Computers and Stuff.

Sam Houliston.

Report scams to the ACCC via www.scamwatch.gov.au or by calling 1300 795 995.

2017: More Apple Security Flaws, Cyberattacks, Hacktivisim.

Be warned! More security vulnerabilities will appear in Adobe and Apple's software than in Microsoft's, more attacks on the Internet's infrastructure will occur, and cybersecurity events will stoke international tensions. Those are a few of the predictions for 2017 from security experts.

Users of Apple desktops and laptops for years have been relatively insulated from the kinds of malicious activity that has besieged those in the Windows world, but that's going to change next year, warned Trend Micro. Declining PC sales and an exodus to mobile platforms have dampened interest in targeting devices running Windows. Microsoft also has upped its security game in recent times, which has made it more difficult for attackers to find vulnerabilities in Windows.

Signs of hackers' increased interest in Adobe and Apple started appearing in 2016. Zero day vulnerabilities -- flaws unknown to researchers until malicious actors exploit them -- numbered 135 for Adobe compared to 76 for Microsoft. Meanwhile, Apple's vulnerability count during the same period increased to 50, shooting up from 25 in 2015.

The increased attention Apple has drawn from criminals can be associated with its growing success in the desktop and laptop market. There's a much broader use of Apple products now and the criminals go where consumers and enterprises are. If consumers and enterprises are utilizing more Apple products, then that's where they're going to focus their activity, because that's where the money is going to be.

Distributed denial of service attacks have long functioned as a cyberweapon against websites, but their use reached a new level in 2016, when they disrupted Internet service in parts of North America and Europe by choking an important piece of Net infrastructure: the domain name system. The DNS converts domain names into corresponding IP addresses. If a domain name can't be paired with its IP address, then a browser becomes lost on the Net.

More "upstream" attacks on the Internet will take place in 2017. If you're an enemy of someone who depends on the Internet for business or commerce, it was shown last year that if you upstream a little bit and launch a crafted Denial of Service attack, you can bring down large provider websites and infrastructure and really sock it to your emeny. In 2017, we're going to see more upstream attacks and DDoS (Distributed Denial of Service) is going to make a comeback as a cyberweapon, we're going to see a powerful denial of service attack on something that will cause problems for a national infrastructure.

Simmering tensions over nations hacking nations will come to a boil in 2017. Geopolitics will be the harbinger for cyberattacks in 2017 which will be fostered by both old and new presidents of the United States. Due to the new president rhetoric against China, Chinese hacking will begin again with increased vigour and North Korea will commence more denial of service attacks against the West. In addition, President Trump's anti-Muslim statements during the presidential campaign have increased the membership of cyberterrorist organizations -- like al-Qaida and the Cyber Caliphate -- that will use their new resources to dismantle and destroy U.S. infrastructure in the coming year.

Russian cyberattacks also will increase.

It's coming so be warned. Keep all your systems up to date.


Battery Improvements.

Smartphones, laptops, electric cars—whatever the device, an efficient battery is high on any user's wish list. The search for the next-generation battery has recently focused on sodium–oxygen batteries. Theoretically, these should provide previously unattainable efficiency but their practical implementation has proven to be a stumbling block. Researchers now report in the journal Angewandte Chemie, that a highly concentrated electrolyte solution may make the sodium–oxygen battery more stable and therefore more practicable. Researchers have high hopes for alkali metal/oxygen batteries, because their

theoretical energy density is particularly high. In such batteries, one electrode is made from the pure alkali metal. Upon discharging, this electrode gives up electrons to the circuit and positive ions to the electrolyte. The counter electrode is made of porous carbon and is in contact with the air. At this electrode, oxygen is reduced by taking up electrons in the presence of the metal ions. This may result in a variety of metal oxide compounds. As the battery is charged, this process is reversed: Oxygen (O_2) is released to the air at the positive electrode, while the alkali metal is deposited at the negative electrode.
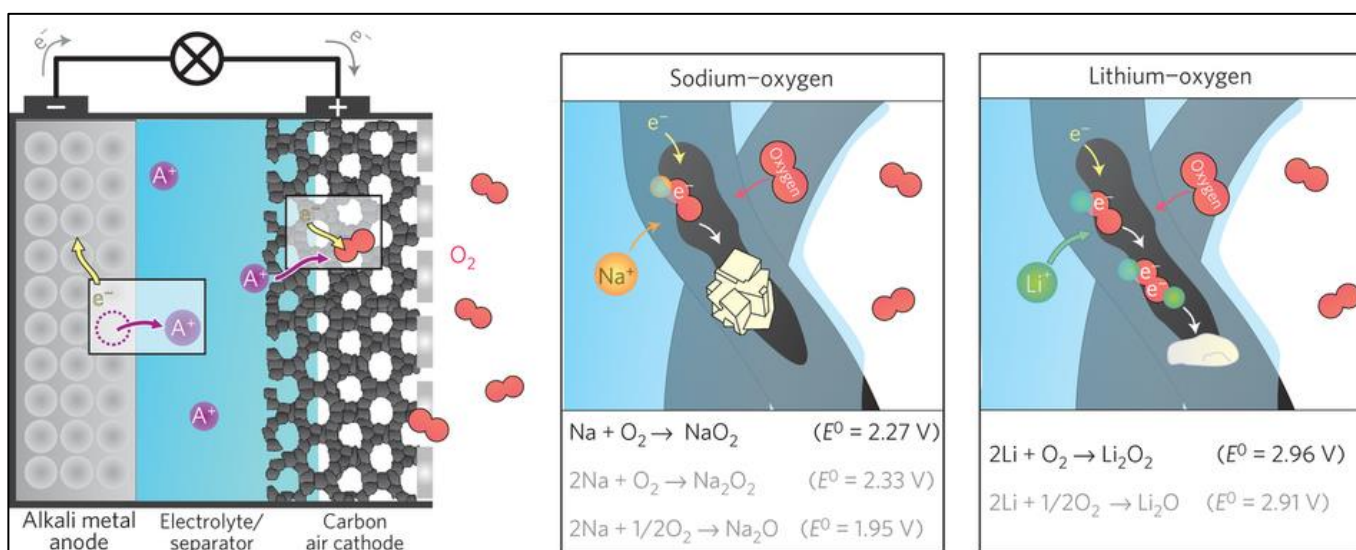
A number of fundamental problems stand in the way of practical implementation of such systems:

- insufficient rechargeability, numerous side reactions that limit the stability; and,
- in trials using lithium, clogging of the porous electrode by lithium peroxide.

Sodium is much easier to obtain and may be a better choice. Sodium–oxygen cells surprisingly do not produce sodium peroxide, instead making mainly sodium superoxide (NaO_2), which can be almost reversibly converted back to the elements during charging.

The system also requires an anhydrous, aprotic solvent (that cannot release any H^+ ions) for the electrolyte. Dimethyl sulfoxide (DMSO) is a good choice for electrochemical applications, but it unfortunately reacts with sodium to form products that can be problematic.

A team at the Ohio State University have found an approach to solve this problem. The researchers built a small battery which demonstrated good electrochemical properties and underwent 150 charge/discharge cycles without any notable loss of efficiency. In contrast, cells with a dilute electrolyte solution could only last for 6 cycles.
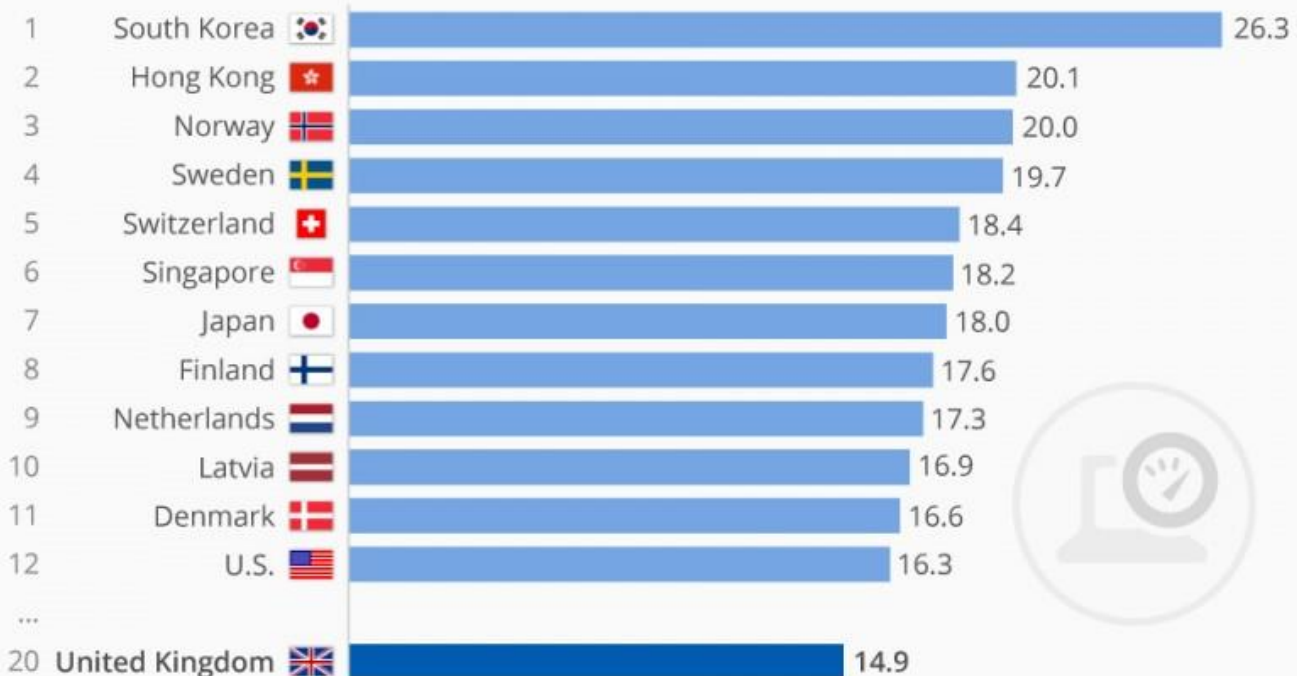
I think my neighbour is stalking me as she's been Googling my name on her computer.
I saw it through my telescope last night.

Internet Speeds.

According to Akamai, South Korea is well ahead of the pack when it comes to fast internet. With an average connection speed of 26.3 Mbps, 10 more than the US, no country even comes close. The UK has even less to shout about than the US with a paltry 14.9 Mbps. For an advanced country with a small geographical area to cover, you would be excused for expecting to see the island nation significantly higher up in the rankings. Australia is way down the list with a disgusting 8.2 Mbps (New Zealand is 9.3 Mbps). See HERE.

The Countries With the Fastest Internet

Average internet connection speed in Q3 2016 (in Mbps)

|	Country	Mbps
1	South Korea	26.3
2	Hong Kong	20.1
3	Norway	20.0
4	Sweden	19.7
5	Switzerland	18.4
6	Singapore	18.2
7	Japan	18.0
8	Finland	17.6
9	Netherlands	17.3
10	Latvia	16.9
11	Denmark	16.6
12	U.S.	16.3
...		
20	United Kingdom	14.9

@StatistaCharts   Source: Akamai

statista

Wifi went down during family dinner tonight.
One kid started talking and I didn't know who he was.

Breakthrough in Radio??

Here's something easy to forget when you are chatting on your cell phone or flipping channels on your smart TV, although wireless communication seems nothing short of magic, it is a brilliant, reality-anchored application of physics and engineering in which radio signals travel from a transmitter to a receiver in the form of electric and magnetic fields woven into fast-as-light electromagnetic waves. That very same physics imposes some strict limits, including ones that frustrate the Department of Defence. Key among these is that radio frequency signals hit veritable and literal walls when they encounter materials like water, soil, and stone, which can block or otherwise ruin those radio signals. This is why scuba buddies rely on sign language and there are radio-dead zones inside tunnels and caves.

With his newly announced A Mechanically Based Antenna (AMEBA) effort, program manager Troy Olsson of DARPA's Microsystems Technology Office is betting on a little-exploited aspect of electromagnetic physics that could expand wireless communication and data transfer into undersea, underground, and other settings where such capabilities essentially have been absent. The basis for these potential new abilities are ultra-low-frequency (ULF) electromagnetic waves, ones between hundreds of hertz and 3 kilohertz (KHz), which can penetrate some distance into media like water, soil, rock, metal, and building materials. A nearby band of very-low-frequency (VLF) signals (3 KHz to 30 KHz) opens additional communications possibilities because for these wavelengths the atmospheric corridor between the Earth's surface and the ionosphere—the highest and electric-charge-rich portion of the upper atmosphere—behaves like a radio waveguide in which the signals can propagate halfway around the planet.

If these experiments are successful, scuba divers would be able to use a ULF channel for low bit-rate communications, like text messages, to communicate with each other or with nearby submarines, ships, relay buoys, UAVs, and ground-based assets. Through-ground communication with people in deep bunkers, mines, or caves could also become possible. And because of that atmospheric waveguide effect, VLF systems might ultimately enable direct soldier-to-soldier text and voice communication across continents and oceans.
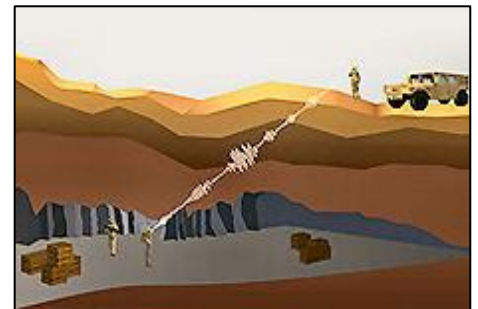
To date, there's been a huge and expensive rub to actually pulling off low-frequency radio communication in the versatile ways that Olsson has in mind. The wavelengths of VLF and ULF radio signals rival the distances across cities and states, respectively. And since longer wavelengths have required taller antennas, communications in these frequency bands have entailed the construction of enormous and costly transmitter structures. A VLF antenna that the US Navy built on a remote peninsula in Cutler, Maine, in the heat of the Cold War just to send a trickle of data to submarines makes the point, the gargantuan transmitter complex occupies 2,000 acres, features 26 towers up to 1,000 feet high, and operates with megawatt levels of power.
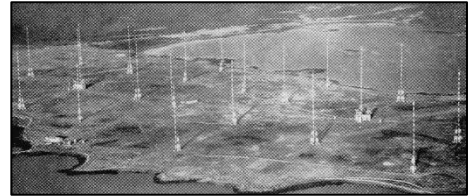
With the AMEBA program, Olsson aims to develop entirely new types of VLF and ULF transmitters that are sufficiently small, light, and power efficient to be carried by individual war-fighters, whether they are on land, in the water, or underground. Rather than relying on electronic circuits and power amplifiers to create oscillating electric currents that, when driven into antennas, initiate radio signals, the new low-frequency VLF and ULF antennas sought in the AMEBA program would generate the signals by mechanically moving materials harbouring strong electric or magnetic fields.

In principle, this is as simple as taking a bar magnet or an electret—an insulating substance, such as a cylinder of quartz (silica) glass, in which positive and negative electric charges are permanently segregated to create an electric dipole— and moving it at rates that will generate ULF and VLF frequencies. To open up practical new capabilities in national security contexts, however, the challenges include packing more powerful magnetic and electric fields into smaller volumes with smaller power requirements than has ever been achieved before for a ULF or VLF transmitter. That will require innovations in chemistry and materials (new magnets and electrets), design (shapes and packing geometries of these materials), and mechanical engineering (means of mechanically moving the magnets and electrets to generate the RF signals).

Mobile low-frequency communication has been such a hard technological problem, especially for long-distance linkages, that there has been little progress for ages, but with AMEBA, it is expected that will change. If things go as planned (and hoped) they should be able to give our war-fighters extremely valuable mission-expanding channels of communications that no one has had before.

My mom said that if I don't get off my computer and do my homework

Who said size doesn't matter?? – could be right!!

Researchers from the Harvard John A. Paulson School of Engineering and Applied Sciences have made the world's smallest radio receiver - built out of an assembly of atomic-scale defects in pink diamonds. This tiny radio, whose building blocks are the size of two atoms, can withstand extremely harsh environments and is biocompatible, meaning it could work anywhere from a probe on Venus to a pacemaker in a human heart.

The radio uses tiny imperfections in diamonds called nitrogen-vacancy (NV) centres. To make NV centres, researchers replace one carbon atom in a diamond crystal with a nitrogen atom and remove a neighbouring atom, creating a system that is essentially a nitrogen atom with a hole next to it. NV centres can be used to emit single photons or detect very weak magnetic fields. They have photoluminescent properties, meaning they can convert information into light, making them powerful and promising systems for quantum computing, phontonics and sensing. (Can you believe all this stuff?? - tb)

Radios have five basic components—a power source, a receiver, a tuner, a transducer to convert the high-frequency electromagnetic signal in the air to a low-frequency current, and a speaker or headphones to convert the current to sound.

In the Harvard device, electrons in diamond NV centres are powered, or pumped, by green light emitted from a laser. These electrons are sensitive to electromagnetic fields, including the waves used in FM radio, for example. When NV centre receives radio waves it converts them and emits the audio signal as red light. A common photodiode converts that light into a current, which is then converted to sound through a simple speaker or headphone.

An electromagnet creates a strong magnetic field around the diamond, which can be used to change the radio station, tuning the receiving frequency of the NV centres. The developers used billions of NV centres in order to boost the signal, but the radio works with a single NV centre, emitting one photon at a time, rather than a stream of light.

The radio is extremely resilient, thanks to the inherent strength of diamond. The team successfully played music at 350 degrees Celsius. This radio would be able to operate in space, in harsh environments and even the human body, as diamonds are biocompatible.

10 Windows Tweaking Myths Debunked.

Windows is big, complicated, and misunderstood. You'll still stumble across bad advice from time to time when browsing the web. These Windows tweaking, performance and system maintenance tips are mostly just useless, but some are actively harmful. Luckily, most of these myths have been stomped out on mainstream sites and forums, however, if you start searching the web, you'll still find websites that recommend you do these things.

My advice – don't!

1. Erase cache files regularly to speed things up.

You can free up disk space by running an application like CCleaner, another temporary-file-cleaning utility, or even the Windows Disk Cleanup tool. In some cases, you may even see an old computer speed up when you erase a large amount of useless files, however, running CCleaner or similar utilities every day to erase your browser's cache won't actually speed things up. It will slow down your web browsing as your web browser is forced to redownload the files all over again and reconstruct the cache you regularly delete. If you've installed CCleaner or a similar program and run it every day with the default settings, you're actually slowing down your web browsing. Consider at least preventing the program from wiping out your web browser cache.
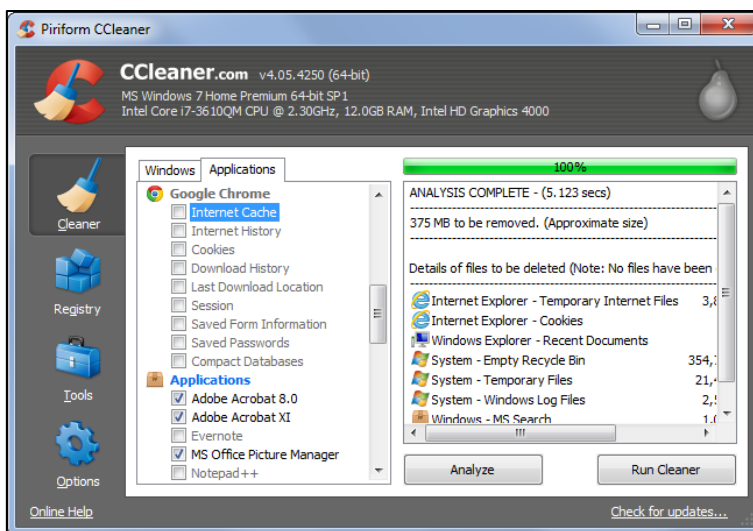
2. Enable ReadyBoost to Speed Up Modern PCs.

Windows still prompts you to enable ReadyBoost when you insert a USB stick or memory card. On modern computers, this is completely pointless, ReadyBoost won't actually speed up your computer if you have at least 1 GB of RAM. If you have a very old computer with a tiny amount of RAM, think 512 MB, ReadyBoost may help a bit. Otherwise, don't bother.

## 3. Open the Disk Defragmenter and manually Defragment.

On Windows 98, users had to manually open the defragmentation tool and run it, ensuring no other applications were using the hard drive while it did its work. Modern versions of Windows are capable of defragmenting your file system while other programs are using it, and they automatically defragment your disks for you.

If you're still opening the Disk Defragmenter every week and clicking the Defragment button, you don't need to do this, Windows is doing it for you unless you've told it not to run on a schedule. Modern computers with solid-state drives don't have to be defragmented at all.

4. Disable Your Page-file to increase Performance.

When Windows runs out of empty space in RAM, it swaps out data from memory to a pagefile on your hard disk. If a computer doesn't have much memory and it's running slow, it's probably moving data to the pagefile or reading data from it.

Some Windows geeks seem to think that the pagefile is bad for system performance and disable it completely. The argument seems to be that Windows can't be trusted to manage a pagefile and won't use it intelligently, so the pagefile needs to be removed.
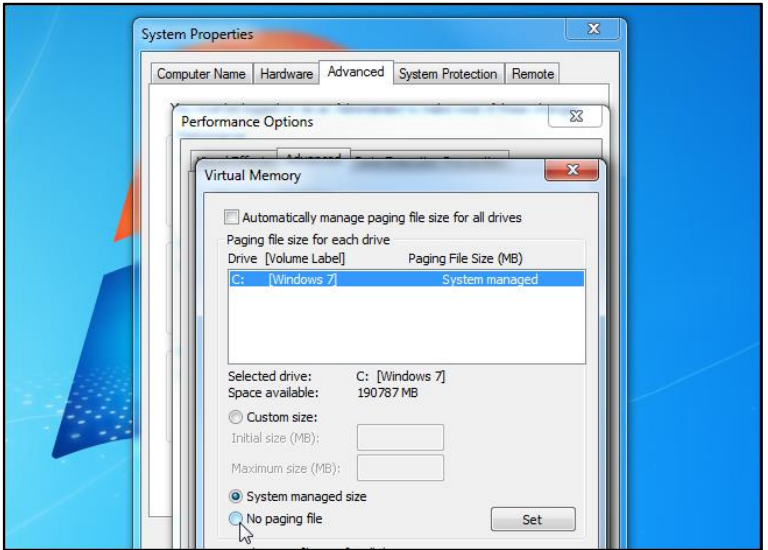
As long as you have enough RAM, it's true that you can get by without a pagefile, however, if you do have enough RAM, Windows will only use the pagefile rarely anyway. Tests have found that disabling the pagefile offers no performance benefit.

5.   Enable CPU Cores in MSConfig.

Some websites claim that Windows may not be using all of your CPU cores or that you can speed up your boot time by increasing the amount of cores used
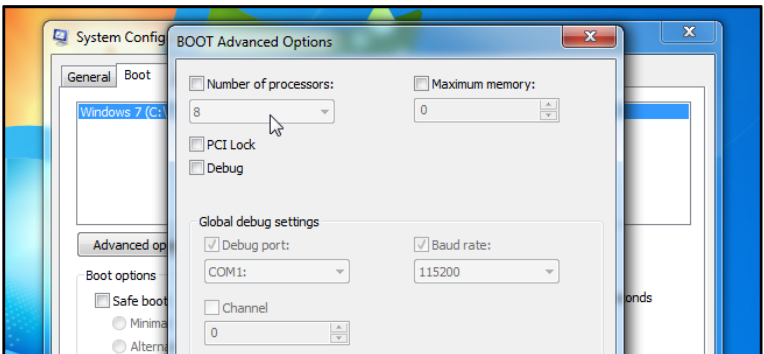
during boot. They direct you to the MSConfig application, where you can indeed select an option that appears to increase the amount of cores used.

In reality, Windows always uses the maximum amount of processor cores your CPU has. (Technically, only one core is used at the beginning of the boot process, but the additional cores are quickly activated.) Leave this option unchecked. It's just a debugging option that allows you to set a maximum number of cores, so it would be useful if you wanted to force Windows to only use a single core on a multi-core system — but all it can do is restrict the amount of cores used.

6. Clean Your Prefetch to increase Startup Speed.

Windows watches the programs you run and creates .pf files in its Prefetch folder for them. The Prefetch feature works as a sort of cache, when you open an application, Windows checks the

Prefetch folder, looks at the application's .pf file (if it exists), and uses that as a guide to start preloading data that the application will use. This helps your applications start faster.

Some Windows geeks have misunderstood this feature. They believe that Windows loads these files at boot, so your boot time will slow down due to Windows preloading the data specified in the .pf files. They also argue you'll build up useless files as you uninstall programs and .pf files will

be left over. In reality, Windows only loads the data in these .pf files when you launch the associated application and only stores .pf files for the 128 most recently launched programs.
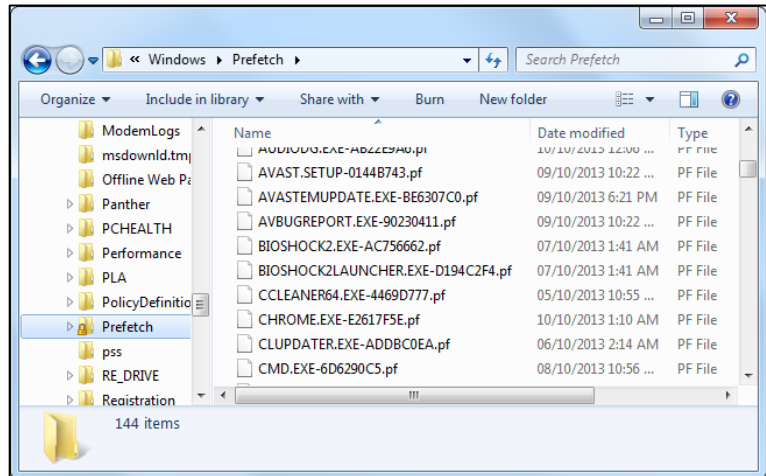
If you were to regularly clean out the Prefetch folder, not only would programs take longer to open because they won't be preloaded, Windows will have to waste time recreating all the .pf files. You could also modify the PrefetchParameters setting to disable Prefetch, but there's no reason to do that. Let Windows manage Prefetch on its own.

7. Disable QoS to increase Network Bandwidth.

Quality of Service (QoS) is a feature that allows your computer to prioritize its traffic. For example, a time-critical application like Skype could choose to use QoS and prioritize its traffic

over a file-downloading program so your voice conversation would work smoothly, even while you were downloading files.

Some people incorrectly believe that QoS always reserves a certain amount of bandwidth and this bandwidth is unused until you disable it. This is untrue. In reality, 100% of bandwidth is normally available to all applications unless a program chooses to use QoS. Even if a program does choose to use QoS, the reserved space will be available to other programs unless the program is actively using it. No bandwidth is ever set aside and left empty.

8. Set DisablePagingExecutive to make Windows faster.

The DisablePagingExecutive registry setting is set to 0 by default, which allows drivers and system code to be paged to the disk. When set to 1, drivers and system code will be forced to stay resident in memory. Once again, some people believe that Windows isn't smart enough to manage the pagefile on its own and believe that changing this option will force Windows to keep important files in memory rather than stupidly paging them out.
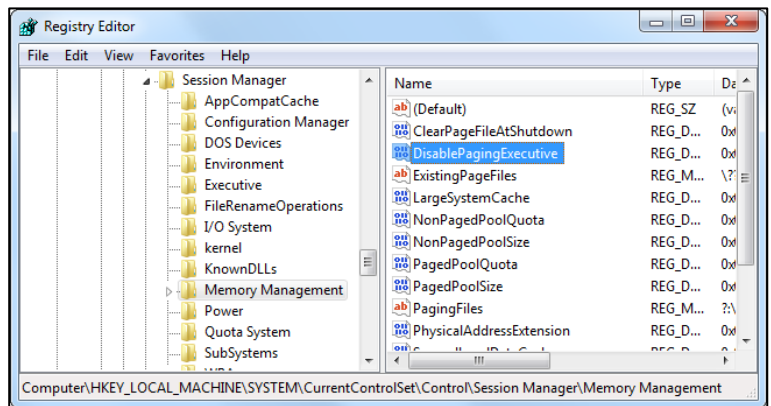
If you have more than enough memory, changing this won't really do anything. If you have little memory, changing this setting may force Windows to push programs you're using to the page file rather than push unused system files there, this would slow things down. This is an option that may be helpful for debugging in some situations, not a setting to change for more performance.

9. Process idle tasks to Free Memory.

Windows does things, such as creating scheduled system restore points, when you step away from your computer. It waits until your computer is "idle" so it won't slow your computer and waste your time while you're using it.

Running the "Rundll32.exe advapi32.dll,ProcessIdleTasks" command forces Windows to perform all of these tasks while you're using the computer. This is completely pointless and won't help free memory or anything like that , all you're doing is forcing Windows to slow your computer down while you're using it. This command only exists so benchmarking programs can force idle tasks to run before performing benchmarks, ensuring idle tasks don't start running and interfere with the benchmark.

10.   Delay or Disable Windows Services.

There's no real reason to disable Windows services anymore. There was a time when Windows was particularly heavy and computers had little memory — think Windows Vista and those "Vista Capable" PCs Microsoft was sued over. Modern versions of Windows like Windows 7 and 8 are lighter than Windows Vista and computers have more than enough memory, so you won't see any improvements from disabling system services included with Windows.

Some people argue for not disabling services, however — they recommend setting services from "Automatic" to "Automatic (Delayed Start)". By default, the Delayed Start option just starts services two minutes after the last "Automatic" service starts.

Setting services to Delayed Start won't really speed up your boot time, as the services will still need to start, in fact, it may lengthen the time it takes to get a usable desktop as services will still be loading two minutes after booting. Most services can load in parallel and loading the services as early as possible will result in a better experience. The "Delayed Start" feature is primarily useful for system administrators who need to ensure a specific service starts later than another service.

If you ever find a guide that recommends you set a little-known registry setting to improve performance, take a closer look — the change is probably useless and could harm your computer.
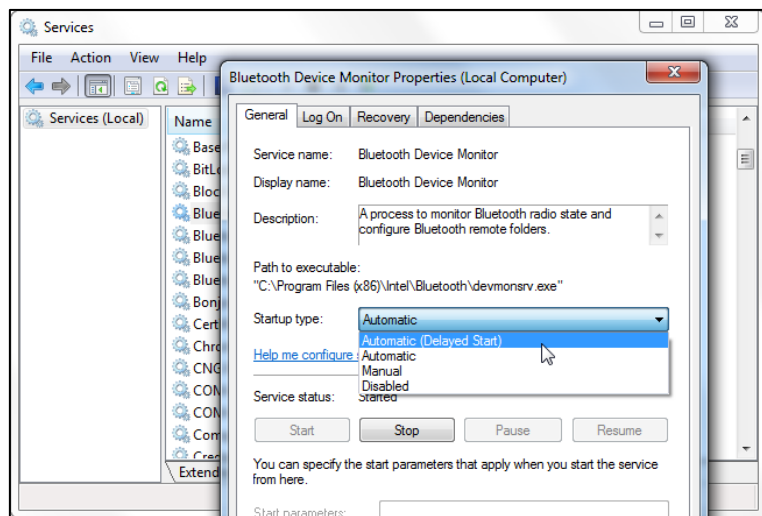
Any room is a panic room if you've lost your phone in it.

Want to actually speed-up your PC?

The 10 tips above are what not to do to speed up your computer, following is the best and safest way to speed up a slow computer.

Programs that automatically start with Windows can slow down your computer's boot time, making you wait to get a useful desktop while icon after icon loads into your system tray. Fortunately, it's possible to prevent these programs from automatically starting.

Some of these programs perform a useful function, but many autostart programs are unnecessary and do little more than slow down your boot time, particularly programs that may have been preinstalled by your computer's manufacturer.

When your computer starts, or, more accurately, when you log into your computer, Windows loads your desktop and all the system processes it requires. Windows also loads programs that are configured to automatically start with Windows. These could be chat programs, file-downloading applications, security tools, hardware utilities, or many other types of programs. On a typical Windows computer, you'll likely find quite a few programs automatically starting with Windows. Windows hides most of these programs in the system tray beneath an arrow by default. This helps unclutter your taskbar, but it doesn't help speed up your boot times.

Every startup program your computer loads increases the time you must wait for a usable Windows desktop. Small programs may load very quickly, but heavier programs generally take longer to load. Multiply this by the many different programs set to automatically start with Windows on a typical PC and you'll see significant increases in boot time. Several years ago, studies found that startup programs installed by a Windows computer's manufacturer could increase a typical Windows computer's boot time by as much as two minutes.

Startup programs also occupy memory and use other system resources, although their presence will typically be felt mostly through longer boot times. Worse yet, these programs are often not important, so you're getting a longer boot time for no real advantages.

Most Windows computers include quite a few programs set to automatically start out-of-the-box. Other programs you install afterwards may also set themselves to automatically start. Most of these programs will appear in your system tray, but some may not and may run hidden in the background. Programs automatically start for a variety of reasons:
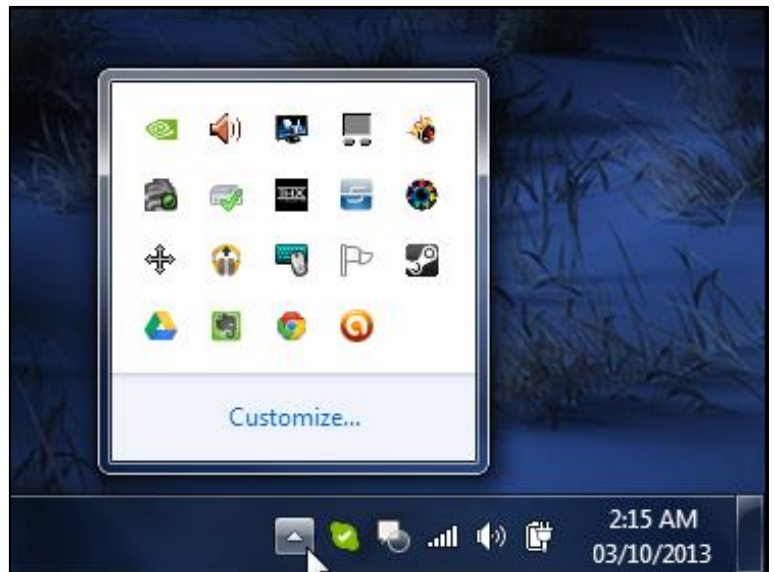
To stay connected: Programs like Skype and other instant messaging solutions automatically start up by default, keeping you signed in so you can be contacted by other users.

To download and upload: Steam automatically starts to download the latest updates for your PC games in the background, while uTorrent and other file-downloading programs automatically start so they can continue your active downloads.

To stay running: Programs like Dropbox, Google Drive, and SkyDrive start up with Windows so they're always running, downloading and uploading your files. Other programs, like your antivirus program, automatically start for the same reason — so they'll always be running in the background.

To control your hardware: Hardware utilities often automatically start to monitor your hardware and provide quick access to settings.

Some programs may just automatically start to preload themselves so they'll open more quickly when you need them. Other programs may place themselves in the system tray exclusively to give you quick access to certain settings. In many cases, you may not want these programs to automatically start with Windows.

You can often prevent a program from automatically starting in its preferences window. For example, common programs like uTorrent, Skype, and Steam allow you to disable the autostart feature in their options windows, however, many programs don't allow you to easily prevent them from automatically starting with Windows. How you should disable such startup programs depends on the version of Windows you're using. If you use Windows 7 or earlier, you can use built-in MSConfig tool to disable startup programs, but we recommend you download the free CCleaner and use its built-in Startup Manager — you'll find it under the Tools section in CCleaner.

If you haven't got CCleaner, you can download it for free [HERE](#).

If you're using Windows 8 or 10, you'll find a new startup manager in the Windows Task Manager. This tool also
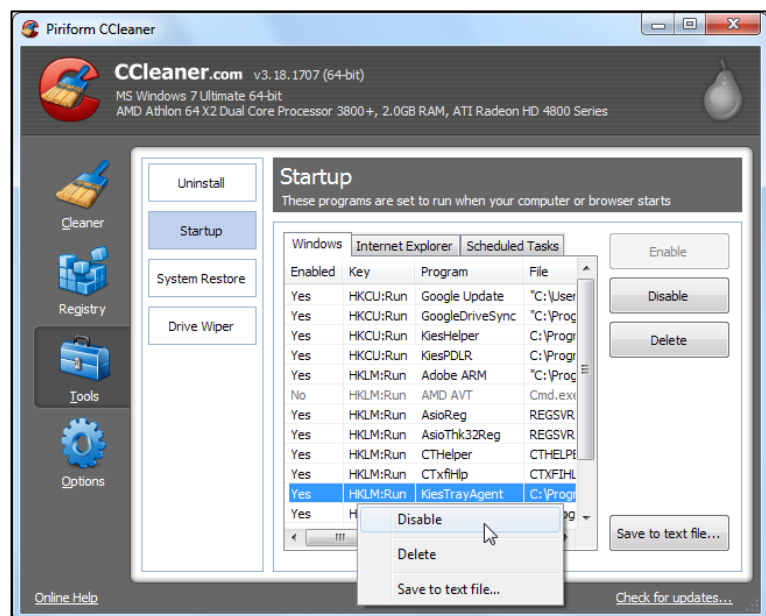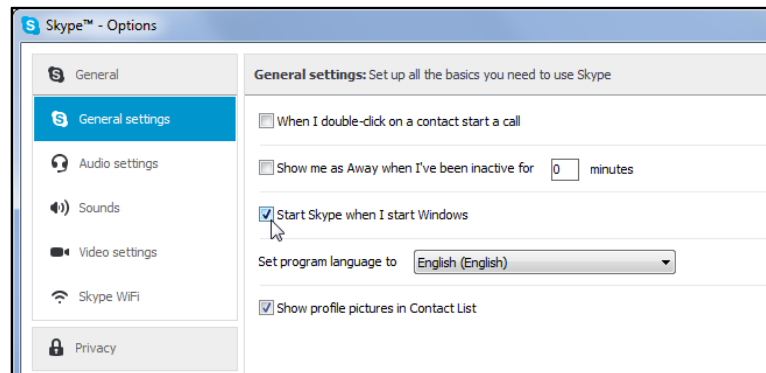
informs you how long each program takes to start when you log in, showing you which programs are really slowing down your boot time. The pic below is Windows 8 Task Manager.

With the nuts and bolts out of the way, all that's left is deciding which programs are important and which you'll want to disable. First, use a bit of common sense to understand what each program may be doing. For example, uTorrent is clearly starting so it can continue downloading files, while Skype is starting so it can keep you logged in in the background. if you don't care about continuing to download files or automatically logging into Skype, you can disable these programs and load them normally when you want to use them.
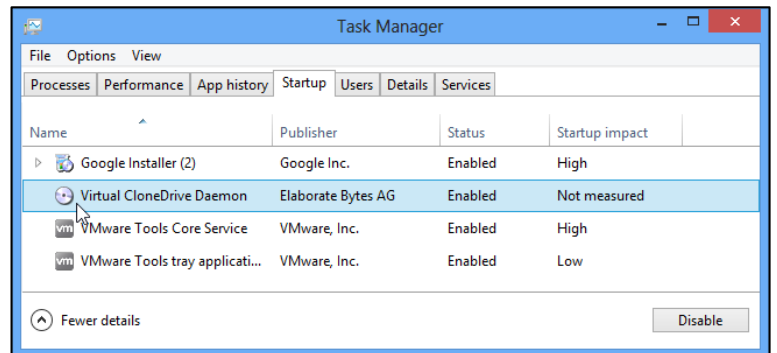
This only goes so far, however. Some autostart programs may have names you don't recognize, they may have been included with your computer or a hardware driver and not be related to software programs you use. For more information, you can perform a web search for the name of the program and see what other people are saying. This will give you more information about the program, letting you know whether or not it's useful.

With Windows 8 and 10's task manager, you can right-click an autostart entry and select Search online to quickly perform a web search for it.

Some Windows software, both software included with Windows and some software added by programs you install, run as low-level system services. For example, Adobe Flash installs an updater service that will automatically check for updates in the background.
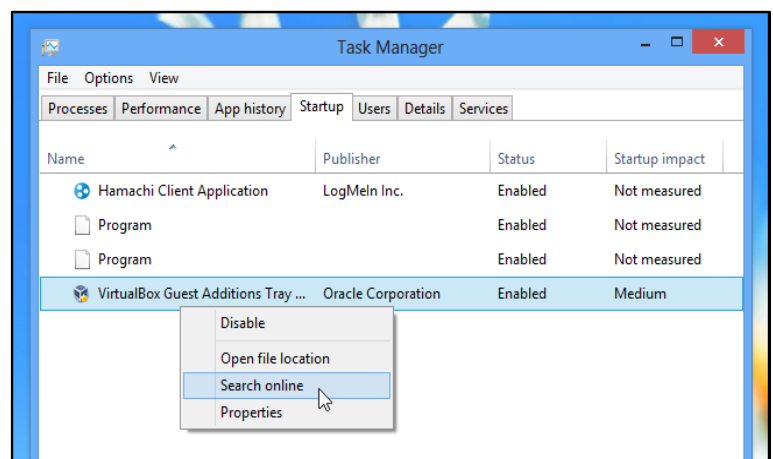
These services can be managed from the Services configuration tool in Windows, however, we don't recommend messing with these, most programs won't install services and the ones that do generally need the services for their operation. You won't see much improvement in boot times or memory use from messing with your computer's services, although you could cause problems if you disable the wrong services. We recommend leaving system services alone.

Some programs also install useless browser toolbars, add-ons, and other junk. These won't make your computer take longer to startup, but they automatically start with your browser and can make your browser take longer to start up. Such junk software can be removed from within your browser's options window or by uninstalling them from the Windows Control Panel. CCleaner also allows you to disable such software using its Startup tool.

Maybe if we start telling people the brain is an app they will start using it.

India was the First to Start Selling Fruits & Vegetables ONLINE.