to visit two or three cabinets for every file you need. Sometimes he's lucky and the files are in the same part of the building, but other

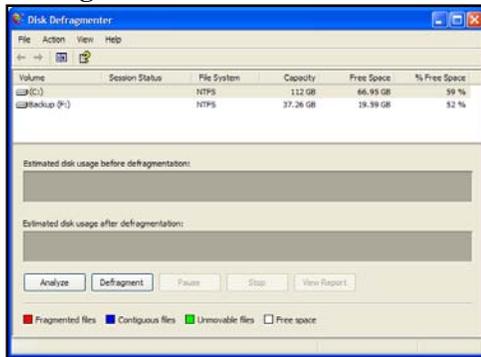
times he has to go all the way across the warehouse to pull the file. If this keeps up, eventually the clerk will quit (taking his catalog with him) and you will be without the information you need.

If you want to ease the load on your dedicated filing clerk, it would be wise to have an organization team to come in every month and reorganize the files so that each file is in a single cabinet and related files are close together. Trust me, your clerk will thank you for it. This ‘organization team’ has the same job as the Disk Defragmenter, and it is your responsibility to call them in when needed.

## How to Do It (Windows XP)

To defrag your hard drive(s) for Windows XP, follow these steps:

1. Click **Start>>Programs>>All Programs>>Accessories>>System Tools>>Disk Defragmenter.**



2. Select the drive you want to defragment, and click the **Defragment** button.

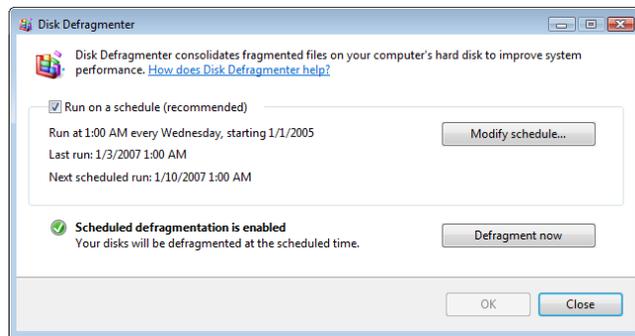
The disk defragmenter utility should now be running. Be patient; disk defragmentation can take several hours depending on how fragmented the drive is.

## How to Do It (Windows Vista & 7)

To defrag your hard drive(s) for Windows Vista or Windows 7 follow these steps:

1. Click **Start(or Windows Flag)>>Programs>>All Programs>>Accessories>>System Tools>>Disk Defragmenter.**
2. Select the **Defragment Now** button.

(By default, Windows Vista & Windows 7 are set to automatically defragment every Wednesday)



## Check Disk

As with any other object, your hard drive will physically start to wear out over time. Every now and then, one of those filing cabinets' handles will break off, or the drawer glides will stick. In this situation, it's best to spend some time to work the drawer open and move the files to a working cabinet before the damage causes files to become unrecoverable. Check Disk is another tool provided by Microsoft in all their operating systems. Check Disk, when run, checks every single 'filing cabinet' on your hard drive to make sure it is in perfect working order. If Check Disk finds a problem, it promptly moves all the data from that cabinet into a working cabinet and marks the damaged cabinet as "Do Not Use". Don't worry about losing space; the average hard drive has billions and billions of these virtual "filing cabinets".

### How to Do It (Windows XP , Vista & 7)

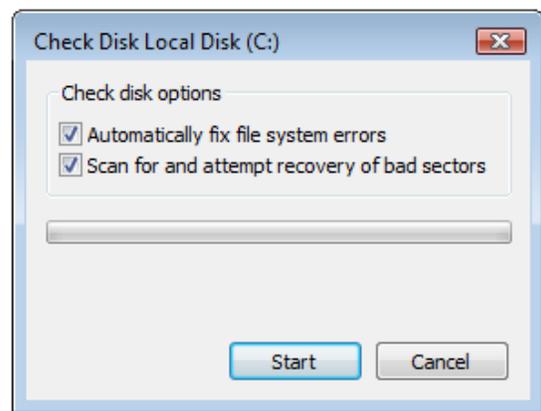
To run Check Disk for Windows XP, Vista & 7, follow these steps:

1. Double-click the **My Computer** icon on your desktop, or if you don't have one, click the **Start button (Or Windows Flag)**, then **My Computer**.
2. Right-click the drive you want to check, and select the **Properties** option.
3. Select the **Tools** tab, and in the **Error-checking** area, click the **Check Now** button.
4. Make sure that both the **Automatically fix file system errors** and the **Scan for and attempt recovery of bad sectors** checkboxes are checked. Then, press the **Start** button. *Check Disk will most likely want to run after a restart, and will tell you so. If it asks, go ahead and restart your computer.*

*The Check Disk utility should now be running.*

Be patient; this process can take several hours depending on the condition of the drive.

After Check Disk is complete, you now have a well-groomed hard drive. Check Disk should be run about once a month. If you use Microsoft Outlook, use its appointment and calendar features to schedule reminders to defragment on the first of every month.



## Prevention & Security

Now that your computer is maintained against normal use, it is now time to look at preventing common problems and closing security holes. With the advent of the Internet, and more recently, broadband solutions such as DSL or Cable, Malware, Viruses, Adware and Spyware have become

a normal part of a computer user's life. If you are not familiar with these terms, here are some quick definitions:

**Malware** – Software designed to destroy, aggravate wreak havoc, hide potentially incrimination information, and/or disrupt and damage computer systems.

**Viruses** – small malicious programs disguised as average files, usually distributed via e-mail, and designed to wreak havoc on your computer system. Symptoms of viruses can range from annoying, but harmless, pop-up messages to the permanent deletion of all your data.

**Adware** – programs, usually bundled with other freely downloaded programs, which pop up or display advertisements on your computer. Although not designed to cause harm, the lack of quality programming that goes into creating most adware will often cause errors and a loss of performance in your system.

**Spyware** – much like adware, but designed to 'spy' into your computer usage habits. This data (which is sometimes confidential) is then sent over the Internet to companies who use the data to provide targeted advertisements for retailers. As with adware, these low-quality programs will also often cause problems.

### ***Anti-Virus / Anti-Spyware / Anti-Malware***

If running Check Disk and Disk Defragmenter are like changing your oil, installing and maintaining your anti-virus software is like setting your car alarm. Every computer with an Internet connection and any computer that uses files or programs from an outside source (just about every single computer) are vulnerable to virus attacks. The best way to protect your computer against viruses is to install and maintain anti-virus software. Data Doctors recommends Trend Micro Titanium Internet Security and the instructions that follow will assume you are using this software. Other software manufactures including McAfee and Norton publish anti-virus software products that are equally capable, however, many companies also publish other computer utility software that is decidedly NOT recommended. These software suites ('Norton Systemworks, 'McAfee Internet Security Suite', etc.) are known to corrupt your system and cause problems that are almost impossible to fix.

The Trend Micro Titanium Internet Security installation is very straightforward. You should accept all of the factory default settings and any recommendations that the installation makes. You must be connected to the Internet to receive virus updates from Trend Micro. Make sure you are checking for updates on a regular basis; otherwise, when you scan, you will only be searching

for a small number of viruses. The scan utility is what actually searches your computer for viruses. Trend Micro Titanium Internet Security allows you to schedule these events so they run automatically. Data Doctors recommends updating and scanning at least once a week. If you followed the installation's recommended settings, updating Trend Micro Titanium Internet Security should already be scheduled. If not, you can change this setting by opening the main window (see below).

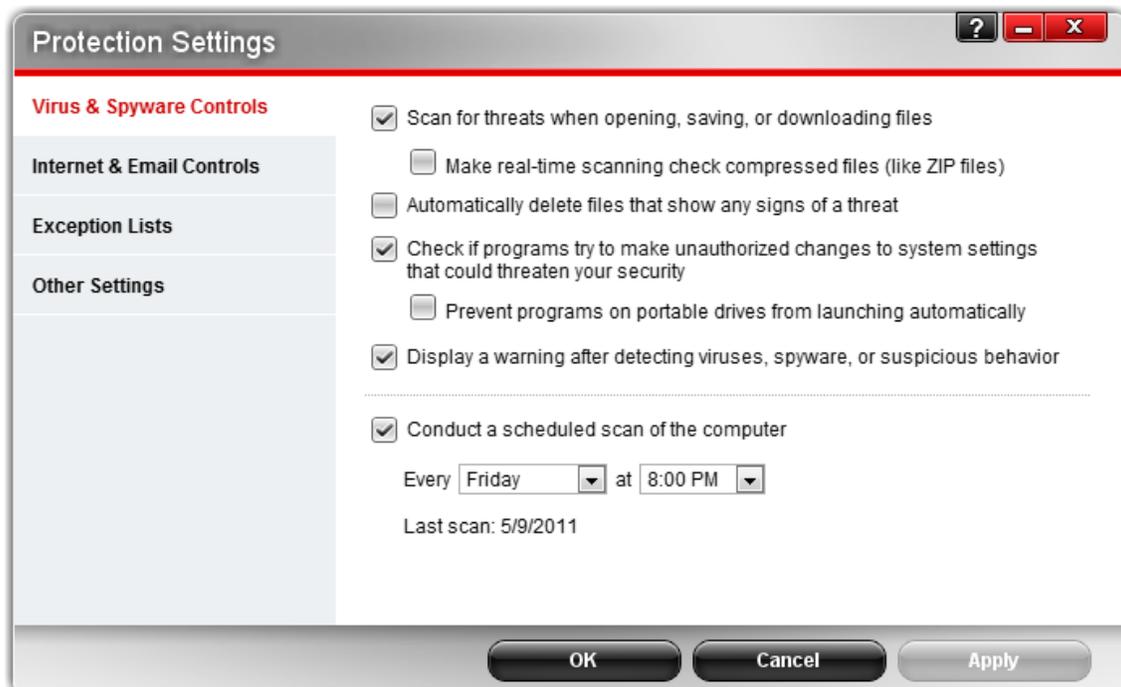


## Schedule Weekly Scans

### How to Do It

To schedule weekly scans, follow these steps:

1. Open Trend Micro Titanium Internet Security by selecting **Start>>All Programs>>Trend Micro>>Trend Micro Internet Security**
2. Click the 'Gear' icon to open Protection Settings.
3. Select the **Virus & Spyware Controls** tab.
4. Ensure there is a check in the **Conduct a scheduled scan of the computer** option.
5. Click **OK**.



## Windows Updates

Now that you've changed your oil and set your alarm, it's time to lock the car doors. The computer equivalent of tightening security is performing Windows Updates. Microsoft, aware of the need for consumers to keep their computers secure, releases critical updates every time some malicious code attacks a Microsoft operating system. This is much like anti-virus software, but is a place that anti-virus software cannot protect in Microsoft operating systems. Downloading Windows Updates is a simple procedure.

### How to Do It

#### (Windows XP)

To run Windows Updates, follow these steps:

1. Open Internet Explorer, usually located in the **Start** menu under **Programs** or **All Programs**. There may also be an icon on your desktop to the immediate right of your **Start** button, or at the top of the initial **Start** menu.
2. Once Internet Explorer is open, click the **Tools** menu item at the top of the window, then select the **Windows Update** item.

3. If this is unavailable or does not work, you may also type the following text directly into your Address Bar:  
<http://www.windowsupdate.com/>
4. The first time you visit the Windows Update site, Internet Explorer will ask you if you want to install the Windows Update Utility. Click the **Yes** button.
5. Once the Windows Update website is open, click the **Express** button near the center of the window.
6. The Windows Update site will automatically select all of the Updates to install. If you would like to browse the other updates available, click any of the three sections in the left navigation pane (**Critical Updates**, **Recommended Updates**, or **Driver Updates**).
7. Once you have selected all the updates you wish to install, either click the **Review and Install Updates** button toward the top of the window, or the **Review and Install Updates** in the left navigation pane.
8. Click the **Install Now** button to begin the installation.

### **(Windows Vista & 7)**

To run Windows Updates, follow these steps:

1. Click the **Windows Flag** in the lower left hand corner of the screen.
2. Select **All Programs** to display a more detailed list of programs on the machine.
3. Scroll and find **Windows Update** within the list and click on it (It will be its own icon on the list, not within a group).
4. A new Window will appear which will provide you with the updates, both critical and optional, that need to be installed on this Computer.
5. Go through each list and select the updates you wish to install, by placing a check mark next to the update and then click **OK**.
6. Click on the **Install Now** button and the updates that you selected will install. After the installation the system might prompt you to restart.

During this process, you may encounter one or more pop-up alerts informing you that one of the updates you have selected must be installed separately from the others. This is perfectly normal. Simply let the Windows Update site do what it wants. Once you have installed the updates and rebooted your computer, revisit the site to make sure all the updates are installed. It is very common to revisit the Windows Update site several times during a single update session. Windows Updates should be checked at least once a month. If you use Microsoft Outlook, use its appointment and calendar features to schedule reminders to check the Windows Update site on the first of every month.

## ***Malicious Software Removal***

The last piece of the security and prevention puzzle is to remove adware and spyware from your computer. This is also a very straightforward process. Data Doctors recommends using a program called ‘Trend Micro Titanium Internet Security’ to remove these unwanted software programs. Trend Micro Internet Security is available from Data Doctors.

The Trend Micro Titanium Internet Security installation is also straightforward; make sure you accept all the factory default settings and enter the product key that came with the software.

Before scanning, you should update Trend Micro Internet Security as scanning without the latest updates limits the number of unwanted programs that will be removed.

## ***Update Trend Micro Titanium Internet Security***

### **How to Do It**

To update Trend Micro Titanium Internet Security, follow these steps:

1. Locate the Trend Micro icon in the System Tray (the lower right list of programs near the time (you may need to click the “up” arrow to display the icon if it’s hidden).
2. Right click on the Trend Micro icon and select **Check for Program Updates**
3. A Window will open up and go through a few steps to download and install updates.
4. Once complete you will be notified in the window like below.



## Scan the System

### How to Do It

To scan your system, follow these steps:

1. Select **Start Menu>>All Programs>>Trend Micro>>Trend Micro Titanium Internet Security**
2. Select the **Scan** button in the lower section of the window.



3. If any items are found and attempt will be made to fix them automatically..
4. Select **OK** to confirm the removal of detected items.

Your computer is now free of malware. How often you should run Trend Micro Titanium Internet Security will depend upon your Internet usage. If, when you run Trend Micro Titanium Internet Security, you are consistently in the double digits for objects found, you need to run Trend Micro Titanium Internet Security more often. If you are in the single digits, your current interval is fine.