



Making an Older Computer Run Faster

DOES YOUR COMPUTER SEEM SLOW THESE DAYS? SEVERAL RELATIVELY EASY TASKS CAN ACCELERATE AN OLDER COMPUTER THAT SEEMS TO BE SLOWING DOWN.

Hardware doesn't degrade over time in a way that makes it slower. Components do age and sometimes fail, but this isn't what causes a computer to seem slower than when it was new. As we add, update, and remove applications from the computer, we may notice that the computer is slower. Starting with Windows 8, Microsoft offered a *reset* option that re-installs Windows in the background.

Two options exist, one that keeps data files and one that restores the machine to its initial state. Both will remove some applications and the one that restores the machine to its out-of-the-box state will delete all applications along with the data.

Have a Mac?

Adding and removing software on a Mac doesn't have the impact it has on Windows-based computers partly because Macs have no Registry.

Adding RAM and upgrading the built-in hard drive to a solid-state device are the best ways to accelerate an older, slower Mac. Opening a Mac's case is more challenging than opening most PC cases, though, because of the tiny mounting hardware.

If you choose to upgrade a MacBook, be sure to review the instructions for the correct model. The process isn't really any more difficult than what a Windows computer user will experience, but a few specialized tools may be required.

Device performance & health

Check that your Windows is up-to-date and if there are any issues impacting your device health. The Health report shows the status of the most recent scan.

Health report
Last scan: 8/24/2018

- Storage capacity
No issues
- Device driver
No issues
- Battery life
No issues
- Apps and software
No issues

Scary? Yes, but sometimes this is the only way (short of buying a new computer) to speed the system's operation. Use the Windows 10 Health Report (above) before starting to find out if there are any hardware issues such as limited storage capacity, device driver problems, and battery limitations. If there are, resolve those problems first. Also, check the Windows 10 Update History to find out if there have been any problems installing updates.

Whether you plan to keep data files or not, be sure to have a complete and verified backup before starting. Too many opportunities exist for catastrophic failure to depend on good luck.

Fresh Start will remove all applications that don't come standard with Windows, and that includes Microsoft Office. Third-party anti-virus software will be removed, too, along with any desktop apps that were installed on the computer by the manufacturer. Microsoft Store apps that were installed by the manufacturer will be retained.

Any applications removed by this process will need to be reinstalled, so make sure that

you have access to CDs, other installation media, downloaded files, and activation keys for any application you'll want to reinstall. If you use applications that have a deactivation option, use this before proceeding.

Microsoft warns that you may "lose digital licenses, digital content associated with apps, or other digital entitlements for apps, which may impact your ability to use apps or app-related content you paid for." Reviewing every installed application before proceeding can eliminate later frustration.

Still Too Intimidating?

IF THAT'S TOO UNNERVING, THERE ARE LESS INTRUSIVE OPTIONS. IN FACT, THESE ARE OFTEN THE BEST FIRST STEPS BECAUSE THEY MAY RESTORE ENOUGH OF THE COMPUTER'S ORIGINAL SPEED THAT MORE AGGRESSIVE MEASURES AREN'T NEEDED.

Name	Publisher	Status	Startup impact
Acronis Scheduler Service ...	Acronis International GmbH	Enabled	Low
Acronis TIB Mounter Mo...	Acronis International GmbH	Enabled	Low
Acronis True Image 2017	Acronis International GmbH	Enabled	High
AcroTray	Adobe Systems Inc.	Enabled	Low
Adobe Creative Cloud	Adobe Systems Incorporated	Enabled	High
Adobe GC Invoker Utility	Adobe Systems, Incorporated	Enabled	Low
Adobe Updater Startup U...	Adobe Systems Incorporated	Enabled	Medium
Amazon Music Helper.exe		Enabled	Low
CalibrationLoader 5.0 Appli...	LOGO Kommunikations- un...	Enabled	Low
CrashPlan for Small Business	Code42 Software, Inc.	Enabled	High
EqualizerPro 64 bit		Enabled	Not measured
FontExpert TypeLLoader	Proxima Software	Enabled	Low
googledrivesync.exe		Enabled	High
Java Update Scheduler	Oracle Corporation	Enabled	Low
Ninite	Secure By Design Inc.	Enabled	High
ProductUpdater		Disabled	None
QuickFinder Index Scheduler	Corel Corporation	Disabled	None
QuickScan		Enabled	Not measured
Send to OneNote Tool	Microsoft Corporation	Disabled	None
Skype	Skype Technologies S.A.	Enabled	Not measured
Snagit	TechSmith Corporation	Enabled	High
Startup Launcher	r2.Studios	Enabled	High
Stream Manager Service	EuroTech	Enabled	Low
Video Channel Monitor	Evea Technology	Enabled	High

Notes about your system:
Prior to installing M.2 SSD into tray, please verify the appropriate drive orientation. Ensure that you follow the identification mark on the tray to insert the M.2 solid-state drive.

Your Lenovo ThinkPad P50 system specs as shipped

memory
Maximum Memory: 64GB
Standard Memory: 8 or 16GB removable
Slots: 4
*Not to exceed manufacturer supported memory.

[what does this mean?](#)

storage
Storage: SATA 3 - 6Gb/s

[what does this mean?](#)

Chipset
Chipset: Intel HM170

[what does this mean?](#)

installation guides

- 2.5-inch SSD installation guide for desktop and laptop
- mSATA SSD installation guide for desktop and laptop
- M.2 SSD installation guide for desktop and laptop
- Limited 3-year SSD Warranty

crucial awards



Compatible Memory

sort

- Ballistix Sport LT 32GB Kit (2 x 16GB) DDR4-2400 SODIMM** \$351.99
out of stock
CT8072255
DDR4 PC4-19200 • CL=16 • Unbuffered • NON-ECC • DDR4-2400 • 1.2V • 2048Meg x 64 • upgrade for Lenovo ThinkPad P50 system.
- Ballistix Sport LT 32GB Kit (2 x 16GB) DDR4-2666 SODIMM** \$351.99
CT8063100

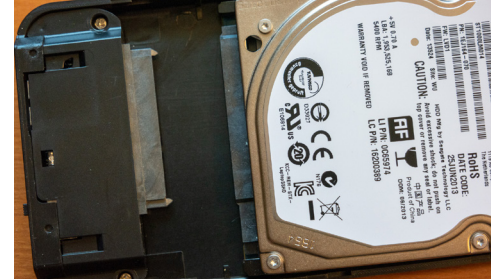
View more compatible memory upgrades

Compatible SSDs

sort

- Crucial MX500 250GB SATA 2.5-inch 7mm (with 9.5mm adapter) Internal SSD** \$67.99
CT1166834
250GB 2.5-inch internal SSD • SATA 6.0Gb/s • 560 MB/s Read, 510 MB/s Write
upgrade for Lenovo ThinkPad P50 system.
- Crucial MX500 500GB SATA 2.5-inch 7mm (with 9.5mm adapter) Internal SSD** \$99.99
CT11199012
500GB 2.5-inch internal SSD • SATA 6.0Gb/s • 560 MB/s Read, 510 MB/s Write
upgrade for Lenovo ThinkPad P50 system.
- Crucial MX500 1TB SATA 2.5-inch 7mm (with 9.5mm adapter) Internal SSD** \$199.99
CT11507079
1TB 2.5-inch internal SSD • SATA 6.0Gb/s • 560 MB/s Read, 510 MB/s Write
upgrade for Lenovo ThinkPad P50 system.

The installation process is somewhat more complicated than installing more RAM. You'll need a data transfer cable and an application that clones the old drive to the new one. Companies that sell solid-state drives usually offer instructions that cover preparation, disk cloning, and installation.



After completing the disk upgrade process, you'll still have the old drive. You may wonder what can be done with it. If the drive is fully functional, buying an external USB case can make it a good device for creating off-site backups. Store the drive at your office, in a safe deposit box, or at a friend's house; bring it home once a week and back up the disk in the computer; and return it to the storage location.



Many of the cases that hold 2.5-inch disks used in notebook computers are inexpensive and may not even require tools when installing the drive.



This is a good way to make two improvements with a single change: Speed the computer and add a backup option.

Use the Task Manager's Startup tab (previous page) to see how many applications start with Windows. Each of these programs adds time to the boot process and consumes system resources. Applications can be disabled in the Task Manager, but proceed with caution and research any apps you don't recognize before disabling them because removing an essential application can cause problems.

Be sure no malware is installed by double checking the computer's installed protective applications with one of the free scans from Norton, McAfee, F-Secure, Kaspersky, or other well known publishers that offer the service.

Caution! Crooks have created bogus sites that attempt to plant malware on the computer in the guise of removing malware, so be sure you're on a legitimate site.

To improve speed at the expense of visual effects, open the Control Panel, type *advanced system* in the search window, click *View advanced Windows settings*, and click *Settings* in the *Performance* section. Selecting *Adjust for best performance* will degrade the system's appearance, but it will be substantially faster. Or choose *Custom* and turn off the visual features you don't care about.

Hardware Updates Help, Too

MEMORY AND THE COMPUTER'S HARD DRIVE ARE TWO COMPONENTS THAT ARE RELATIVELY EASY TO UPGRADE, EVEN ON A NOTEBOOK COMPUTER.

Nearly all computers sold have 64-bit hardware now, so I'll assume that's what you have. Computers that still have 32-bit operating systems can use only 4GB of RAM, but 64-bit systems can use much more.

Companies such as Crucial offer downloadable applications (above) that identify the computer they're running on, determine how much memory is installed, and offer recommendations for upgrading RAM. If your computer has 4GB of RAM, increasing it to 8GB will usually improve performance. Users that work with large photographs, video files, or other memory-intensive data may gain additional performance with even more RAM.

Most computers are still sold with mechanical hard drives, the kind with one or more rotating platters inside. Solid-state hard drive performance far exceeds that of mechanical drives. They also use considerably less power so the computer will run longer on a battery charge and run cooler.