

Hands-Off Defragmentation

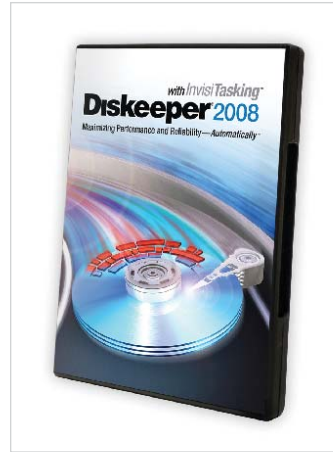
Diskeeper 2008 Still A Favorite Over Default “Defrag” Solution

by David Geer

AS WITH THE FILE Allocation Table, or FAT, systems of yesterday, Microsoft’s modern file systems experience fragmentation. As file systems bloat with reused data, files are scattered across the drive, and contiguous space comes up short. According to Brian Garrett, analyst of storage system components and utilities at Enterprise Strategy Group, fragmentation slows applications and increases the drive-seek operations and file requests necessary to pull files back together for use. Increasing drive-seek operations impacts drive reliability, he notes.

“Defrag utilities fix these problems by rearranging how files are laid out on disk with a goal of minimizing fragmentation,” says Garrett. However, many such utilities have cost admins time and effort in scheduling and monitoring the “defrag” process.

The market for these tools matured early in the Windows operating system life cycle, focusing first on fragmented FAT systems, according to Garrett. “It has since consolidated to focus on the NTFS [New Technology File System],” says Garrett. The market encompasses desktop and laptop computers and entry-level servers. These



hardware systems use local file systems with internal or direct-attached hard drives, according to Garrett.

Diskeeper 2008

The recently released Diskeeper 2008 (www.diskeeper.com) defragmenter is a fully transparent, automated disk performance utility that runs in the background—no end-user or administrator interaction required.

According to Diskeeper’s marketing product manager, Michael Materie, one of the product’s unique features is its transparency, made possible by the company’s new InvisiTasking technology.

InvisiTasking addresses shortcomings in multitasking operating systems; according to Materie, these shortcomings effectively limit processes from running in the background.

Without InvisiTasking, a process can bump into other important programs such as ERP (enterprise resource planning) or Microsoft (www

.microsoft.com) Outlook or SQL Server when trying to access system resources, according to Materie. This can affect the performance of the other programs.

InvisiTasking takes advantage of idle computer resources such as the CPU’s idle compute cycles. InvisiTasking monitors these resources and uses them for Diskeeper operations at times when they won’t interrupt end users, applications, or services, according to Diskeeper’s “Background Multitasking” whitepaper. InvisiTasking ensures that Diskeeper relinquishes these resources before the system needs them again.

“Only through the use of InvisiTasking can you guarantee that a program will run invisible to other programs and not interfere with the primary purposes of that computer,” Materie says.

The fully automated Diskeeper defragments in real time. Administrators don’t have to schedule the process in order to use the product. However, IT staff that would rather schedule it can turn the automatic feature off. Diskeeper’s graphical timeline feature enables administrators to highlight blocks of time and schedule defragmenting for those periods, Materie explains.

The new Diskeeper adds intelligence, as well as automation. Diskeeper 2008 has a new core “defrag” engine with more algorithms to defragment different hard disk states, according to Materie. Where free

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PRODUCT OF THE WEEK

DISKEEPER 2008

Description: Diskeeper 2008 is the latest iteration of the Diskeeper drive defragmenter offering increased application and hard disk performance, increased disk life, real-time operation, and full automation.

Interesting fact: Diskeeper 2008’s InvisiTasking technology allows it to run in the background, making it transparent to users and administrators.

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space is limited to 1 to 2% of total hard disk space, an algorithm can work effectively within those limits to free up space. Where files are in hundreds of thousands of fragments, an algorithm can pull them back together.

In the previous version, Diskeeper 2007, explains Materie, the company split up the product's algorithms, each of which specialized in a particular type of solution such as free-space-consolidation or partial-file-defragmentation (from 100 fragments down to four or five) to get the biggest performance benefit without taking excess time or resources. "We still ran the algorithms in a relatively preset order," he says.

Diskeeper 2008 adds an "adaptive intelligence," inspecting the disk environment and deciding what algorithm to run, and when and where on the drive to run it, as the defrag process continues. As a result, the computer returns more quickly and efficiently to its original performance levels, Materie notes.

Other Diskeeper features include I-FAAST 2.0 (Intelligent File Access Acceleration Sequencing Technology) and Frag Shield 2.0. Frag Shield 2.0 ensures stability by guarding system files throughout the defrag process. Defragmenting these files during operation can lead to system crashes. Frag Shield 2.0 circumvents these risks.

I-FAAST speeds access time for the system's most frequently used files and applications. It adapts to evolving file-usage patterns, se-quecing files on the hard drive to optimize their physical access time.

Almost No Competition

According to Materie, Diskeeper's main competition comes from Microsoft's built-in defragmenter. "It's the one we gave Microsoft—their default defragmenter," Materie says.

Although the Windows-based solution is free, it isn't necessarily cost-effective when compared to Diskeeper. Trying to make the Microsoft solution work effectively will cost the enterprise far more in IT management overhead and impact to user and server productivity, says Materie.


According to Enterprise Strategy Group's Garrett, industry leaders such as Diskeeper have proven that they can defrag faster, easier, and better than native operating system-based defrag utilities. While operating system-based defrag utilities are tertiary concerns for their vendors, Diskeeper's primary focus is defragmenting hard drives.

Its Advantages Are "Keepers"

The hard disk performance utility is a proven product with more than 25 million licenses sold, according to Materie. Customers have applied

Diskeeper in conjunction with typical laptops and desktops, as well as powerful Windows data center equipment. "It is in use at over 80% of the Fortune 100," Materie says.

Diskeeper enables customers to get more out of existing products such as hard drives and software, according to Materie. That value is hard to put a price on.

Diskeeper urges systems administrators to compare its performance increases with those of existing defrag products by using a performance-monitoring product (such as Perf-Mon). If they compare, they will discover added performance, as well as a readily quantifiable ROI without added system or IT management overhead, Materie says. 

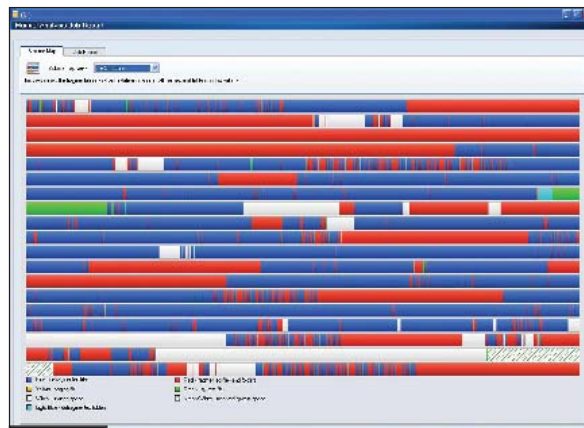


Figure 1

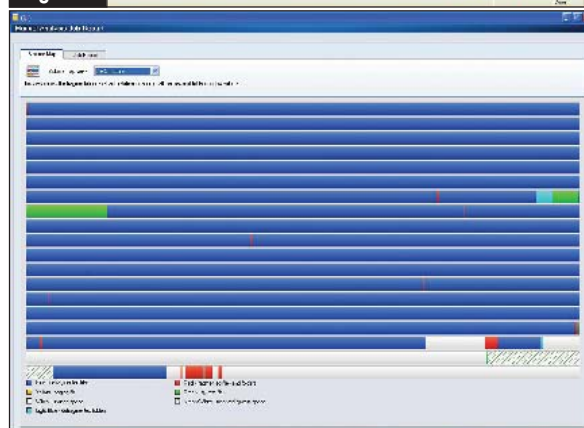


Figure 2

Prior to Diskeeper's defragmentation process, fragmented files appear in red (Figure 1) in Diskeeper's interface. After the process is complete (Figure 2), defragmented files appear in blue.