

How to free up disk space

With normal use all hard disk will accumulate files that are of no use. The main problem in deleting files is to be sure what files can be deleted so that no critical files are deleted in the cleaning process.

Introduction

The first, and relatively easy step, is to delete all computer generated temporary files. Windows itself, as well as other Windows programs, create *.TMP files that may remain on your disk after a re-boot if the computer locks up. During a normal shut down, Windows or the relevant application programs delete these temporary files.

Windows 98 and later versions can automate many of the clean-up steps. Under Programs, Accessories, System Tools there is an entry Disk Cleanup. For Windows XP open My Computer, right-click on the drive, select properties and open Disk Cleanup. See Figure 1 for a representative case, however, what files to delete are shown will vary with the operating system and what drive is selected. Although experienced users can do these functions manually this is a nice feature to have. It is quick and prevents embarrassing mistakes if an incorrect folder has been deleted. The options that are displayed will vary with the operating system.

In general Disk Cleanup will present a menu that offers to:

- empty the Recycle bin,
- delete temporary Internet files or downloaded temporary applets
- delete files from your Temp folder (if they are a few days old)
- delete any files created by Scandisk when it recovers lost clusters as these are invariably rubbish files.
- Windows XP Pro has an additional setting under More Options, System Restore that allows you to remove old restore points that have been saved when new hardware was installed. If your system is stable then you should use this option.

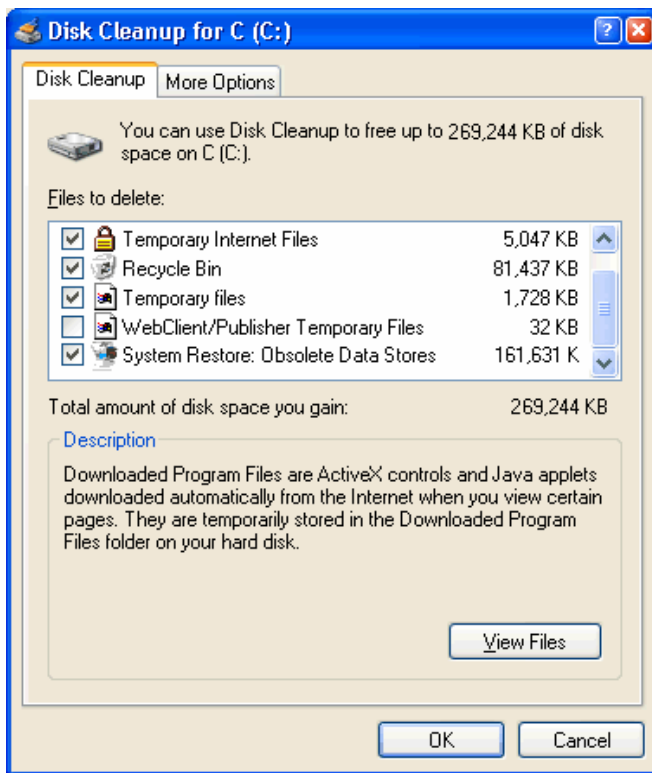


Figure 1

Windows 95 users must use Explorer to find all the *.TMP and then delete these files manually. Note that some files may not be able to be deleted as programs such as Word may have these files in use, therefore the deleting is best done immediately on starting Windows. Some programs can leave large TMP files behind after normal use. One such program is the ScanGear Toolbox used by some Canon scanners that leave a 25 MB file behind after every copy that has been made.

All users should search for all files beginning with the tilde, that is search for ~*.* and delete all these files, unless you recognise a file that you believe is necessary. The only exception that I am aware of is that the program PaperPort that names the files that have been scanned in with a tilde (~) and these files must be examined before deleting. However, anything in the Temp folder can be deleted.

This folder is usually in c:\Windows\Temp. However for Windows XP it may be: C:\Documents and Settings\username\Local Settings\Temp where username is the name of the logged in user. When viewed from DOS the line will be: TEMP=C:\DOCUME~1\username\LOCALS~1\TEMP.

Mail can accumulate, especially if you receive attachments. With most mail programs when you delete old mail it is not removed from your hard disk but is transferred into a 'Deleted' or 'Trash' folder and still consumes disk space. You should check these folders and delete any unwanted mail from these folders to remove it completely. However, even if you empty that folder the chances are that you will not regain that disk space because the folders must be compacted.

If you are using Eudora, it stores all its attachments in a folder called \Eudora\Attach. As a safety precaution, Eudora does not delete the attachment when the message is deleted. Old attached files must be deleted manually if they are no longer required even if the message itself has been deleted. Eudora also keeps any images that are embedded in the body of the message in a folder called \Eudora\Embedded. I find that in almost all cases this comes from junk mail ads. If you have deleted these messages, then generally all files in this folder can be deleted.

All mailboxes should be compacted regularly. I have seen well over 100 MB on old mail folders that have not been compacted. In Eudora this is done from Special, Compact

Mailboxes or by clicking on the numbers in the bottom left-hand corner of the mail box. Figure 2 shows a Eudora mail box that contains 207 messages which add up to 452 KB but there is 4627 KB or 4.6 MB of wasted disk space as the total size of that mailbox still contains all the deleted mail but is not visible. Just by clicking on these numbers you can free 4.6 MB in this example.

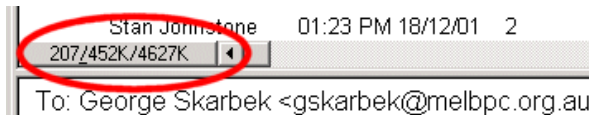


Figure 2

Both Netscape and Outlook Express must have their mailboxes compacted to save disk space. Outlook does this automatically. In Outlook Express click on File, Folder, Compact All Folders. In

Netscape there is an easy way to automatically compact mail folders. Click on Edit, Preferences, select the Mail & Newsgroups category, and then select Disk Space. Tick the box that reads "Automatically compact folders when it will save over 100 KB"

Yet another step is to look at all the software programs that you have and decide whether you require them all. If you have two programs performing a similar function you should consider deleting one of them and free up space. Either use the Control Panel and Add/Remove programs to do this or better still check to see if an uninstall program exists either in the software's created directory or on the installation disk. The uninstall software often can do a better job at removal than the Windows Add/Remove option.

Over time many DLLs are added by various programs and seldom removed when the program is deleted. Those redundant DLL files can be moved out of the system directory, saving disk space. There are some programs that claim to do this and one such program is called Clnsys and it can be obtained from www.perthpcug.org.au/~rshort/Norsig/Downloads/PCUtil.html

Just a word of caution: when you are deleting files, do not delete hidden files unless you are absolutely sure of what they do and that they are dispensable.

Other areas

Remember to empty the Recycle Bin regularly. If you keep forgetting to do this, you can set the size of the bin to a smaller value. This is done by right-clicking on the Recycle Bin icon on the desktop and selecting Properties. The default setting is 10% of your disk and with a 2 GB disk this represents over 200 MB of files. When you are deleting files from the Explorer, hold the shift key down when you press Delete. This will immediately delete the files rather than putting them into the Recycle Bin, which you will then have to empty.

- Delete all files in the TEMP folder. To find where this is, type SET from DOS and look for the line that starts with TEMP =
- Delete any file in the root directory starting with File???.chk
- Usually you can delete *.LOG files, but view them first.

- Old *.GID files can be deleted. These files are created when you see the "Setting Up Help" message. A .GID file has the same name as its corresponding Help file (but with a .GID extension) and is stored as a hidden file in the same folder as the corresponding Help file or can be stored in \Windows\Help. If you delete a .GID and use Help then this file will be re-created.
- For Internet users, unless you tend to visit regular sites, you can delete the files in the Internet cache, and set it to a smaller size. The cache is used to retrieve files from your hard disk, rather than getting them from the Internet for sites that you have visited before. The files that are cached are usually the small picture or banners from the home pages that you visit. Typically the files there are very small and waste a lot of space due to cluster size limitations.
- For Netscape 4.7 users the cache is found under Edit, Preferences, Advanced, Cache and can be reduced. (See Figure 3).

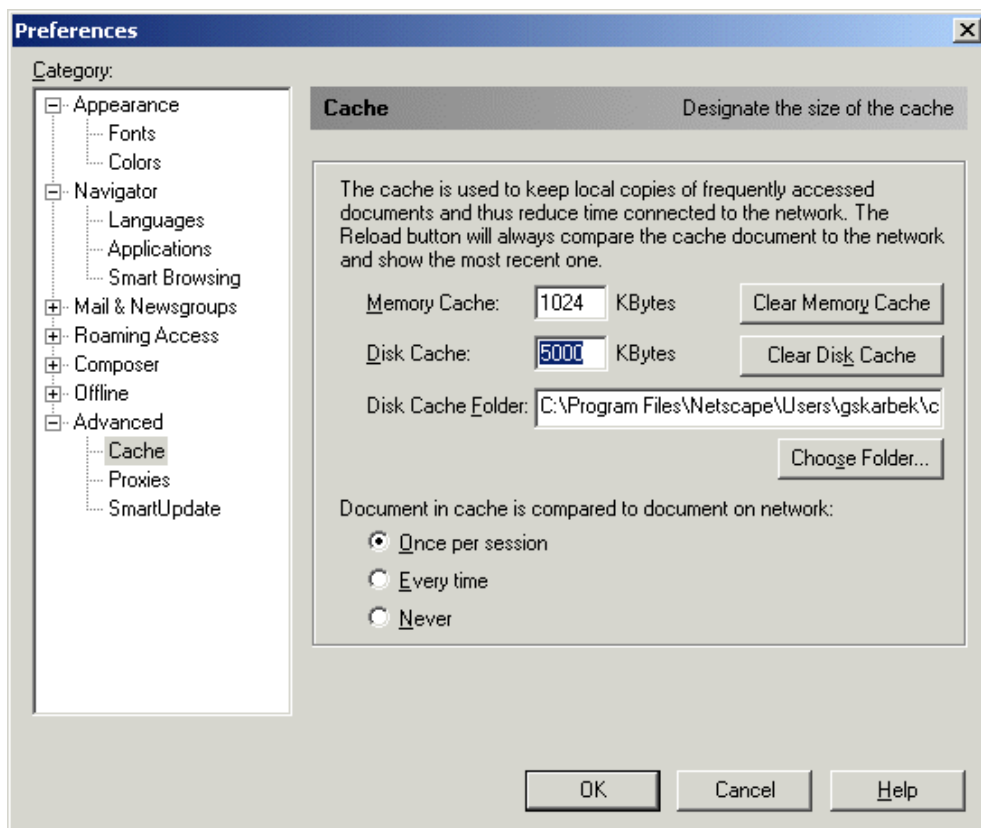


Figure 3

- Internet Explorer users should click on Tools, Internet Options then in the Temporary Internet Files section click on Settings and adjust to a lower figure. Deleting these files initially impacts on your performance while browsing the Web. The effect on performance will vary from significantly slower to barely noticeable, depending on your surfing habits and how often you visit the same sites. In addition, the cache directory will

fill again when you next use the browser, therefore the size should be reduced to save space. (See Figure 4). Most of the files are very small and the one thousand or so files in that folder will consume over 30 MB due to the cluster size limitation for anyone using an old 1 GB hard disk.

- Many Internet mail programs move deleted files into the Trash can, which then must be deleted, otherwise the mail is still taking up disk space. After deleting you should compact all the folders; most mail programs have this capability. If this has never been done and you receive a lot of mail then you can gain tens of megabytes.
- If you are not using the Fast Find feature in advanced searches, then you can delete the Fast Find index files.
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If you are still desperate, then here are some further steps to try:

- You should be able to delete some fonts. This is best done from the Control Panel, Fonts. Some programs install lots of fonts that you may not require and may not know are there. I have found some fonts that were over 25 MB and the owners did not know of their existence and never used them. The normal size is approximately 200 KB.

The only fonts that you **must** keep are Arial, Courier, Courier New, Times Roman, Wingdings, any font starting with MS, plus any font that has a red A for its icon and the hidden Marlett font which are required by the Windows operating system itself. If you have not looked at the folder `\Windows\Fonts` it may be worthwhile to look at the folder, sorted by file size. See Figure 5 for an example where over 55 MB can be saved by deleting four fonts that are probably never used as most of them are only used if you implement Asian Code pages. If you are not sure what that font looks like, just double-click on it. In Figure 5 is an example of the huge Arial Unicode font that looks just like

normal Arial. If you are not really sure about deleting these fonts, just move them into a temporary folder and if after some weeks or months all documents look fine, then they can be deleted.

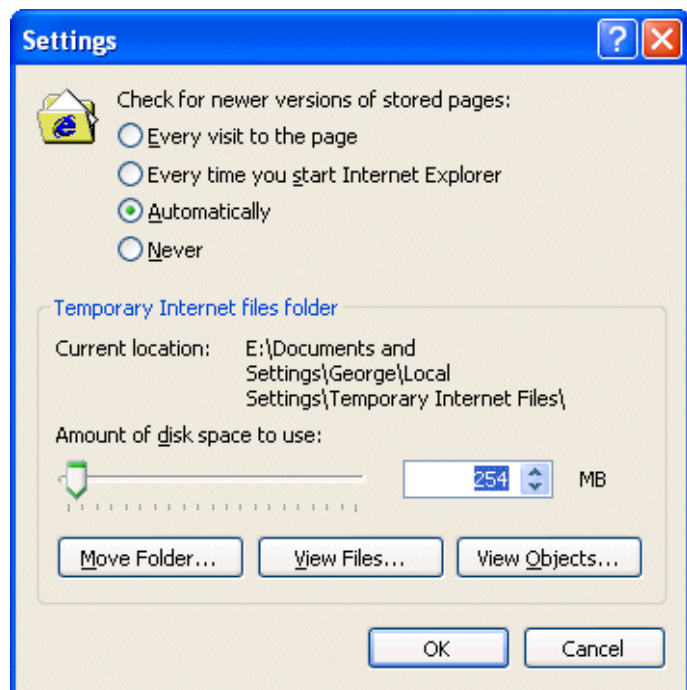


Figure 4

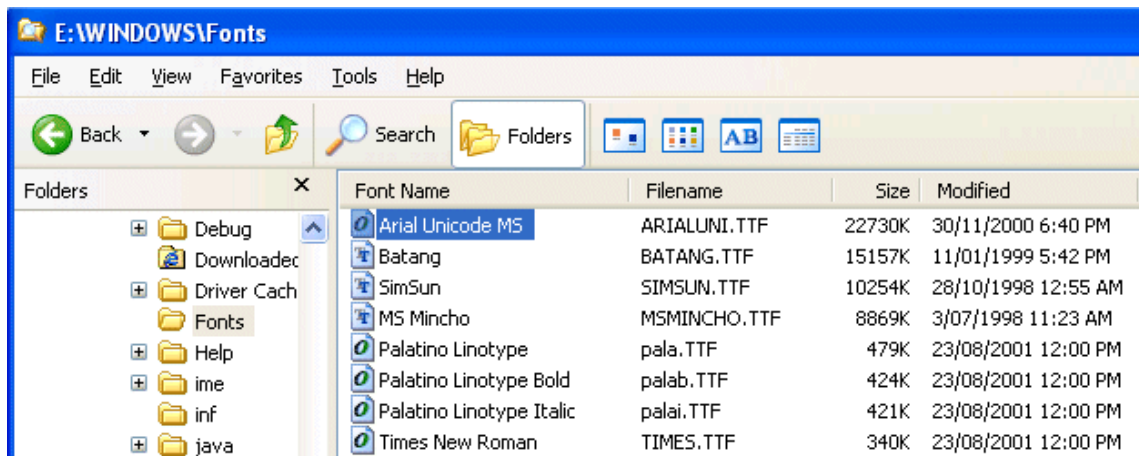


Figure 5

- There may be very many cursors in a folder called C:\Windows\Cursors and that you may never use. Most of the unused ones can be deleted.
- Use Explorer to find all the .WAV files. If you find some very large ones, double-click on them to hear them and you may find some that you can delete.
- In C:\Windows\Help folder there may be many files for programs that you do not use, or don't require help with. These can be deleted.

Mainly for Laptop users

Many Laptop computers (but fewer desktops) have a substantial part of the Windows installation CD on their hard disk, in addition to the Windows folders. This is done so that if at some time in the future you require additional drivers, you don't have to get the original CD, install the CD drive etc. especially if you are away and don't have the original CD with you. All these files are stored in CAB files. These are usually found in C:\Win95 or C:\Win98 or in C:\Windows\Options\Cabs. Also in that folder are the setup tools that consume over 30 MB of hard disk. These files are Cs3kit.exe, Setup25i.exe, Setup32.exe, Wowkit.exe and can be deleted as they were only used in installing Windows. A quick way to determine if you have these files is to search for *.cab. You should find many cab files called Win95_02, Win95_03 etc. If you are really short of disk space then all files in this setup folder can be deleted and you will gain approximately 100 MB of disk space, but if you make any alteration that requires you to load additional Windows software you will have to insert the original CD.

With Windows 98/ME Scandisk is set by default to run at regular intervals and it will also run automatically on starting if Windows has not been shut down correctly.

If you have an older computer with a hard disk of less than 2 GB you can convert the file structure from FAT16 to FAT32 and typically reclaim 200 to 400 MB of disk space. Note that if you have a disk greater than 2 GB then you will already be running FAT32.

Ø **Tip:** *To see how much disk space is occupied by one branch of the directory when using Windows Explorer, right-click on the parent folder and select Properties, and the total space, number of folders and files will be shown.*

All users

Finally, after all the deletions, run Defrag to improve disk performance. Fragmentation occurs when a file is stored in several locations on the disk. This happens when you use, say, a wordprocessing program to write a document and save it. Then you save another document or spreadsheet, then later open the original document and add more text or data. When you save, this larger document cannot fully fit into the original space, so a part of it is saved elsewhere on disk, and so on. Your files are still complete when opened, but after some months the disk becomes quite fragmented and it takes longer to read and write.

Other options

The other options are to replace the existing disk or add a second disk. I would recommend adding a second disk if there is physical room in your computer. The benefits are that you can back up onto the other disk, as well as having more disk capacity.

The resale value of an old second-hand disk is very low due to the low prices of the multi-GB hard disk.

Installing a second hard disk is not a trivial task even if you have an existing IDE disk. There is more to the installation than just mounting and connecting the new disk. Unless you are technically minded it is better to pay a little extra and have the supplier install it for you and copy all the files from the old to your new C drive.