

Multiverse Musings: A Clean Computer is a Happy Computer

Maintaining your equipment will keep it working effectively for a long time. Focusing first on the most expensive (and most likely to break, figuratively or literally)—your computer—there are several maintenance activities that will help keep it running.

Computer maintenance starts with a backup of all your data. Before undertaking any of these steps, particularly on your key production/work machines, BACK UP all your data. You should already have comprehensive backups—data alone as well as operating system, programs, and data. Keep in mind that while the software mentioned here is commercial software, tested on many systems, and patched regularly, there is always some risk of unintended damage to your computer files. Much of the software mentioned will probe deeply into the core of the operating system to identify and fix problems. In those cases where the problem is significant, the very process of finding the problem may result in broken systems. Hence, the repeated warning about being sure you have a backup!

There are a few things that are needed for maintaining your system. For hardware maintenance you need a can of compressed air (available at office supply stores, hardware stores, or by mail order) and the tools to open your computer case. The compressed air can will come with a little plastic hose to attach to the nozzle so you can direct the air with precision. Read the warnings on the can—no inhaling the propellant and be forewarned that the can will get very cold during use. When you feel the can getting cold, just set it down for a few minutes and proceed when the can is warmed up a little.

Cleaning the Desktop Computer

What follows applies to *desktop computers only*. Laptop owners are not encouraged to try this at home! Computers do not need much in the way of hardware maintenance, but the one thing that will really extend the life of the computer is getting rid of the dust that accumulates in the case. There is likely to be a substantial amount of

dust in the case of a computer that has sat around for two years or so, or one that sits on a floor or operates in a dusty environment. Dust is the subtle killer of computers because it interferes with the systems that cool the key components of the computer—the processor chip (CPU) and the power supply. To fix your dust problem, first, disconnect the power to the computer by unplugging the computer from the wall. Open up the computer case—it might take a screwdriver, or it might just be one or two latches that need to be pushed or pulled. Once the case is open you will likely see the dust all over the place. Use the can of compressed air to blow the dust out of the various components. Pay particular attention to the heat sink (big metal block with ribs/vanes and probably a fan) that covers the CPU. Keep the canned air upright, so the propellant does not spray out onto the components. Carefully blow the dust out from between the vanes on the heat sink to improve the cooling efficiency. Blow the dust from the fans in the case and from the inside of the power supply. DO NOT open the power supply. Just use the little plastic tube that came with the canned air to direct the air inside the power supply box. Once the dust is out, put the case back together and remember to plug in the computer. Although it might seem like a good idea to use a vacuum cleaner to remove the dust, it is not. Vacuum cleaners create static electricity which is a fate equal to death for most electrical components in a computer. Cleaning the dust out of the inside of a computer requires canned air, not suction.

The second step in maintaining your hardware is to use the compressed air to blow the junk out of your keyboard. Direct the hose from the compressed air into and between the keys of the keyboard (but avoid popping the key caps off the keyboard as it is hard to put them back).

Viruses and Other Malware

The most important periodic maintenance tasks are to run virus and spyware scans of your hard drive regularly.

Any computer is at risk of being infected with some form of malware (viruses, Trojans horses, spyware, rootkits, and lots of other stuff), but computers used to surf the Web are most at risk. Modern virus scanners and spyware detectors are generally pretty good, if you are good about updating the database of known malware. All scanners have the capacity to update the database of known malware on a regular basis. If you have not installed a virus scanner on all the Windows computers you own, stop reading this right now and get a virus scanner/malware detector installed on your computer right away! Good virus scanners can be obtained from electronics stores (Best Buy and Circuit City), office supply stores (Staples, Office Max), by mail order, and by downloading the software from the Internet. Some of the better known systems include Norton Antivirus, V-Com Fix-It Suite, and the Panda Antivirus suite. If the computer was purchased in the last five years, it is likely that there is a pre-installed virus scanner/malware scanner on the computer already. Most software of this kind is sold on a subscription basis—that is, you pay an annual fee to update the database of known viruses. If you decide to keep reading this article as far as the utility packages for the next step of the clean-up process, all the utility suites mentioned include malware scanners too.

You can also download a combination of software from the Internet that will provide similar functions as the purchased software. Some of the downloads are free, and others come on the subscription plan. Download options include AVG—www.free.grisoft.com—and the virus scanner ClamWin—www.clamwin.com—which is free. I have been using ClamWin on several of our family Windows computers at home, and it appears to work well. This is one case where: “It is worth more than what you paid for it.” By combining the ClamWin and a spyware scanner like Ad-Aware Version 2007 or Spyware Doctor from pctools.com, you address two of the major issues with malware on computers. Although I have not used them myself

yet, there are a number of websites that offer free scans of your system for spyware and viruses. There is some level of concern at letting a website probe deeply into the hard drive of your system, even if the outward purpose is beneficial.

On the software side you can use the tools built into your operating system (Windows XP or later) or you can purchase one or more of the suites of maintenance tools appropriate for your computer. If you happen to be a Linux user, then there is nothing here I can tell you that you don't already know how to do, so skip to the last paragraph. Windows users (at least Windows 98SE and later) can pick up a copy of V-Com's Fix-it Utilities (presently in Version 8), Lolo's System Mechanic (presently in Version 7), or Symantic's Norton System Works. If you happen to be using Windows 95 or something earlier, it is really time to upgrade. I have had the best luck with the V-Com package in the past. I am currently using the Lolo package on one computer but have not had enough experience to determine how well it works yet. I have discovered that the virus scanner included in the System Mechanic software had issues with the setup on one of my computers at home and generally caused some undesired side-effects, which disappeared when I unloaded it. I have not used a Norton product in years and cannot speak to how well they perform.

Commercial Utility Suites

The first step in maintaining the health of your Windows system is to follow the instructions on installing the utility software. The directions will tell you to back up your data too—remember that is good advice. Fix-it Utilities and System Mechanic will generally each offer to run a "one click" or "one button" system analysis and repair on your system. That is generally a safe option and automates the process of looking for junk files, broken installers, registry errors, and other problems that infect computers over time.

All of the commercial utility suites also include a number of tools for taking care of individual problems with clutter on the hard drive, registry problems (the registry is the file used by Windows that tracks information about software and hardware on your system), broken shortcuts and unnecessary installers, and other problems. After the total care/one-click care have run once, it may be

more efficient to run individual modules as needed.

The two utility suites Lolo and V-Com will both run a periodic scan of the system and report problems. This is a part of a good preventive maintenance program. If problems with a hard drive or problems with the registry show up in several scans, that may be evidence of a failing system. Failing components can be replaced before the failure is catastrophic (defined in our world as the day the brief is due, or any time within four hours of the closing).

The installation and first-time run of the utility suites is not the end of the process. Determine when your system is not needed and run the utility suite periodically to keep the hard drive and software structure in good condition. At the very least, run the part of the suite that cleans up the clutter that builds up on the hard drive and checks the integrity of the registry and the file system on a weekly basis. You might consider running the module if you go out for lunch. If files are added and deleted from the system regularly it is also important to defragment the hard drive to reduce the slow performance of the hard drive subsystem. Defragmenting may take lots of time, depending on how many files you have on your system and how long it has been since the last defragment. It might be best to start that process running when you leave the office and let it run overnight.

For those looking for the cost-expedient solution, there are free programs that can be downloaded from the Internet or that come bundled with the Windows operating system. Some of the free programs are pretty good, and the programs bundled with Windows will do the job, though they are not fast or feature rich.

Downloadable Tools

In addition to the free virus/malware scanners listed above, one maintenance project that can be completed with a (presently) free utility is the removal of unnecessary files. The program is "Ccleaner" and it is available from www.ccleaner.com. The program works well for its intended function, which is to search the hard drive for all kinds of junk files created by the operating system and program installers, Web browsers, and other programs and remove those junk files. Ccleaner finds the files and can delete most of them, thereby freeing up space for useful files and speeding up

access to the files that are really needed. It is very easy to download the current version of ccleaner and install it. The installation process will put an icon on the home screen and all that is needed is to click on the icon and run the program. When the main screen pops up, look at the list of things that the program will find and delete. Consider un-checking (point the mouse at the little box and left click) the boxes for "Auto-complete Form History" if you make use of the auto-complete feature in your browser and the "cookies" section if you make use of Internet sites that require specific cookies to operate correctly (such as the Casemaker legal research library). Those sites that want to identify you by registering and that seem to know who you are when you return likely use cookies to track your use of the site. If you uncheck those boxes, the auto-complete forms and cookies will be left alone. On the left side of the screen, click on the "Registry" tab and be sure that all the boxes are checked, to insure that the program will scan and repair the registry.

The Bundled Tools

If the thought of buying and installing outside programs is not of interest, Microsoft did supply some useful tools that will take care of some of the maintenance of your system. In particular, the Typical Windows XP installation includes tools that will do a basic job of scanning and repairing problems with the file system, removing clutter from the hard drive, and defragmenting the hard drive. The tools can be found by locating the "My Computer" icon on the Desktop or in the "Start Menu." Click on that icon to open the "My Computer" dialog box. Locate the drive labeled "Local Disk [C:]" and use the mouse to right click on that icon. Left click on the "Properties" entry at the end of the list that comes up. In the middle of the dialog box that appears, look for a tab that is labeled "Disk Cleanup" and click on it. The next dialog box will give you options to remove "Temporary Internet Files," "Temporary Files," and "Temporary Offline Files," all of which you should be able to delete safely. You can either check or uncheck the "Compress Old Files" box. Leaving the box checked will run a program on old files (those that you have not looked at in a certain number of days—you set the number in the options tab) and make them smaller. The cost is that they will

open a little more slowly when you go to look at them again the next time. The Windows "Clean-Up" wizard is not nearly as powerful as the commercial utilities listed above, nor even as powerful as the free Ccleaner utility identified above.

Once the Clean-Up wizard is run, repeat the steps above to return the "Properties" dialog for "Local Disk [C:].". In that dialog box, along the top, there are tabs for "Tools," "Hardware," "Sharing," and "Security." Click on the "Tools" tab to open the next dialog box. On the dialog that opens, click the "Check Now" tab to run the "Error Checking" utility. It will look at the index of files on your hard drive and determine if there are any problems. Before the program runs, it will offer you one more set of choices: "Automatically Fix Errors" and "Scan For and Attempt to Recover Bad Sectors." Choose both by clicking on the boxes with the left button of the mouse, then click "Start." Go get coffee or your next best choice of multitasking activity as it will take a few minutes to run the program. Sometimes the utility wants to restart the computer before it scans it. If that is the case, shut down the computer and restart it so the scan will run.

After the Error Checking process runs, the last step is to defragment the hard drive. The tool to complete that process is located in "My Computer" > "Local Disk [C:]. > "Properties" > "Tools" tab. Click on the "Defragment Now" button. This is the process you want to start as you finish the day and are leaving for the night. Turn off the monitor as you go, but leave the computer running. The defragment process will take a long time to run if it has not been run frequently.

One More Thing

So, with the newly cleaned and happy computer, there is one more thing that you should do. In the interest of keeping the computer user in his or her best operating condition, it is worth taking a few minutes to stop and "smell the roses," or at least take a few minutes to decompress yourself and experience something new and different. Although it is not possible to offer up all the ideas that might work, try one or more of these ideas. Go buy a copy of a newspaper or magazine that you have never purchased before and read it. It might give you a new perspective. Find a CD or buy an iTunes® tune from a band/musician or genre that you have never experienced before, and listen to it a few times. Go

to a bookstore or library and pick a book from a favorite section at random and read something new. If all else fails, drive home by an entirely new route and look at some of the places you are passing. There might be something new and different to do, a new place to eat that you didn't know had opened. It is an unfortunate circumstance that attorneys as a group, tend to get bound into our comfortable places and processes. It is worthwhile seeing something new, for the joy of discovery.

James E. Knapp, Esq., is the Law Practice Management Coordinator at the Vermont Bar Association. If you have any questions regarding the management of your practice, contact Jim at 802.223.2020 or jknapp@vtbar.org.

