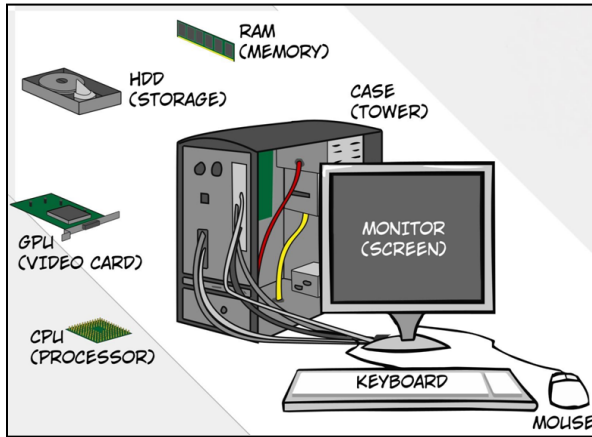


Why are my devices slow by Tom Kreuzer

This document provides information you can use to optimize your devices that are running slow. Options listed work for most devices, but may be in different settings on devices and operating systems. You can spend money on software that claims to optimize a device, but most devices already come with tools to help you manage and optimize.

Slow or old parts in a device



- Some Definitions: Software - programs and apps. OS - Operating System.
- CPU - Runs OS and software. Varies with the number of cores or processors (1-32), Speed GHz, and power/heat saving settings.
- GPU - Graphics Processing Unit or Video CPU. Manages and shows images on the devices screen. Same issues as CPU.
- RAM - Memory to run the OS and software. Too little RAM causes the OS to spend time swapping software in and out of HDD/SSD making it very slow.
- HDD/SSD - Store OS, Software, Documents, Photos, Videos, Music, other user data. SSD "Solid State Drive" are from 3 to 30 times faster than HDD "Hard Disk Drive".
- Network Interface - Internet connection from WiFi, Ethernet "Wire", or cell phone (4G, 5G). It then can connect to a WiFi router, modem, and ISP. Check your internet speed to see what you have.

Uninstall Software

Devices come with pre-installed software "junkware" that you never use. Over time you will have installed software that you no longer use. Be brutal and uninstall everything you don't use. If you are not sure what it does, do a Google search to see what it is. If you delete any software you later need later, you can always install it when needed. Example: I use the MN State Fair app for when I go in August each year, but uninstall it the other 11 months of the year. Unused software uses HDD, RAM, CPU, battery, and slows updates. On a PC use Settings/Apps. Not all programs add an entry in this list, but this shows most of your installed programs. Android - From the Home Screen tap and hold the app, move it slightly, drag it to the Uninstall at the top left of the Home Screen. Apple - From the Home Screen tap and hold the app, select Remove App.

Update OS and Software

Updates and patches help your device run at its best and also fix security problems. Use the automatic or manual update to keep the OS and Software updated. Below is a list of 10 free PC programs to scan and monitor for updates if you need help: <https://www.lifewire.com/free-software-updater-programs-2625200>

Scan for Viruses and Spyware

On a PC I recommend using Microsoft Defender antivirus that comes with Windows. If you feel you need more protection, use the free antivirus from Xfinity/CenturyLink, or free antivirus like Avast, AVG, Malwarebytes, or Bitdefender. Check that you are using the most current definitions and versions. Only have one Antivirus running on your PC and uninstall antivirus you are not using. I don't recommend an antivirus for phones and tablets. Follow basic safe practices and you will be fine. If you do install an antivirus on your phone or tablet, it will slow your device and drain your battery. If you suspect you might have malware, install Malwarebytes, scan, and then uninstall Malwarebytes.

What's running on your PC

On a PC hit Ctrl+Alt+Delete click "Task Manager", then select the Performance tab. If the Memory used is above 90%, it is time to **BUY MORE MEMORY**. The screen also tells you the type of memory and slots used. The CPU reports how busy your multiple CPUs are. The Disk reports how busy your disk is. The Processes tab shows what is running along with how much CPU, Memory, Disk, and Network it is using. It also is used to "End Task" that is locked up. Most PCs have 60-200 processes running at any time. If your PC is running slow, look to see what software is using your CPU, memory, and disk by clicking on the column to sort high to low.

What is running when your PC starts?

Many programs, utilities, and devices install processes that run when your device starts. This causes longer startup, memory usage, battery, and other problems. In Task Manager on a PC open the Startup tab. Names can be cryptic, Google the name for more info. Disabling a program from the startup does not delete any files from your hard drive. You can Enable it later if it does cause a problem. Another tab to check is the Services.

Free up disk space

The Microsoft "Disk Cleanup" frees up space on your PC hard disk to improve the performance. Go to the Start menu/Windows Administrative Tools/Disk Cleanup. If you use browsers like Safari, Chrome, or Firefox, use their function to remove temporary Internet files. For Phones and tablets go to the Settings/Storage/Manage storage. Keep the good photos or videos and delete the rest. Backup and move your good photos and videos to the cloud to free up space.

Defrag your hard drive

When a file is written on your hard drive, it is saved as a number of small (usually 4K) files in the first free spots on the drive. That means a 10 MB file is written in 2,500 free slots. As files are deleted, moved, updated, and just general usage, the files written end up being split all over the drive. The more you use your PC the more fragmented your programs and data get and the longer it takes to find and use what it is looking for. Go to the Start menu/Windows Administrative Tools/Defragment and Optimize Drives. Defrag should not be done for SSDs.

More Tips...

- Close open apps when you are done with them. Leaving them open uses CPU, RAM, and battery.
- Restart your devices to start with a clean memory at least once a week.
- Remove excessive widgets on your phone or tablet home screen like a clock, weather, news, photos, calendar, etc.
- Use Lite edition apps - Google and several other developers offer Lite or Go editions of their apps for old and low-end Android devices with limited RAM and storage. Lite edition apps are smaller, less resource-hungry alternatives.
- Instead of installing an app, try using a website in a browser to see if it provides the functions you need.
- Turn off Siri, Google Voice, and Cortana.
- **Disable PC Indexing Service** - Indexing shortens the time needed to Search your hard drive if you are looking for a specific file or part of a phrase inside a file. The constant indexing of files slows down system performance and does not benefit search performance except for extreme complex searches. To disable the Indexing Service from File Manager right-click on all your hard drive partitions one at a time, left-click "Properties". Uncheck "Allow files on this drive to have contents indexed...".
- **Turn off scans** - Many programs scan your data. Examples: iTunes, Photo packages, Cloud file backup/sync, Music players, Anti-Virus, Updates, Notifications, and many others. Turn off scanning for directories and drives you do not need. Leave your desktop PC on all the time. If you turn it off all the time, when you do start it up, you can have hundreds of scans/tasks running when it starts that can take 5-60 minutes to run. If you can, turn on your laptop, tablet, or phone an hour before you need to use it.
- **Manage Add-ons in your browser** - If your browser is slow loading or showing pages you can experiment with disabling add-ons you have installed like weather or stock info.
- **Factory reset** - If things get so bad, you can always take the big step and reset. Only attempt when things are so bad and you have lots of time. Check the Internet for tips on how to proceed. Make sure to backup all your data first.

Additional Links and Information

Carondelet Tech Help Resources: <https://carondeletvillage.org/tech-help-resources/>
Questions or comments can be sent to: TCKreuzer@gmail.com