

NTFS Performance with Numerous Long Filenames

Article ID: 130694 - [View products that this article applies to.](#)

This article was previously published under Q130694

SYMPTOMS

Windows NT takes a long time to perform directory operations on Windows NT file system (NTFS) formatted drives that contain a large number of files with long file names (names that do not conform to the 8.3 convention) in a single directory.

CAUSE

When you save a file with a long file name to an NTFS drive, NTFS creates, by default, a second file directory entry with a short file name conforming to the 8.3 convention.

When NTFS enumerates files in a directory, it has to look up the 8.3 names associated with the long file names. Because an NTFS directory is maintained in a sorted state, corresponding long file names and 8.3 names are generally not next to one another in the directory listing. So, NTFS uses a linear search of the directory for every file present. As a result, the amount of time required to perform a directory listing increases with the square of the number of files in the directory. For small numbers of files (less than a few hundred) the time delay is negligible. But as the number of files in a directory increases to several thousand, the time required to perform a listing can increase to minutes, hours, or even days. The problem is aggravated if the long file names are very similar -- differing only in the last few characters.

WORKAROUND

To work around this problem in Windows NT 3.1, avoid having large numbers of files with long file names in a single directory.

To work around this problem in Windows NT 3.5, turn off NTFS automatic 8.3 name generation using the Registry Editor:

WARNING: Using Registry Editor incorrectly can cause serious, system-wide problems that may require you to reinstall Windows NT to correct them. Microsoft cannot guarantee that any problems resulting from the use of Registry Editor can be solved. Use this tool at your own risk.

1. Run Registry Editor (REGEDT32.EXE).
2. From the HKEY_LOCAL_MACHINE subtree, go to the following key:

`\SYSTEM\CurrentControlSet\Control\FileSystem`

3. Select NtfsDisable8dot3NameCreation.
4. From the Edit menu choose DWORD.
5. Change the Data value to 1. Leave the Radix set to Hex.
6. Shutdown and restart Windows NT.

NTFS will no longer create short file names (8.3 names) when you create files with long file names.

NOTE: Files that already have long file names and short file names are not be affected by this change.

STATUS

Microsoft has confirmed this to be a problem in Windows NT version 3.5. A fix to this problem is in development, but has not been regression-tested and may be destabilizing in production environments. Microsoft does not recommend implementing this fix at this time. Contact Microsoft Product Support Services for more information on the availability of this fix.

Properties

Article ID: 130694 - Last Review: November 1, 2006 - Revision: 3.1

APPLIES TO

- Microsoft Windows NT Advanced Server 3.1
- Microsoft Windows NT Workstation 3.1
- Microsoft Windows NT Advanced Server 3.1
- Microsoft Windows NT Workstation 3.5
- Microsoft Windows NT Server 3.5

Keywords: KB130694