Repair Errors Caused by Missing or Corrupt System Files

With the information in this article you can:
- Find out whether corrupt system files could be causing all your PC problems
- Manually replace missing system files using your Windows installation CD
- Use System File Checker to repair broken Windows system files
- Boost the memory available to Windows File Protection for complete system file protection

Missing or corrupt system files can cause many problems when using your PC, from cryptic error messages to mysterious system crashes. If one of the key files needed by Windows has gone missing or become corrupt, you may think that the only way to rectify the situation is to re-install Windows. Fortunately, nothing that drastic is required, as Microsoft have included several tools with Windows that allow you to replace corrupt or missing files with new, fresh copies directly from your Windows installation CD. Now, whenever you find that an important .DLL file has been deleted or copied over, you won't have to go to the trouble of completely re-installing your system – simply replace the offending file with a new copy.

Stefan Johnson:

"One missing file can lead to your system becoming unstable and frequently crashing. You may think that the only way to fix the problem is to re-install Windows, but you can easily replace the offending file with a fresh copy from your Windows installation CD."

!?

Your key system files can be easily overwritten or corrupted.

Windows File Protection monitors the state of all your key system files.

Missing system files can generate error messages and cause system crashes.

Solve Errors Caused by Corrupt System Files

One of the great problems with older versions of Windows is that the core system files needed by Windows to run can easily be overwritten by malicious or poorly designed programs, or even accidentally deleted by a user. A deleted or corrupt system file can lead to all kinds of error messages and inexplicable crashes.

In later versions of Windows, Microsoft have introduced Windows File Protection (WFP). Windows constantly monitors all of the essential system files, and any that are deleted or overwritten are replaced with new copies of the original file. This is, of course, a great help, but it is still not foolproof – virus writers have found ways to get around WFP and replace essential system files, and events such as hard drive crashes can lead to system files becoming corrupt.

If, for example, you have a .DLL file missing on your system, you will see an error message like the following when you boot up your PC:
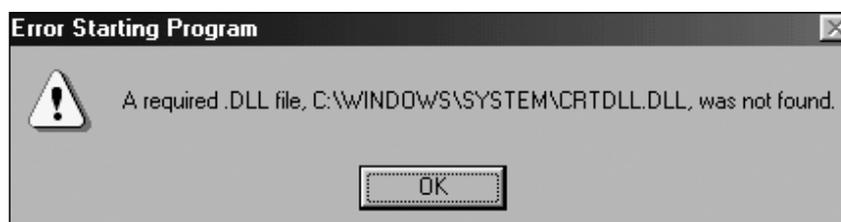
Windows error caused by a missing .DLL file

Some of the other more obscure errors that you may experience due to incorrect system files are examined in the table below:

Symptom	Error message	Resolution	Systems affected
Windows fails to run old 16-bit programs.	C:\Windows\System32\ AUTOEXEC.NT The system file is not suitable for running MS-DOS and Microsoft Windows applications.	Replace the AUTOEXEC.NT file	Windows 2000/XP

Symptom	Error message	Resolution	Systems affected
You cannot access the Windows Address book.	Wab.exe is linked to Missing Export ADVAPI32.DLL.	Replace the file ADVAPI32.DLL	Windows 98
Your PC will not boot and freezes at a black screen.	Windows could not start because of a computer hardware configuration problem.	Replace the file NTOSKRNL.EXE	Windows XP
The volume icon is no longer displayed in the Windows taskbar.	Windows cannot display the volume control on the taskbar because the Volume Control program has not been installed.	Replace the file SNDVOL32.EXE	Windows XP
You cannot open the Control Panel and your computer freezes.	No error message displayed – computer crashes.	Replace the corrupt Control Panel file	Windows 98/Me/2000

How to Repair Your Missing System File Errors

You may think that simply copying another version of the problematic file from your Windows CD can solve the problem. Unfortunately, life isn't that simple, as Microsoft has collected all of the key Windows system files together into archives (sometimes called cabinets or CABs) and knowing where to look for the file you need can be like searching for a needle in a haystack. A .CAB file is similar to a .ZIP file, in that it is used to group a number of other files together and compress them to take up less space.

If you are experiencing an error like the one mentioned

!?

The system files on your Windows installation CD are compressed.

The System File Checker will replace any corrupt system files it finds.

above, the first thing to do is use the System File Checker (SFC) to scan your Windows operating system files and replace any that are found to be missing or corrupt. Any that are found to be missing or defective are replaced with new copies from your Windows installation directory (depending on your PC manufacturer this will either be a Windows installation CD or a folder on your hard drive, such as C:\i386). The System File Checker can be found in Windows 98, 2000 and XP. To scan the system files on your PC, and automatically replace the missing ones, follow these steps:

Windows 98

1. Click **Start > Run**, type: **sfc** and click **OK**.

2. Select the option **Scan for altered files** and click **Start**.

3. The System File Checker will scan your PC for damaged/missing files. If any are found, you will be asked whether you want to restore the file or ignore it. To restore the file, select the option **restore** and click **OK**.

4. Insert your Windows 98 installation CD. The **Restore from location** setting should be set to the installation CD. Click **OK**.

5. You will be asked if you want to backup the file that is being replaced. It is a good idea to do this, so click **OK**. By default the file will be backed up to C:\WINDOWS\Helpdesk\SFC.

6. You will need to repeat steps 3–5 for each defective file found on your PC. Once the System File Checker has finished click **OK > Close**.

Windows 2000/XP

1. Click **Start > Run**, type: **sfc /scannow** and press Enter.

2. The System File Checker will start and prompt you to insert your Windows installation CD. After inserting the disc click **Retry**.

SFC will make a backup of any files that it replaces.

3. Allow the System File Checker to complete scanning your PC. The originals from your installation CD will be used to replace any missing/corrupt files.

Boost the Memory Used by Windows File Protection

Under Windows 2000 and XP, Windows File Protection (WFP) keeps copies of all of the essential system files in a hidden folder called dllcache, in the C:\Windows\System32 directory. If Windows detects that one of its core files is deleted or overwritten, then a new version is copied from the dllcache folder to replace it.

The size of the dllcache folder is controlled by a key in the Windows registry. With today's large hard drive sizes there is no need to limit the size of the dllcache folder, and potentially prevent essential files from being protected by WFP. To allow all essential system files to be stored in the dllcache folder, carry out these steps:

1. Click **Start** > **Run**, type: **regedit** and click **OK**.

2. Navigate to the registry key: HKEY_LOCAL_MACHINE\Software\ Microsoft\Windows NT\CurrentVersion\Winlogon

3. In the right-hand panel double-click on the value **SFCQuota**.

4. In the Value data box enter: **ffffffff** and click **OK**.

5. Close the Registry Editor and re-boot your PC for the changes to take effect.

WFP stores copies of your key system files in a hidden folder.

You can make the size of the dllcache bigger.

Scan Essential System Files Everytime You Boot Your PC

Windows 2000 and XP users can set the System File Checker to scan their important operating system files everytime they boot their computer, and have any missing or corrupt ones

You can set the System File Checker to run everytime you boot your PC.

replaced with fresh copies from the Windows installation CD. To scan your essential system files everytime you boot your PC, follow these steps (you may need to have your Windows installation CD in the drive):

1. Click **Start** > **Run**, type: **cmd** and press (Enter).

2. At the command prompt type: **sfc /scanboot** and press (Enter).

3. Type: **exit** and the press (Enter). Your PC will now scan the essential operating system files everytime you start up your PC.

4. If you decide that you no longer want to scan your system files at every startup, you can disable it by following these steps:

5. Click **Start** > **Run**, type: **cmd** and press (Enter).

6. At the command prompt type: **sfc /cancel** (Windows 2000) or **sfc /revert** (Windows XP) and press (Enter).

7. Type: **exit** and the press (Enter).

If SFC doesn't automatically replace the problem file then you will have to do it by hand.

How to Manually Replace Corrupt System Files

If you find that the System File Checker hasn't replaced the missing or corrupt file that is causing your problems, then you will have to resort to extracting a new copy of the file by hand from the cabinet archive. All versions of Windows come with tools needed to extract files, but the exact tool you need depends on the version of Windows you are using.

Windows 98

You can use the System File Checker to manually replace a file.

You can use the System File Checker in Windows 98 to extract a single file from a CAB archive. To do this, you will need your Windows 98 installation CD, and you will also need to know the name of the file to extract (for example, to solve the error message on page S 12/2, you will have to

extract the CRTDLL.DLL file). To manually extract a file follow these steps:

1. Start the System File Checker by going to **Start > Run**, typing **sfc** and clicking **OK**.

2. Select the option **Extract one file from installation disc**.

3. Enter the name of the file you want to extract (in this example, CRTDLL.DLL) then click **Start**.

4. Enter the path to your Windows installation files location in the **Restore from** box. Usually this will be **D:\Win98** (where D is the letter of your CD-ROM drive).

5. The **Save file in** box should be filled in for you. If it isn't, you can find out what to enter by looking at the error message (it is the path before the name of the problem file). From the example on page S 12/2, the location would be **C:\Windows\System**.

6. You will be asked if you want to create a backup of the file you are replacing. Click **OK**.

7. The new version of the file will be installed. Click **OK > Close** to finish.

Most of your key system files are stored in C:\Windows \System.

Windows Me

Windows Me users don't have the System File Checker, but can still manually extract system files using MSCONFIG. To extract a file follow these steps:

1. Click **Start > Run**, type: **msconfig** and click **OK**.

2. Click **Extract File**.

3. Enter the name of the file you want to extract (for example, CRTDLL.DLL) then click **Start**.

4. Enter the path to your Windows installation files location in the **Restore from** box. Usually this will be **D:\Win9x** (where D: is the letter of your CD-ROM drive).

You can create a backup of the old file before replacing it.

5. The **Save file in** box should be filled in for you. If it isn't, you can find out what to enter by looking at the error message (it is the path before the name of the problem file). From the example on page S 12/2, the location would be **C:\Windows\System**.

6. You will be asked if you want to create a backup of the file you are replacing. Click **OK**.

7. The new version of the file will be installed. Click **OK** > **OK** to finish.

Windows 2000/XP

Windows 2000/XP uses the _ file extension for compressed files.

Most of the system files on the Windows 2000/XP installation CDs are stored in a compressed form, with the last letter of the file extension replaced by an underscore (_) character (for example, DRWATSON.EXE is called DRWATSON.EX_ in its compressed form). Users have to use the EXPAND command to uncompress the system file from the CD and copy it to the location needed by Windows.

In the example below, we will expand the AUTOEXEC.NT file from the Windows installation CD to the C:\Windows\System32 directory:

1. Click **Start** > **Run**, type: **cmd** and press (Enter).

2. Type: EXPAND D:\I386\AUTOEXEC.NT_
   C:\WINDOWS\SYSTEM32\AUTOEXEC.NT
   then press (Enter).

3. A new copy of the file will be extracted from your installation CD and put in the C:\Windows\System32 folder.
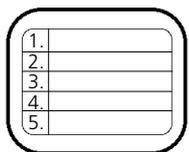
Missing or corrupt Windows system files can cause lots of problems, from cryptic error messages to mysterious system crashes. Windows File Protection goes some way to solving the problem, but it is by no means foolproof. If you find that one of your key system files has gone missing or become corrupt, it can be easily replaced with one of several tools that Microsoft have provided for doing the job.