Welcome to the "TCO" (Total Cost of Ownership) newsletter, a series of bi-weekly and monthly emails designed to teach, inform and educate readers on technology and how it might impact them and their business.

Designed for the technology user, not the expert, TCO is a method for managing your technology investments (hardware, software, data and processes). We provide technology overviews, concepts and insights into technologies that may be of importance for you.

We will publish two newsletters a month. The monthly series is intended to present information, concepts and useful tips, while the bi-weekly series is focused on technology reminders, updates, maintenance tips, how to guides, virus threats, patches, updates and other important information that needs to be delivered in a more timely manner. We will also publish as needed emergency notifications should the need arise. Your monthly newsletter is brought to you by associated companies

With the constant threats of Malware (**Mal**icious soft**ware**), Viruses, Worms and the like… We will be publishing the bi-weekly newsletters in PDF format. Our emails will be from Newsletter@computersim.com with an adobe attachment. The subject line will be [info-csim]Newsletter & Emergency Notifications & the month. For example: [info-csim]Newsletter & Emergency Notifications -September. Emergency notifications will have Emergency instead of the month. Example: [info-csim]Newsletter & Emergency Notifications-Emergency

To subscribe to the bi-weekly letter including emergency notifications please visit. http://WWW.CSIM.US or email at info-csim@computersim.com or sign up at http://lists.computersim.com/mailman/listinfo/info-csim

In the interest of safe computing, computer education and best practices you may redistribute this newsletter in its entirety or link it or the web page to your web site but you may not alter or omit anything from it.

Below is this months TCO topic. Be sure to sign up for the full bi-weekly edition that includes detailed schedules, hints, tips and suggestions.

Preventative Maintenance, Preventative Failures

Since most of us already have existing systems in place the first TCO topic is maintenance. Both hardware and software on your system requires some form of routine checkup.

First we need to define the difference between cleaning and electronic maintenance. One is about keeping your equipment clean; the other is about keeping your pc running optimally and error free due to soft errors.

Physical cleaning of your computer and related equipment is essential in prolonging the useful life of your equipment. Dust, dirt, grime and other contaminants are drawn into your system. Just like wiping off your television screen... which attracts dust...so do the internal components of your computer. A routine schedule of cleanings should be done, monthly, semi annually and annually. We will discuss the two most common forms of cleaning: User and Professional.

Most users can easily perform a general cleaning and it primarily involves dusting the inside and outside of a computer and a visual inspection of the components. Be sure to check your system manufacturer as some maintenance may void or invalidate a warranty. Always observe safety precautions when working with any electrical device. User cleanings should be done once a month while a professional one should be every 6 months to a year depending on the environment. A professional cleaning might include dusting, chemical cleaning, reseating boards, visual inspections of your cables, power supply, drives etc.

Ask your computer professional about both a cleaning and a professional assessment of your computers internal files, operating system etc. They should include updating the OS, Drivers, and Antivirus Definitions. They should also include checking your backup system/processes to ensure they are valid. This is what we refer to as **electronic maintenance.**

We all know how those files keep building up on our pc's -Scattered around our desktop and hard drives. A good way to help manage files and information is to have one folder on your hard drive. Use the My Documents folder available on your desktop. Create a set of folders there to organize and manage your data files. It will make backing up your system much easier.

Below is a list you can use to help manage your computer, while it's is not comprehensive, it does contain the most widely used and recommended suggestions for the Windows Operating System. These tips use the tools that come with the Windows OS – other aftermarket tools are available, to improve on the built in tools or make the job easier for the user. We will discuss some of these tools in a future newsletter.

- ***Backup your hard disk regularly.*** This is especially important to do before making any major changes to your system (e.g., adding software or completing a preventative maintenance program such as this).

- ***Update your Anti-Virus software.*** Viruses are a daily reality, especially if you use the internet or e-mail. Good virus software lets you update the virus-detection files at no additional cost. Also check to make sure the software itself is up-to-date. Along with virus definitions there are often software updates – This does not necessarily mean buying a new version – We mean minor revisions.

- ***Remove unneeded files***
  Delete unnecessary files that waste hard disk space:

  a) *.tmp files that your system is not using and is locked by the system. Make sure that all application programs are closed first.

  b) Files beginning with a tilde (~). Make sure that all application programs are closed first.

  c) Old *.zip files. After unzipping the files, users rarely need the zipped version too. If you want to keep these back them up to a removable storage device.(Floppy, ZipDisk, CDR, DVDR)

  d) *.chk files. These are orphaned fragments that were created when your system didn't shut down correctly.

  e) Delete Temporary Internet Files using the utility in your browser (e.g., View/Internet Options/Delete Files). Also check the amount of disk space that is set aside for these files. More is not better in this case.

  f) Empty the recycle bin.

- ***Run the Scandisk and Defrag utilities*** in Start Menu/Programs/ Accessories/System Tools. These utilities will check your hard disk for bad sectors or corrupt files and can move data to healthier locations. Be sure to have a good backup before you perform this task.

- ***Create or Update your computer's startup disk.*** Every Windows user should have a startup disk and every NT client should have an emergency repair disk.

- ***Check the physical connections.*** Make sure all plugs are fully seated in their connections. Use a true surge protector and not a power strip. A UPS is a smarter choice. Often times the only problem with a system is that an expansion card isn't seated all the way.

- ***Clean the system fans.*** Using an air compressor or canned air, blow the dust from the power-supply fan, the CPU fan and other fans, as well as the inside of the computer.

- ***Power your system down.*** Software problems frequently disappear simply by rebooting the computer. It is particularly important to regularly power down systems that run 24/7 – this will clear the memory of lingering data.

- ***Check the network hardware.*** It is necessary to check and reboot modems, hubs, routers, switches and servers when possible. These should be powered down on a regular schedule to insure that memory is flushed and connections are secure. In regards to modems check with your ISP in regards to their recommendation on rebooting these. The above devices also should be on a surge protector or UPS.

- **Check for snoopware, spyware, marketing software.** Not all of this kind of software is malicious but there are know problem software which we will get into in another newsletter. Some of the big offenders are KAZZA, GATOR and Weatherbug (which contains GATOR)

<u>Software that require updates</u>

- Windows operating system

- Internet Explorer browser

- Microsoft Office applications (which produce files which can be shared or distributed)

- Other software applications – accounting, biz specific, etc.

- Video drivers and other hardware drivers.

- E-mail

- Antivirus

- Spyware detector programs and inoculations

- Firewall

- Firmware – this is software that resides in a chip on different hardware components – Such as CDROM /DVD Burners, Video Cards, Routers.

Our bi-weekly newsletter will contain a cleaning and maintenance schedule, a list of technical checks and other pertinent information on these subjects.

Happy Computing!!

Dennis