Bug-Bytes

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WINDOWS 7 REPAIR TOOLS

THERE IS MUICH TO LIKE HERE

If trouble strikes, Windows 7 provides the means to analyze and fix more problems than ever before. Some of the tools first appeared in Vista, such as *Reliability History*. However, Win 7 thoughtfully provides a long list of new tools to make analyzing and fixing whatever might be broken in Win 7.

Create a recovery disk before trouble strikes. Click on the Start button. Type "repair" without the quotes in the search field. Select Create a System Repair Disk with a CD. Boot from the repair disk to test how it works. It is better to test and to be sure the disk works for you before you actually need it. Alternatively, you can boot from the Win7 installation disk (select Repair) or boot into Safe Mode by pressing the F8 key as your computer starts. Select the repair option from the boot menu.

Turn on Vista's Problem Reports and Solutions or Win7's Action Center. Periodically review the solutions that are offered by these tools. Implement the solutions following the directions given by Microsoft.

GOD MODE

Use Win 7's *God Mode* to gain easy access to all of the repair, troubleshooting, and tweaking tools. In Win 7, create a new folder and name it as follows.

GodMode.{ED7BA470-8E54-465E-825C-99712043E01C}

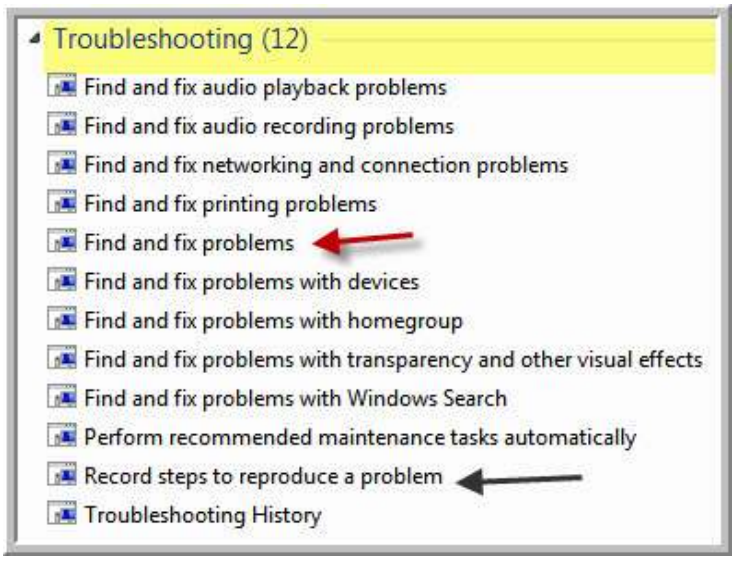
Double click on your new folder to view the God Mode menu.

See the article on God Mode in the June issue of Bug-Bytes. Go to page 5.

God Mode is a hidden feature of Windows 7. It enables users to quickly locate and launch repair and troubleshooting programs, and to more easily personalize their system. In previous version of the operating system, you had to look in a large number of different places for some of the same information. With God Mode, all of those settings and programs are brought together on one menu.

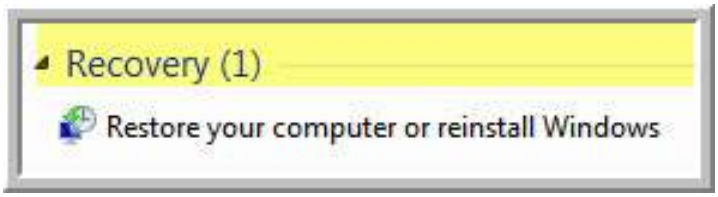
TROUBLESHOOTING

God Mode brings together 12 tools to troubleshoot your Win 7 computer.



MSCONFIG

Run Msconfig and select the System Recovery option.



Select a date before your trouble began and restore your computer to that date. This procedure will not affect data generated after that date. While you have Msconfig open, review the settings on the Startup tab. Remove checkmarks from all but your internet security or single anti-virus program. You can add back checkmarks later. Remember, very few programs really need to startup when your computer starts. Each program not only starts up but continues to use memory even though you don't need those particular programs.

STARTUP REPAIR

The following information is taken from Win 7's Help and Support.

What is Startup Repair?

Startup Repair is a Windows software recovery tool that can fix certain system problems–problems that might prevent Windows from starting. Startup Repair scans your computer for startup problems and then attempts to fix them so your computer can start correctly.

Startup Repair is one of the recovery tools in the System Recovery Options menu. This set of tools is located on your computer's hard disk and on the Windows installation disc.

Are there problems startup repair cannot fix? The answer is yes. Startup repair cannot fix hardware failures and may not be able to fix damaged system files. Startup repair does not protect against virus attacks. See the front page of the June 2010 issue of Bug-Bytes for some additional startup tips.

FIXBOOT AND FIXMBR

When booting from an XP or Vista installation disk, users can choose from the "R" option. This takes you to the so called *recovery console*. Which is to say, it allows you to enter commands and commands only from the recovery console. Two such commands are Fixboot and Fixmbr. Your operating system comes with a backup copy of the master boot record (MBR). These files are meant to replace a damage master boot record. Fixboot attempts to repair you boot files. Fixmbr replaces the damaged master boot record with the copy of the boot record.

Use these procedures only if you understand how these programs work and you are comfortable with the procedures. Read the three articles contained in the following three links, or, articles that most closely relate to your particular version of the operating system.

http://support.microsoft.com/kb/314058

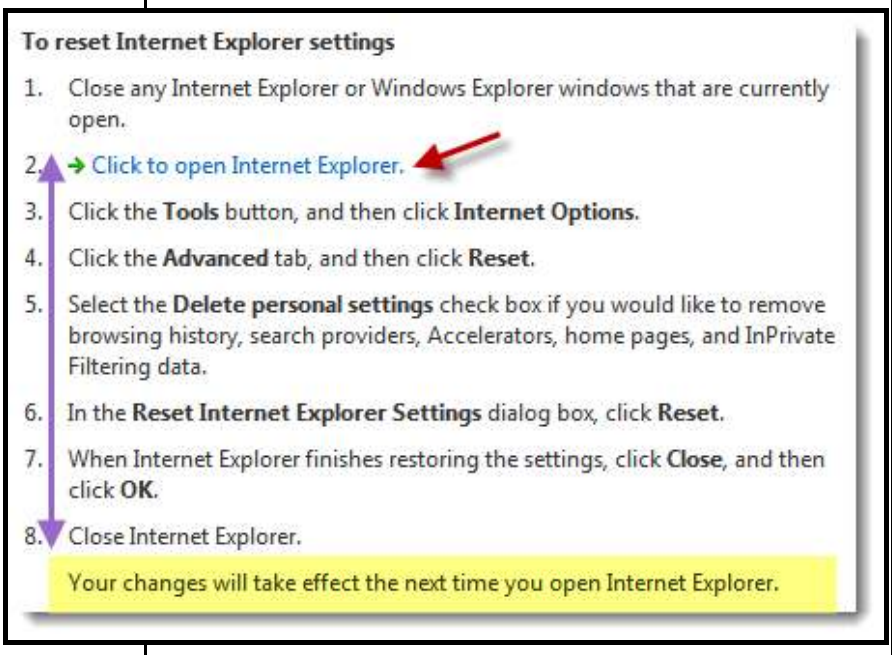
http://www.microsoft.com/resources/documentation/windows/xp/all/proddocs/en-us/bootcons_fixboot.mspx?mfr=true

http://fixmbr.net/fixboot/

FIX INTERNET EXPLORER 7 AND 8

To Reset IE to its default settings

(See screen shot be low).Consult this link to repair earlier versions of Internet Explorer, or ir you are using XP or Vista instead of Windows 7.



http://www.ehow.com/how_4443124_repair-internet-explorer.html

SOLID STATE VS. MECHANICAL HARD DRIVES

Flash memory solid state hard drives (SSD) are relatively new. There are no moving parts in an SSD unlike a conventional mechanical hard drive (HDD).

There are no spinning platters or moveable arms that retrieve data from the platters. Instead, solid state drives access the data stored on them electronically.

Solid state drives are made up of electronic chips similar to the memory chips that store digital pictures. SSDs generate very little heat. Thus, computers that use them tend to run cooler.

The downside of SSDs is that they theoretically wear out faster than mechanical drives. That is because you are limited in how many times you can write to the same spot in memory. SSDs have higher reliability. There is no wear and tear. However, SSDs do have limited write cycles. For instance a 30GB SSD supports 500,000 write cycles (writing to the same memory location over and over) whereas 64GB and larger capcity SSDs supports 1,000,000 write cycles. New SSD software algorithms vary where data is written to increase the number of possible write cycles.

Until recently, SSDs were much more expensive than HDDs. However, at the time of this writing, Kingston released a 30GB 2.5" bootable SSD for $80. See this link.

http://www.kingston.com/ukroot/ssd/v_series.asp

Seagate released a 250GB Momentus Hybrid hard drive with SSD for about $90. Check on Amazon for it.

Laptops are one application for such a drive. An SSD runs cooler, which is important in laptops, an SSD extends battery life times.

Jim Frego writes, "I got a significant performance boost and a high capacity HDD with a hybrid for $86. Simple migration as well. I ran Windows EASY Transfer with old HDD to my WD USB External Drive. Unplugged the OEM HDD and installed the Hybrid. Ran my RECOVERY DVD's. Ran Easy File Transfer to New PC and I was up and running with all programs and data. The only thing I had to re-enter was the Passwords for my email accounts."

PROS AND CONS OF SSDS


Conventional Hard Drive Mechanism

Pros: The seek times of SSDs are constant and do not depend on the physical location of the data.

Seek times in HHDs depend on how close the data is to the center of the platters or to the outside edges. It takes less time to seek at the center of a HHD platter and more at the outside edge of the platter. SSDs startup faster, and applications launch faster.

SSDs resist shocks, such as dropping them, better than mechanical hard drives. They have a higher temperature operating range.

Access times for SSDs are much faster than those of HHDs. The typical access times for SSDs is in the range of 35 to 100 microseconds versus 5,000 to 10,000 microseconds for HHDs. This makes SSDs about 100 times faster than HHDs.

SSDs come in 2.5" form factors for laptops and 3.5" form factors for desktops. Adapters are available is you want to use a 2.5 form factor SSD in a desktops 3.5 inch drive bay.

SSDs are extremely quiet compared to HHDs. Some high end SSDs come with a fan, but the fan is very quiet, too.

SSDs weigh less than HHDs. Weight is important in laptops that you carry arund with you.

CONS: SSDs are much more costly to buy than HHDs, but their cost continues to drop and their prices are coming closer to HHDs. They have smaller storage capacities.

SSDs may require less power than HHDs. However, some high-end SSDs may require more power than HHDs.

Not all SSDs can be used to boot a computer. If that is important to you, check the specification of the drive you are considering buying. Also, be sure to read the reviews for the drive you are considering buying.

Note, there is no benefit to be gained by defragmenting an SSD because they read data so quickly. Defragmenting drives uses up available write cycles

SSDs have the ability to seek for data in a fraction of the time of conventional hard drives. However, this speed currently comes with a much higher price tag. The price disparity between mechanical drives and SSD will probably disappear in the next year or so as flash memory, solid state drives become much more common. There is no noise from SSDs although some may incorporate a cooling fan. Mechanical hard drives generate much more heat that SSDs.

SSD's handle shock and temperature better than HDD (hard disk drives).

On the downside, SSDs wear out much faster than HDDs. That is because you can only write information to a location (bit) a limited number of times. Currently, you can write to a location about 10,000 times. Once that spot is used up, you can never write to it again. Engineers are finding ways around that problem, and future generations of SDDs are already improving. Solid State drives come in two types–MLC and SLC. MLC drives are slower than conventional drives in writing data while SLC drives are faster and more expensive.

Currently, HDDs come in much larger capacities than SDDs..

SSD comes in bootable and non bootable versions. You can install your operating system on bootable versions and start your computer from that type of drive. Be sure to check to see which kind of SSD you are buying. Also, search for reviews for the drive or drives that you are considering, and compare prices.

SSD prices are falling. Still, there huge variations in the offered prices for similar drives. Buyer beware!

Lower priced SSDs use multi-level cell (MLC) flash memory which is slower and less reliable than higher priced single-level cell (SLC) memory.

See this link for more indepth information on SSDs.

http://en.wikipedia.org/wiki/Solid-state_drive#Single-level_cell_.28SLC.29_vs_multi-level_cell_.28MLC.29

Bottomline: SSDs will become much more attractive and practical as their prices approach those of conventional hard drives. However, that day is probably many years away. Prices will fall as the sale of SSDs become much more common.

HOW TO BOOT INTO SAFE MODE

When you boot into safe mode, Windows does not load all your drivers and devices, such as your network, audio, and video card drivers. Therefor, safe mode is a good way to troubleshoot and fix your computer. In safe mode you can use diagnostic tools to find what is keeping your computer from working normally.

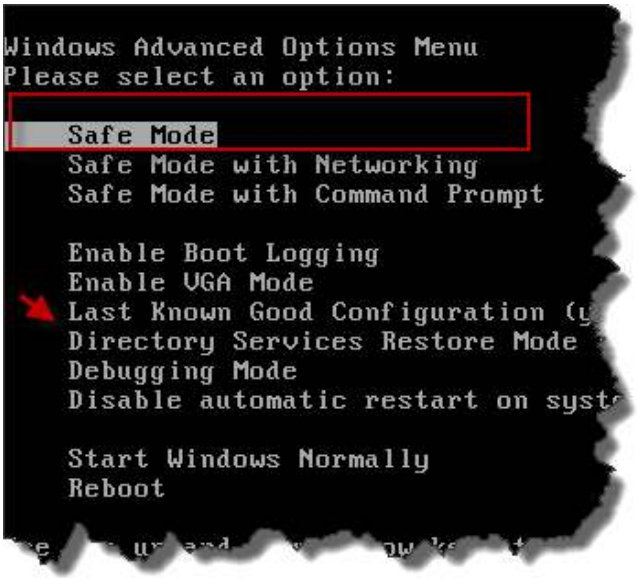
To boot into safe mode, start your computer. When you first see characters on your screen, press the F8 function key to enable safe mode. Slowly, press the F8 keys a few times. Sometimes, you may have to repeat this procedure a couple of times until you actually get into safe mode. Pick Save Mode from the Boot Options that appear on your screen. If you also want to be able to connect to the internet, select the Safe Mode with Networking option.

See the screen shot on the next page.

You can use either Restart from the Start button or start your computer by pressing the power button after your computer has been off for awhile.

Windows will load a minimum set of drivers and you will see a scrolling list of drivers loaded on your screen. In safe mode, the screen's background is black and your icons will appear larger than khow you are probably used to seeing them.

See this video "How and why to use Safe Boot."



XP Boot Menu Example

http://video.answers.com/how-and-why-to-use-windows-safe-mode-210070182

See this article about some of the available diagnostic programs.

http://www.ehow.com/about_6690466_computer-diagnostics.html

Rkill is one such program. It can be used to stop a malicious program from running.

For advanced startup options see this article.

http://windows.microsoft.com/en-US/windows-vista/Advanced-startup-options-including-safe-mode

Note that one of the boot options shown in the screen shot below is Last Known Good Configuration. Pick that option if you having problems getting your computer to boot normally.

As a reminder, you can choose to use safe mode with or without networking.