

Maintaining your computer's 'Drive Health'



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The hard disk drive is the most important component of any computer. All the data and programs reside on the hard drive and the operations of reading and writing to it have to be fast and reliable.

Some larger computers have multiple hard drives in them usually with one as the primary system drive and other acting a secondary data drives.

When the primary hard drive has problems reading or writing data the computer feels it immediately. All PCs have a small hard drive activity light that blinks whenever it is accessed. Other than what is happening on your computer monitor, that little blinking light can tell you volumes on what your hard drive is up to.

Remember the hard drive is a very compact set of one or more platters spinning at rates of 5,400 to 10,000 revolutions per minute (RPMs). Over each platter, usually on both sides, are the read/write heads that fly just microns above the platter surfaces.

These read/write heads dash back and forth at amazing speeds to locate the requested data that resides on certain sectors and cylinders of those hard drive platters. Whenever you see the hard drive indicator light blink that means those read/write heads are moving to access data on the platters. The more light blinking the harder that disk

drive is working.

The health of those components is basically the life of your computer. Occasionally I fight hardware problems with memory, power supplies, graphics adapters and once in a great while CPUs and motherboards. The majority

of the hardware problems that haunt me are related to the computer's primary hard drive.

Without image backup software like Norton Ghost it is difficult to backup the whole primary system hard drive, so most people are just backing up their data. Having to rebuild a computer after a hard drive failure can be quite time consuming and expensive with numerous applications to reload and configure even if you have a good backup of all the data.

Consistent and full backups of the hard drive are the best preventive measures we can and should all take. But wouldn't it be really cool to predict the future? Wouldn't it be nice to know of internal problems in your hard drive BEFORE they crash it? Is there any way to be notified of pending hard drive doom?

For years I have searched for such an intuitive capability that could help me know when a hard drive was about to fail. That way I could have Harper at Computer Helpers "Ghost" or copy the failing hard drive to a new hard drive before the original one completely dies. That

way the rebuild/reload procedure is averted.

A couple of months ago I found just that wonder-ware! Drive Health from Helexis Software Development is a \$25 program that actually watches the hard drives on your computer and tells you when they are becoming sick. Drive Health produces alerts and even gives you a predicted death date of the hard drive should problems be observed.

The Drive Health application is able to gather this critical information on the fly from the hard drive via an industry standard protocol called SMART which stands for "Self Monitoring And Reporting Technology."

This was pioneered by Compaq and implemented by most of the major hard disk drive manufacturers like Seagate Technology Inc., IBM, Conner Peripherals Inc., Western Digital Corp. and Quantum Corp.

You can download a free trial of Drive Health from <http://www.DriveHealth.com> and try it out to make sure your hard drive is SMART compliant. The latest version 2.1 takes very little system resources to run in the background and is compatible with Windows XP and Vista.

When the reporting tool starts up you will see 18 or so attributes in table that include Raw Read Error Rate, Temperature, Seek Error Rate and Throughput Performance. All of these Drive Health attributes should have a green check mark to the left of them meaning that all are within their thresholds.

At the bottom of the Drive Health screen you will see a key legend the shows what negate attribute indicators look like when they change from the green check to a colored explanation mark — so watch out for those. Also when you minimize the reporting tool it leaves a small icon in your lower right system tray which displays the hard drive operating temperature in Celsius.

At the top of the program you will see the hard drive, or hard drives if you have multiples, with a bar graph showing the overall drive health indicator. It may take up to two weeks for the Drive Health program to collect enough data to properly calculate this health status.

Just below the green health bar is the Nearest TEC (Threshold Exceeded Condition) date which should show "Unknown." If that date changes to an actual calendar date like 10/29/2009, then the Drive Health application has seen enough errors on the drive to mathematically calculate the predicted date of death.

If that date is years away then it is probably no big deal but you should keep an eye on it in case that date changes to a sooner one. Just last month a client call me saying that the Drive Health program had a pop-up alert about the seek error rate and the TEC date changed to next week! I immediately had that drive removed and duplicated onto a

new one to keep from having to completely rebuild the system.

Turns out the Drive Health program saved my tail since it was really failing which became evident during the copy process due to the fact that it took numerous attempts to get a clean copy. Thank you, Drive Health!

Bottom Line: If you want to monitor your hard drive's health and be warned of impending drive failure then spend the \$25 and install Drive Health for your computer.

Next week's column: Ubuntu.

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