



PC Health Check

By CK Wong 2005.12.24

<http://www.ck-wong.ca/technologies/pc%20health%20check.pdf>

Introduction

In a previous article, I described a few measures to make computing safer. This article continues on this vein: checking the pulse of your computer. There is a few routine we may want to practice once awhile to ensure the life and performance of your computer.

This article is mainly for Windows. Only some steps are applicable to other operating systems.

Get that bug fix

Operating system vendor frequently create small software that would fix some know or unknown problems. It is just like the manufacturing recall of the cars but you can do it yourself. You can find out in two ways: visit the vendor's website or like Microsoft, your operating system could be hardwired to receive the notification, download, or automatic install.

These fixes are very important. Some of them may look irrelevant to you but it could be a piece of brick that support the pillar. These some piece of software (from Microsoft or Apple or Linux vendors) are generally well tested and very low risk to install it unless you do some major surgery. It is just like to car if you do not modify the power train and the electrical system, the parts usually fit well. The danger of install some but not all will create a cavity in a wall which could reduce the strength of the wall.

House Cleaning

While hard drives are getting cheaper and cheaper but littering it with useless will definitely no hygienic. These littering could be the result of web surfing. The more you surf, the more temporary file you have created on your drive. Nowadays, with all the dynamic web pages, the caching becomes almost meaningless because you may not use the same page even you visit the same page after a few minutes. Set the web browser to a reasonable size of about 100M bytes. If you experience problem, increase it to higher. Some fat web page requires dieting. It just has too many huge files.

Other than web page, software you do not use should be removed as soon as possible. Software in general can be peacefully living together. Some do not intend to do so. This will create a lot of competition or compatibility problem. A simple example would be which default movie player should be used.

Free may not be free

There are many good programs available for free. Please refer to the Resources section for details. However, some are very aggressive. So do not try any program without proper

mitigation. You may just write a blank cheque. Word of mouth is better than user's comments. Review from professions should be respected.

Monthly Routine

I practice the following monthly routine to ensure my PC is in good health. The order is important. You would understand after you go over the list.

1. Rat hunting – Each month I begin the exercise by running Ad-Aware to remove all the spyware. You can use other program to do this.
2. Disinfection – Although virus program detects the arrival of virus. Sometime virus arrives before the latest update is arrived. It is recommended the virus update to be set to automatic so you do not have to do it manually. To catch any sneak in during the window of opportunity, you want to scrub the disk clean by running the virus detection on all hard drives.
3. Dieting – Any unnecessary files and programs will be removed. If you install any driver, the system will create a “restore point” in case you would like to get rid of what you have installed. This takes up huge space. So frequently remove old restore points.
4. Tidying – After you take out the garbage, you create a lot of holes of disk space. The reading arm of the hard disk has to go a wider distance to get the file. The arm is considerably moved slower than reading data. To speed it up you need to compact the file next to each other and make sure all fragment of the same file sits to each other. This is call defragmentation.

In Windows, when you are reading files, it could not be cleaned, moved or touched up. Under the normal mode, there are a lot of files used. To reduce the number of files in used, it is preferred to run the above procedure using the safe mode. When you start the computer watch for the message to ask you to use F8 to choose modes. Once you are in safe mode, you can only log on Administrative privilege accounts. So make sure you have one.

Vital Signs

The task manager is your friend. It provides you the vital sign of the system. Together with a few others, it could determine the health of your system. The following are a list of symptoms and worries.

Symptoms	Worries	Recommended Actions
High CPU when you do nothing	Virus	Run virus detection
High network activities when you do nothing	Spyware or worm	Run spyware detection and antivirus
Blocked outgoing by firewall	Worm	Run antivirus
Blocked incoming by firewall	Hacking	Enforce router firewall
High paging rate while you do nothing	Undesirable software	Remove unknown software. If none found, check any program run with .tmp type. If it locates

Symptoms	Worries	Recommended Actions
		in temporary directory, delete the file.
Less than 100M available memory.	Too many programs.	If you are less than 512M, increase the system memory. If you are above 1G and not running CAD/CAM or photo program, detect spyware or virus. If you use CAD/CAM or photo program, increase to 2G.
Rapid decrease in free disk space	Virus	Run virus detection
Free disk space less than 20%	System overload	Buy a second disk.

The above symptoms are just some general guidelines but not exhaustive.

Plan for the worst

The worst is to recreate your computer. The scenario worse than this is that you do not have your personal data and your program. This means if you do not organize the data properly, it would be hard to backup. The following is recommended on how to organize the data and do a backup.

The Windows organize each account under separate directory. If you store everything under your desktop, you only have half of the personal data. Your emails are located somewhere else but still under the same directory tree. If you want to backup your account, you have to determine where is your account directory tree. This is how to find it.

1. **Start|Run** will bring up a dialogue to ask you what to run. Type in “cmd”
2. The rectangle window created is called a command window. The default set up shows you the root of your accounts directory.
3. Once identified, you could use your favorite backup software to backup your account. You could also restore the account on another computer.

To recreate your computer, the best way is to use Ghost from Symantec to make a copy of you system so that it could be restored later. Otherwise, you have to have your original software to install. If you make copy of the files on the hard drive for what you install it is just half of the story. There is a file called registry that has the second half of the story.

Resources

The following software could be downloaded from <http://www.download.com/>

- [1] Spyware detection “Ad-Aware” from Lavasoft.
- [2] Spyware detection “Spybot” from PepiMK Software.
- [3] Virus detection. “AVG Anti-Virus” from Grisoft.