

Tech Perspective looks at technology-related issues and provides information and advice that cleaning professionals can apply to equipment selection and to their daily work in the field. Industry members are welcome to offer ideas for this column. Please direct them to editor Ted J. Rulseh, editor@cleaner.com.

Tech Perspective

An Ounce of Prevention

Like any machine, your computer needs regular maintenance. Here is some basic advice for keeping your system running fast and protecting it from threats.

By Doug Day

You tell your customers to do maintenance on their drain and sewer systems. Do you take your own advice when it comes to your computer?

Like any machine, your computer needs care. If you neglect it, it will slow down significantly and cause you all manner of other problems. Here is some basic advice on keeping your computer equipment – without which your business can't function – in the best possible operating condition.

Basic housekeeping

You may not know it, but your computer is full of junk files. Every time you open a file, your computer stores a record of it. The same is true of every Web site you visit, every change you make to a document, every e-mail you send or receive, every program you install. It doesn't take long for all of these little bits and bytes to add up, and slow your computer down.

Want to see how much junk you have lying around? If you use Windows, click on Start, All Programs, Accessories, System Tools, Disk Cleanup. There, you'll see the junk, from old and useless setup files, to temporary files from the Internet and programs you use, to your recycle bin.

There are many free or cheap programs that will help you keep your computer clean and efficient: registry cleaners, spyware and virus programs, start-up managers, and others. But be careful! Stick with well-known programs or companies,

or you may just make the problem worse. It helps to do a quick Internet search to see what other people are saying about such programs before installing them yourself.

Or better yet, hire someone to do all of this for you. Any computer repair shop or IT firm will know what to do (as will many 13-year-olds).

Why it slows down

You might think of your hard drive as a filing cabinet. In a way, it is a file cabinet, but one that belongs to a very disorganized person. Every time a file is changed, its data gets saved in different places; it is not all kept together. It's like putting pieces of paper in a filing cabinet in the order you receive them instead of in separate folders.

The computer is smart enough to go around and piece it all together. Over time, though, you get all sorts of wasted data sitting around on your hard drive. So it takes the computer longer to find everything. The fix is called a defragmenting (defrag) of your hard drive. It takes all those little file segments and puts them together.

In Windows, you access a simple defrag tool at Start, Programs, Accessories, System Tools, Disk Defragmenter. There are other programs available for a small fee, or even free, over the Internet.

Shut it down

As a general rule, you should get into the habit of turning your computer off now and then if you don't turn it off every night. Turning

your machine off lets all the programs reboot, cleaning out some of the junk that may be slowing your machine down or causing it to crash. It also clears out the computer's memory and will shut down any unneeded or defective applications that are running in the background.

To see all the processes that are running, open Task Manager (in Windows) by holding down the Control, Alt, and Delete keys at the same time (or Control, Shift, Escape). Now click on the Processes tab and you'll probably find dozens of little programs that are running. Many programs even keep running in the background after you shut them down.

Stay updated

Are your computer programs and operating system up to date? Most offer a free update service when you install them. Use it. Updating fixes little bugs in the program and fixes any security vulnerabilities the crooks have found. Sometimes, the company sends out an update that simply improves the program's performance or features.

Use the firewall

Your operating system probably includes a firewall. Use it. Simple explanation: A firewall helps keep bad guys and bad stuff out of your computer. It does not protect from viruses or spyware, though virus programs sometimes include a firewall. In Windows, you turn the firewall on by clicking on Start, Control Panel, then double-clicking on Windows Firewall.

Keep the registry clean

First, a disclaimer: If you don't know what a registry is, you don't want to mess with it. If you know what it is, you still don't want to mess with it. If you really know what you're doing, mess with it at your own risk. You can do permanent damage.

A computer's registry keeps track of everything on your computer – all the settings, programs, user preferences and configuration information, and a whole lot more. If you're curious, you can see the registry (in Windows) by clicking on Start and Run, type in regedit and click on Okay. You'll see about five funny-looking folder names like HKEY_CLASSES_ROOT. Just click on one of the plus signs to expand that folder and you'll see hundreds or thousands of settings – and that's just the beginning. Now, close the editor and don't ever go back there again.

The registry can be corrupted by viruses, and installing and uninstalling software will leave unneeded settings that will eventually reduce the performance of your computer. Registry cleaners know what to clean out and what to leave alone.

Danger lurks

If you are connected to the Internet, you are vulnerable to attacks from hackers, crooks and just plain old ruffians who happen to know a lot about computers. If you don't protect yourself, you will eventually have a problem with malware – the generic term for malicious software. It could be a nuisance, or it could

destroy your computer. While most malware is designed to attack machines running Windows, some target Macintosh machines. Spyware is a risk to both.

A computer virus destroys data or programs, can copy itself, and spreads through the Internet and portable storage devices like flash drives. You need an anti-virus program. But do some research – some anti-virus programs slow down your computer so much that they are worse than many viruses! There are a number of free programs available

Spam is normally advertising a scam, such as the lady in Zimbabwe who wants you to help her get money out of the country and will give you \$3 million for your trouble. (Yes, people do fall for that – on a regular basis.)

Spam also advertises rip-off schemes, such as donations for otherwise worthy causes, products that don't work or that will never be delivered, counterfeit medicines, and college degrees without taking classes.

Phishing is similar to spam, except it is an outright, boldfaced

out your memory. Don't be surprised the first time you run this program – it will find literally thousands of fixes, and then fix them in just a minute or two.

CCleaner from Piriform. This free program quickly cleans out junk files and cookies (little packs of data sent from Web sites to your browser), cleans your registry, and speeds up your computer. It's quick and effective, but not as broad as Advanced SystemCare. Neither catches everything, and both catch some things the other misses.

system the more work it will take.

Is it worth it? Well, imagine losing all the data about your company: billing records, tax records, customer information, work schedule, payroll – everything! Backing up comes at a cost, but it is much less expensive than the cost to recover data from a failed hard drive.

If you're working on a single computer or a few that are not networked together, you'll need some kind of a storage device, such as an external hard drive, and software to conduct the backup function for you.

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and, for the most part, they work as well as the ones you buy. Either way, make sure the program includes an update feature. New viruses hit the Internet every day.

If you've spent more than 18 seconds on the Internet, you have some kind of spyware on your computer. Sure, that's an exaggeration, but you get the point (it probably doesn't take 18 seconds to get infected). Spyware can get into your computer in any number of ways, usually through some kind of a download (though you may not even know you're downloading it).

Spyware is much like a virus. It can collect information about you and your computer and send it to someone you probably wouldn't like very much. It can also install other software and spyware, change your settings, and make your computer do things you don't want it to do. It is also a common reason for your computer operating slowly. If you suddenly start getting a lot of advertising pop-ups, your Internet home page changes, or your computer slows down or just starts acting funny, you are infected.

Spam and phishing

Spam e-mail is more of a nuisance than a threat, though spam messages can also carry viruses that turn your computer into a secret spamming computer. Experts say spam makes up from 80 to 95 percent of all e-mail traffic.

crime. It tries to trick you into entering passwords and personal data like bank account numbers by pretending to be from a legitimate business. It can be hard to detect, but it's easy to avoid. Your bank or other business won't ask you for such personal information in an e-mail.

Do not reply to spam or click on an unsubscribe link – or any other link – in a spam message. Replying only tells the spammers they have found a working e-mail address. So they'll add it to all their lists and then sell it to other spammers. What do you do? Just use your delete key.

Protection

Invest a little bit of time to build up your computer's defense system. Without making any endorsements, here are a few popular programs – there are many others. Check each program's user agreement to see if you qualify for the free version. If you don't, the subscription is usually only a couple of dollars. Normally, it takes just a couple of minutes to download and install these services.

Advanced SystemCare from IObit. With one click, the free version quickly finds and erases spyware, malware and many viruses (and prevents them), safely cleans up your registry, and cleans out junk files. It also optimizes your Windows settings, looks for settings that have been hijacked by malicious software, defrags your disks, and even cleans

Ad-Aware from Lavasoft. The free version is very effective at searching out and destroying spyware, malware, viruses and adware. (Like the others, adware downloads ads to your computer based on such things as which Web sites you visit).

Spybot Search and Destroy. A free program that asks for voluntary contributions to help with the cost of keeping the program current. It is one of the most popular spyware programs that removes threats and also prevents known spyware programs. It even protects critical portions of your registry.

SPAMfighter Standard. A free service from SPAMfighter for Outlook, Outlook Express and Windows Mail, it can also be upgraded with a paid subscription.

avast! Home Edition. This is another free anti-virus program that can be upgraded with a subscription. While not perhaps as fancy as paid services, it seems to do a good job without bogging down your computer.

There are many commercial programs that protect you from malicious software. Among the popular companies are BitDefender, Kaspersky, Webroot AVG, Trend Micro, McAfee and Norton.

Back it up

Last and probably most important is to make regular backups of your computer. Depending on your setup, this could entail a fair amount of work. Oddly, the smaller your computer

You can also do it to CDs or DVDs or flash drives, though that can be limited by the amount of data you are backing up.

If you're on a network, you can add software to do it for you. You can also use one of the many online services that will store your backup as encrypted files. One of those, Carbonite, says that 43 percent of computer users lose important files every year.

A local backup can prevent problems from sudden computer or disk failures, viruses, worms and the other killers. Better yet is a remote backup, where files are stored somewhere away from your place of business. That will protect you from small problems and major disasters such as fire, flood or tornado.

Business simply doesn't function without computers these days. So take the time to protect one of your most valuable assets. For those who decide to heed this advice: Good job! For those who choose to ignore it, you might as well hear it now: Told you so. ■

Doug Day is a writer and frequent contributor to COLE Publishing magazines. He's not an information technology professional, but his two adult sons are. They reviewed this article and were surprised by how much dad had learned from them.