

Diskeeper® 2011



Optimum system
performance. Always.™

5 Fragmentation Myths that Waste Time and Money

Make no mistake about it, fragmentation *will* slow systems to a crawl. Fragmentation comes about when files are written in pieces and scattered randomly around the disk. Writes and reads slow progressively, consuming more time and energy and leading to significant performance vulnerabilities. Fragmentation has given rise to several myths. Follow any one of them and you can easily increase your cost of operations while lowering performance levels.

Myth #1

The built-in defragmenter is good enough.

The truth:

The built-in defragmenter has basic limitations that add to operational expenses. The rate of fragmentation increases as normal business throughput increases. As the built-in defragmenter lacks operational transparency, it can't keep up with daily fragmentation and must be scheduled off production times. Because fragmentation has built up during work hours, scheduled defrag times are often too short to get the job done. Using the built-in requires administrator time for planning. When many systems are involved, this is a significant man-hour drain.

Diskeeper® 2011 performance technology goes much further. It prevents up to 85% of all fragmentation before it can happen. Any remaining fragmentation is handled in real-time within seconds, automatically with zero system resource conflicts. Computers run at close to zero fragmentation without the need for administrative time.

Myth #2

Not all Windows systems need to be defragmented. Fragmentation is not an issue with SAN/RAID/SSD and virtual platform technology.

The truth:

No matter how you store data, all file systems fragment and eventually bottleneck I/O throughput and increase the time and energy required to do the same amount of work. New storage technologies abstract disk file systems from the actual underlying hardware and software that make up the storage subsystem. Those same underlying disk systems (software and hardware) have no knowledge of what the file system is doing. No matter how or where you store your data, solving file fragmentation has never been more vital for peak system performance and reliability.

A comprehensive technical report on the subject is available at:
http://downloads.diskeeper.com/pdf/Best_Practices_Eliminating_Fragmentation.pdf

Myth #3

Active defragmentation is a resource hog and must be scheduled off production times.

The truth:

This was certainly true with manual defragmenters. They had to run at high priority, or risk getting continually bumped. When the built-in defragmenter became schedulable, not much changed. The defrag algorithm was slow and resource heavy, and certainly not for standard system performance maintenance.

Diskeeper 2011 includes InvisiTasking® technology that allows defrag operations to run in real time with zero resource conflicts no matter how heavy the I/O throughput traffic is. Add to this the fact that Diskeeper prevents up to 85% of all fragmentation before it can happen and instantly defrags the rest before it can slow performance. The result? A system that is virtually operating free of fragmentation continuously.



Myth #4

You can wear out your hard drive if you defragment too often.

The truth:

Exactly the opposite is true. When you eliminate fragmentation you greatly reduce the number of disk accesses needed to bring up a file or write to it. Even with the I/O required to defragment a file, the total I/O is much less than working with a fragmented file.

For example, if you have a file that is fragmented into 50 pieces and you access it twice a day for a week, that's a total of 700 disk accesses (50 X 2 X 7). Defragmenting the file may cost 100 disk accesses (50 reads + 50 writes), but thereafter only one disk access will be required to use the file. That's 14 disk accesses over the course of a week (2 X 7), plus 100 for the defrag process = 114 total. 700 accesses for the fragmented file versus 114 for the defragged file is quite a difference. But in a real-world scenario, this difference would be multiplied hundreds of times for a true picture of performance gain. The ability of Diskeeper 2011 to prevent fragmentation in the first place reduced hard drive activity far more than even defragmentation can.

Myth #5

New computers operate at the peak of their ability.

The truth:

Even on a large capacity hard drive, just installing an operating system fragments files considerably. Every additional application or utility installed increases the level of fragmentation.

Here is a screen of a disk fragmentation analysis:



Diskeeper 2011 needs to be part of the base image that gets pushed out to all new servers and workstations so they can reach maximum performance quickly.

Color legend:

- Blue = defragmented files
- Red = fragmented files
- Yellow = paging files
- Solid Green = system files
- White = unused space
- White with Green Lines = reserved system space
- Light Blue = folders



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