

White paper



Clean Up Your Startup, Speed Up Your PC

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Many applications and services are set to automatically start every time you turn on your PC. Some of these programs included in Windows startup are required and desired, but many are not needed at all and are unnecessarily slowing your computer down. Clearing out the unwanted startup settings removes this bottleneck and is one of the most effective ways to speed up your PC.

About the Windows startup sequence

Every time you start or restart your computer, your PC runs through a sequence of actions:

1. The PC runs tests to ensure that the power supply, processor, memory, hard drive, and video card are all functioning properly.
2. The PC loads the Windows operating system.
3. The PC loads all the programs and services that are configured to start with Windows. Once these startup programs are loaded, the Windows desktop displays and your PC is ready to use.

The initial diagnostic and loading actions are required and run relatively quickly. It is the final stage—when the computer launches startup programs—that can take the most amount of time. Clearing out unneeded startup commands streamlines this stage of the boot process and can result in significant increases in PC speed.

How programs get into Windows startup

- Software that was pre-installed on your PC may have been added to startup by the computer's manufacturer. Some of these may be programs that you didn't even want and are not using.
- Software that you've installed may have automatically added commands to startup. You may or may not need these programs to automatically launch at startup, but many program installations don't give you the choice.
- Free downloaded programs often come bundled with third-party applications that are configured to add themselves to startup. In many cases, you may be unaware that these additional programs are even installed, but they are loading every time you start your PC.
- Due to the capability to run automatically, tracking software and potentially dangerous programs are often designed to hide themselves in startup locations.

Advantages of auto-starting programs

- Critical security software will always load without intervention from you, ensuring that your PC is continually protected.
- Services that the Windows operating system requires are launched in startup.
- Software can automatically check for updates, without you having to remember to check. Such updates can include important security patches and product upgrades.
- Your frequently accessed programs are pre-loaded and may also use system tray icons that provide fast access to the program—you are saved both time and effort.

Disadvantages of auto-starting programs

- The computer loads programs you don't want or need, unnecessarily slowing the time it takes your PC to boot.
- The computer continually runs programs that are rarely or never used, wasting system memory and overtaxing Windows resources.
- Unwanted plug-ins and dangerous programs often conceal themselves in startup areas of the registry and run without your knowledge.

The best of both

The ideal solution is for you to be in charge of what programs automatically launch with Windows—you can reap the benefits of having your important programs load, while preventing unnecessary applications from slowing down your PC.

To manage the startup commands, you can use software that allows configuration of all the Windows startup commands from one place, or you can access various locations on your PC and manually remove or disable the startup commands. However, for manual removal, locating and safely removing startup items may not be a simple task:

- The commands that load startup programs are configured in many different places. One location, the Startup folder in Programs, is readily visible and easily changed, but only a small fraction of startup tasks are stored in this folder; most are stored in multiple registry entries.
- Most startup commands are in the registry, but manually altering the registry carries a high risk; just one incorrect entry can cause irreversible damage, including a PC that won't start at all.
- There is no feature in Windows that describes the purpose of the programs in startup. Without this key information, you may inadvertently remove a required startup command that breaks critical functionality, or you may overlook dangerous programs.

Partial solutions

The following describes locations on your computer that allow you to manually remove or disable startup commands, along with a brief overview of the advantages and disadvantages of each.

Remove shortcuts from the Start > Programs > Startup menu

- + Simple and easy-to-understand; does not require advanced technical knowledge
- Not inclusive; most of the programs that automatically start are not in the Startup folder
- No file descriptions are provided

Change preferences within individual software programs

- + Likely easy-to-understand; does not require advanced technical knowledge
- Not all programs have this feature or the feature may be difficult to locate
- Time-consuming to change individual preferences across all software programs

Change settings in System Configuration Utility (msconfig)

- + Tool is safer and easier to use than Registry Editor
- Not inclusive; all programs that automatically start are not shown in the utility
- Names of files are often unclear and no descriptive information is provided
- Not available in the Windows 2000 operating system

Make manual registry changes in Registry Editor (regedit)

- + Provides access to a more full list of programs in Windows startup
- Manual registry changes carry a high risk; just one incorrect entry can cause irreversible damage and leave a PC completely inoperable
- Difficult-to-use interface
- Names of files are often unclear and no descriptive information is provided
- Due to the risk involved, even Microsoft recommends using a tool other than Registry Editor to make registry changes

Complete solution **Manage startup from one interface**

The safest and most complete solution is to use a specialized program that can manage all the Windows startup commands. Such software will display all the programs in startup from one convenient place, and should also give you descriptive information about each of the programs—a critical attribute missing from all the tools built into Windows. The right software will guide you in removing unneeded or dangerous startup tasks while ensuring that the essential startup functions remain intact.

At a minimum, the ideal program will have these features:

Features

- A full list of all the items configured for startup, including those in the Startup menu, registry, and startup libraries
- An assessment of which startup tasks are essential, not needed, or potentially harmful
- A detailed explanation of the program and its purpose, including the manufacturer's name
- Includes the option not only to delete startup items, but also to disable and enable items
- A different interface display for users with different levels of technical aptitude

Benefits

- *Simplify, save time, and ensure a thorough approach by managing all the startup tasks from one place*
- *Critical to making safe decisions; keep the necessary tasks, spot the dangerous ones, and decide for yourself on the others*
- *See more than just a cryptic file name: read a detailed description about the program to make an educated decision*
- *Useful for troubleshooting, and a safeguard for those items you're not sure you want to completely delete*
- *Simplifies use for beginners and novice users, while giving more control to advanced, power users*



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