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Windows Vista has some great new security and functionality features, as well as cool eye candy, such as Aero transparency, Flip 3D, and other graphical tricks. But all this comes with overhead that may lead to a performance hit on anything less than a top-of-the-line supercomputer.

If you find Vista's performance lagging, the good news is that you can make it run faster. Here are some of the steps you can take.

1 Add more RAM

There's no denying it: Vista is a RAM-hungry operating system. Whereas XP usually runs great on 512MB, you really need a minimum of a gigabyte to run Vista acceptably. Two gigs is even better, and if you turn on all the graphical features and keep a lot of programs open, especially those that use a lot of memory, four gigs isn't overkill.

Luckily, RAM is still relatively inexpensive -- but it's rumored to be on the rise, so get as much of it as you can, while you can. You won't regret it.

2 Use ReadyBoost

Can't add physical RAM? Maybe you have a laptop that already has the maximum amount of memory installed. In that case, Vista provides you with a way to fool your computer into thinking it has more RAM than it does. You can use a flash memory card or USB key to boost the system memory; Vista can access the flash memory more quickly than data stored on the hard disk.

It's best to use a high performance flash card or USB drive for ReadyBoost. When you insert it, Windows will ask if you want to use it to speed up system performance, and then you can allocate how much of the card's/drive's memory you want to use for that purpose. The rest can be used for storing data. For more info about ReadyBoost, see this [Microsoft feature description](#).

3 Get a good video card

If you have enough RAM, the most likely hardware culprit on a slow-moving Vista machine is the video card. You need a fairly high end card to run Aero at all, but some computer vendors are selling computers with graphics cards that run it badly. You can find out whether your video card is the bottleneck by checking your Windows Experience Index (WEI) score from the Performance Information and Tools applet in Control Panel.

The onboard video adapters in most systems aren't powerful enough to run Vista properly. If you want to run Aero and be happy doing it, get a card that's Vista Premium Certified. As with system RAM, the more video RAM the better, and if you want to play Vista games, be sure your card supports Direct X 10.

4 Eliminate extra startup programs

You may find that you have a lot of programs loading automatically when you boot Windows, especially if you bought your Vista system from a hardware vendor who added lots of software. Some of these you may want, such as antivirus or anti-spyware programs, but many of them you probably don't even use or use only occasionally and don't want to run all the time. Yet they're all loading into memory and consuming your system resources -- and thus slowing down your computer as they run in the background.

Some programs can be prevented from starting automatically by removing them from the Startup folder. Others are configured in the registry to run at startup. Many can be managed through the Windows Defender Software Explorer, which you can access from the Manage Startup Programs link in the left pane of the Performance Information And Tools applet.

5 Turn off visual enhancements

There are a lot of visual enhancements that make Vista look like Vista, such as the animations when minimizing and maximizing windows, fading or sliding menus, shadows under the menus and mouse pointer, and thumbnails of graphics files instead of dull icons. However, all this bling uses resources, and if performance is your priority, the operating system will run faster without them.

The Performance Options dialog box can be accessed through the Adjust Visual Effects link in the left pane of the Performance Information And Tools applet. On the Visual Effects tab, you can customize these settings individually, turning off the ones you don't want, to help speed performance. Or you can disable all of the visual effects by clicking the Adjust For Best Performance option.

6 Adjust indexing options

Vista has a much-improved search function, but it's dependent on indexing the files and programs on your hard disk so they can be found quickly. When the indexing process is running, however, it can slightly slow down other programs you're trying to run at the same time.

You can select the locations you want to index; fewer locations will result in less indexing and thus better overall performance. On the other hand, you'll get better search performance by indexing all locations. You can't turn the indexing feature off completely, but you can adjust locations indexed by selecting Adjust Indexing Options in the left pane of the Performance Information And Tools applet.

7 Clean up and defrag the disk

Fragmented files or a lot of unneeded extra files on the disk can slow down performance. Vista provides a disk cleanup tool, which you can access from Start | All Programs | Accessories | System Tools. Specify a drive you want to clean up, and the tool will estimate the amount of space you can recover by running the cleanup process.

Defragmenting the disk rearranges data on it so that all the parts of a file are together; this allows Vista to access those files more quickly. The built-in disk defragmenter is also accessed from the System Tools menu. The defragmentation process itself can slow down your computer, so you may want to schedule it to run at a time when you aren't using the computer. Third-party defrag utilities are also available.

8 Adjust your power settings

If you don't mind using more power, you can boost performance by setting your power settings to the High Performance option. Click the Power Options applet in Control Panel and select that choice. By default, this configuration is set to Balanced, which limits the CPU to 50% power during normal operation.

9 Turn off the sidebar

The sidebar is a cool feature of Vista, but if you don't use its applets, you can save some resources by disabling it. First, right-click it and select Properties. Next, deselect the check box to start the sidebar when Windows starts. Then, close the sidebar by right-clicking it and selecting Close.

10 If all else fails, turn off Aero

This is a last-resort option for most Vista users; after all, Aero is what makes Vista look like Vista. But if you don't care for all the eye candy and/or have a low powered machine, and you still want the functionality advantages of the new OS (search, security, Explorer enhancements, etc.), you can definitely speed things up by going back to the non-transparent look.

To do so, right-click the desktop and select Personalize, then click Windows Color And Appearance. Now, click Open Classic Appearance Properties For More Color Options. From the drop-down list box on the Appearance tab, select any theme except Aero (Windows Vista Basic, Windows Standard, or Windows Classic).



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Version history

Version: 1.0

Published: August 1, 2007

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