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Protect your data! Disable write-behind caching!

What is write behind caching?

When you save data or a file, your intention is to write your work to either a local or network disk drive. What the various Windows operating systems actually do is 'make a note of the fact' that you intend to create or modify a disk file, then save your information in memory to be written to the disk drive later when it is convenient for Windows. The end result is that a program may not always be able to determine that caching is going on, and thus while it may be 'convinced' that it has successfully committed your work to disk, in fact the data may be sitting someplace else, and vulnerable to loss or corruption.

How might this affect you?

Most Windows systems, by default, have write-behind caching enabled. The intent is to speed processing by holding data in memory and letting the computer write larger blocks of information to the disk. This seems logical, however the small increase in performance is not worth the large risk of data loss that can be caused by power spikes or outages or by other conflicts with shared files in a network environment. Because data is not immediately written directly to the hard drive, delays imposed by caching can cause a server or workstation to become confused and the result is data corruption.

Since for most people the increase in performance is actually negligible, the risk of data loss far outweighs the miniscule performance benefit.

We have always advocated disabling the write behind caching for Windows 98 and Windows ME. With Windows XP, 2000 and 2003 it originally seemed that disabling write behind caching was unnecessary, but recent articles and bulletins suggest that while they may do better, they are not perfect and thus we strongly recommend disabling write behind caching for ALL versions of Windows on both workstations and servers.

You'll find instructions below on how to do this for Windows 98, ME, XP, 2000 and 2003.

How to disable write behind caching

The process to disable write caching is different for various versions of Windows. The appropriate procedure should be implemented for every drive on every computer in your network. This is important for single computers as well

Windows 98/ME

Start at the desktop.

Right-click on My Computer, then left-click on Properties.

Click on the Performance tab at the top.

Click on the File System button at the bottom.

Windows 98/ME (continued)

*Click on the Troubleshooting tab at the top.
Click on Disable write-behind caching for all drives to put a tick next to it.
Make sure it is ticked.
Click on OK to close the File System window.
Click on OK to close the System Properties window.*

Windows 2000 & 2003

*Start at the desktop.
Right-click on My Computer, then left-click on Properties.
Click on the Hardware tab at the top.
Click on the Device Manager button.
Click on the + next to Disk Drives to expand it.
Right click on the hard drive on which to turn write caching off, then left click Properties.
Click on the Disk Properties tab.
Click on Write Cache Enabled to remove the check mark. It must not be checked.
Click OK.*

Windows XP

*Start at the desktop.
Right-click on My Computer, then left-click on Properties.
Click on the Hardware tab at the top.
Click on the Device Manager button.
Click on the + next to Disk Drives to expand it.
Right click on the hard drive on which to turn write caching off, then left click Properties.
Click on the Policies tab.
Click on Enable write caching on the disk to remove the check mark. It must not be checked.
Click OK.*

Summary

The benefits, in terms of protecting your data, of disabling write behind caching on any and all versions of Windows far outweigh any minor performance benefit you might achieve. We strongly recommend that you verify the status of your system and disable write behind caching regardless of the version of Windows you are running.

As always if you want assistance in doing this, just give us a call and we will be more than happy to help.