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Information: How Word for Windows Uses Temporary Files Q89247

WinWord: Hidden Temporary Files Left on Hard Drive Q78386

This article explains when, where, and how Microsoft Word for Windows creates temporary files.

Definition: Temporary File

A temporary file is created by an application to temporarily store information. The application determines where and when to create temporary files.

General Notes: How Word for Windows Handles Files

All Word for Windows files are always stored on disk and referenced during each Word session. Word for Windows sometimes copies portions of a file into memory so that it can access the information more quickly when you copy and paste information or scroll through a document. Word references the location of the information instead of actually accessing the information, which reduces the time Word spends performing these functions. If you copy large portions of a Word document to the Clipboard, Word for Windows maintains an open handle to the file that contains the copied information.

At the MS-DOS level, you can use the RENAME command within a directory. If you want to move a file to another directory, you must use the COPY command. The COPY command is slower than the RENAME command because COPY rewrites the entire file to disk, whereas RENAME only changes a few bytes of the file.

When and Where Word for Windows Creates Temporary Files

1. Record Macro: TEMP Directory

When you record a macro, Word for Windows creates a temporary file in the TEMP directory. This also occurs when a template is being duplicated because the macros in the template are duplicated through the recording code. The TEMP directory is specified using the SET TEMP command, which is usually located in your AUTOEXEC.BAT file.

2. File Save: Same directory as the saved file

When you run the File Save command, the following happens:

- Word builds a new temporary file (named ~DOC####.TMP) using the edited version of the document in the current directory.
- Once the temporary file is successfully created, Word deletes the previous version of the document.
- Word renames and moves (if necessary) the temporary file to the same name as the previous version of the document.

NOTE: If Always Create Backup is selected, Word renames the previous version with a .BAK extension instead of deleting it.

Word for Windows uses this scheme to protect against system errors. By saving to a temporary file first and then renaming the file to the proper name, Word ensures the integrity of your original file against problems (such as a power failure or lost network connections) that might occur while the file is being written. If Word for Windows wrote directly over the original file, the original file would be more vulnerable to damage.

3. Open a locked file: TEMP directory

When you open a file that is locked, either because it is open in another instance of Word for Windows or because another user on the network has it open, you can make a copy of the file. Word for Windows places this copy in the Windows TEMP directory. If you attach a locked template, Word for Windows automatically makes a copy of the file in the TEMP directory. Note: This copy of a locked file does not automatically update the original owner's file.

4. Autosave: AUTOSAVE directory

The temporary file created when Word for Windows performs an autosave is stored in the AUTOSAVE directory, which is defined in the [Microsoft Word 2.0] section of the Windows WIN.INI file.

5. Embedded Word Objects: TEMP directory

When Word for Windows acts as an object-linking-and-embedding (OLE) server application, the embedded Word objects are stored as temporary files in the TEMP directory.

6. Scratch File: TEMP directory

When Word for Windows runs out of internal RAM, it always creates a single temporary scratch file in the TEMP directory to hold information. This scratch file holds information that is swapped out from the Word for Windows internal file cache, which is allocated from global system memory. The scratch file varies in size from 64K to 3.5 MB. You can prevent Word from having to write to the scratch file by allocating more RAM for Word to use internally. You do so by increasing the CACHESIZE setting in the [Microsoft Word 2.0] section of the WIN.INI file. Experimentation is required to find optimal settings for every configuration.

7. Converting files: TEMP directory

The word processing converters supplied with Word for Windows create temporary files in RTF file format, which are read when Word accesses a specific converter.

8. Paste between files: Same directory as source file

When Word copies and pastes between documents, it may create a temporary file in the same directory as the source file, especially if the source file is saved or closed. The temporary file represents the information that was referenced by the Clipboard prior to saving the file. Word for Windows creates this temporary file by renaming the old copy of the file to a temporary filename (~DOC####.TMP).

9. Owner File: Same directory as source file

When a previously saved file is opened for editing, printing, review, and so forth, Word creates a temporary file with a .DOC extension that begins with a tilde "~" followed by a dollar sign "\$" followed by the remainder of the original filename. This temporary file is a copy of the original file opened and is referred to as the "Owner File." When you attempt to open a file that is available on a network and is already open by someone else, this file causes Word to prompt the error message: "This file is already opened by USER Name. Would you like to make a copy of this file for your use?" This temporary file is deleted automatically by Word when the original file is closed from memory.

If you do not exit Microsoft Word for Windows version 2.0 properly, hidden temporary files are written to the current directory (the directory of the open Word for Windows file). An improper exit occurs if your system locks up, the power is lost or turned off while Word is active, or you encounter an unrecoverable application error (UAE) or GP Fault. Any of these occurrences leave hidden temporary files on your system. Temporary files have a .DOC extension, and their filename begins with the tilde character (~).

If you have hidden temporary files on your system, you may notice a loss of disk space. You also cannot delete any directory that contains these hidden files. To display and change the attribute of hidden files from Windows version 3.0 File Manager, choose Include from the View menu, and select the Show

Hidden Files check box.

To change file attributes in Windows version 3.1 File Manager, display the hidden files by choosing By File Type from the View menu and selecting the Show Hidden/System Files check box. Select the flagged hidden file. From the File menu, choose Properties, and clear the Hidden check box.

You can also locate these files with the MS-DOS ATTRIB command (type "attrib \~*. * /s" at the MS-DOS prompt). Clear the hidden attribute using the ATTRIB command. Type "ATTRIB -h {filename.ext}" at the MS-DOS prompt.

Note: Temporary files have a file size of 51 bytes. They contain the current user information and a one-directory reference.

Word for Windows stores information about who is currently using a file in its temporary files. This information is useful in a network environment when someone tries to open a file that is already being accessed by another user; Word looks at the temporary file to see who is using the file and returns that information to the second user.

If the temporary owner files are left on the network in error and you delete the file to restore capabilities to edit the associated document, you may not fully recover editing capabilities until the Windows session is restarted.

You can prevent Word for Windows from creating this hidden temporary file by adding the line "NoOwnerFiles=YES" to the [Microsoft Word 2.0] section of the WIN.INI file with the following steps:

1. From the Tools menu, choose Options.
2. Under Category, select WIN.INI.
3. From the Application box, select Microsoft Word 2.0.
4. In the Option box, type "NoOwnerFiles" (without the quotation marks).
5. In the Setting box, type "Yes" (without the quotation marks).
6. Choose the Set button, then choose the Close button.
7. Exit Word for Windows. Restart the program to activate the change.

The "NoOwnerFiles" setting prevents Word for Windows from attempting to write a temporary owner file when opening a file.