Theory of Operation

As used in reference to Windows NT, disk fragmentation means two things:

- a condition in which pieces of individual files on a disk are not contiguous, but rather are broken up and scattered around the disk; and

- a condition in which the free space on a disk consists of little pieces of space here and there rather than a few large free spaces.

The effects of excessive fragmentation are two-fold as well:

- file access takes longer because a file must be collected in pieces here and there, requiring several disk accesses instead of just one; and

- file creations take longer because space for the file must be allocated in little pieces here and there instead of just one contiguous allocation.

Before the introduction of Diskeeper, there was no method for completely correcting the problems of file and free space fragmentation on Windows NT computers.

In designing Diskeeper Lite for Windows NT, the following goals were established:

- The product must be completely <u>safe</u> to use.

- It must improve Windows NT system performance.   It is <u>not</u> designed to make the disk look "pretty" — it is designed to improve disk performance and, as a result, overall system performance.

- It must defragment all possible files and consolidate free space into the smallest possible number of large spaces.
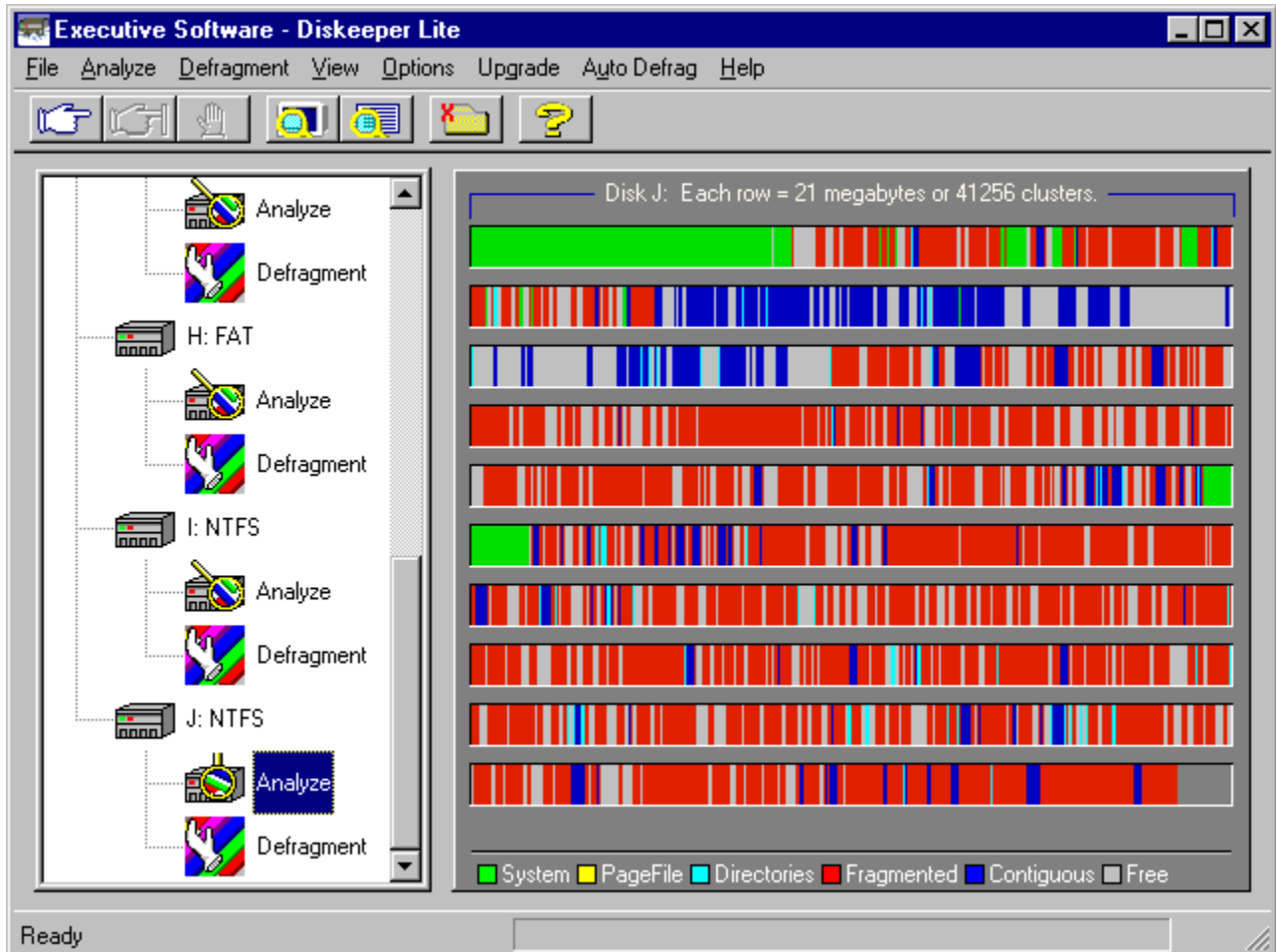
Overview of Diskeeper Lite

n Diskeeper Lite is supported on Windows NT 4.0.   It cannot be run on earlier versions of Windows NT.   Both the NTFS and FAT file systems are supported, but the HPFS file system is not supported.

n Diskeeper Lite operates on local (non-network) disk partitions.

n You must have Administrator privileges enabled before running Diskeeper Lite.

n With Diskeeper Lite, you can analyze the fragmentation on a disk (with a graphic or text display), as well as defragment the disk.

n Only one analysis or defragmentation operation can be performed at a time.   You can analyze or defragment only one disk at a time.

n Unlike "off-line" defragmenters, with Diskeeper Lite you can run other tasks while defragmentation is occurring.   However, since Diskeeper Lite runs at High priority, performance of other active processes will likely be impacted.

n Diskeeper Lite performs several "passes" through the files on the disk during the defragmentation process.   The number of passes varies, depending on the number of files and the degree of fragmentation.

n Diskeeper Lite differs from DOS-based defragmenters in that it does not move all the files to the beginning of the disk.   This is particularly true on NTFS partitions, since the beginning of the disk is reserved by Windows NT for the Master File Table (MFT).

n Unlike the full version of Diskeeper, Diskeeper Lite does not run as a Windows NT Service, and it does not log any events into the Windows NT Application Event Log. Click here for information about the full version of Diskeeper for Windows NT.

n Diskeeper Lite can be uninstalled in the standard manner using the Add/Remove Programs icon in the Windows NT Control Panel.   Click here for information about uninstalling Diskeeper Lite.

Using the Diskeeper Lite Interface

The Diskeeper Lite interface contains pull-down menus and a toolbar.   Many of the functions offered are the same on the menus and toolbar.

Click on the different areas of the Diskeeper Lite display shown below for information about that section of the Diskeeper Lite display.

Menu Options

Diskeeper Lite has these menu options:

- File Menu
- Analyze Menu
- Defragment Menu
- View Menu
- Options Menu
- Upgrade Menu
- Auto Defrag Menu
- Help Menu

Toolbar

The Diskeeper Lite toolbar offers these options:

Go Button

Pause Button

Stop Button

View Graphics Button

View Text Button

File Exclusion List Button

Help Contents Button

Go Button

Click the Go button to begin either a fragmentation analysis or the defragmentation of the selected disk.

Pause Button

Click the Pause button to temporarily pause a fragmentation analysis or the defragmentation of the selected disk.

Stop Button

Click the Stop button to stop a fragmentation analysis or the defragmentation of the selected disk.

View Graphics Button

Click the Graphics button to display a graphic view of either a fragmentation analysis or the defragmentation of a disk.

to see an example of the fragmentation analysis graphic display.

View Text Button

Click the Text button to display a text view of either a fragmentation analysis or the defragmentation of a disk.

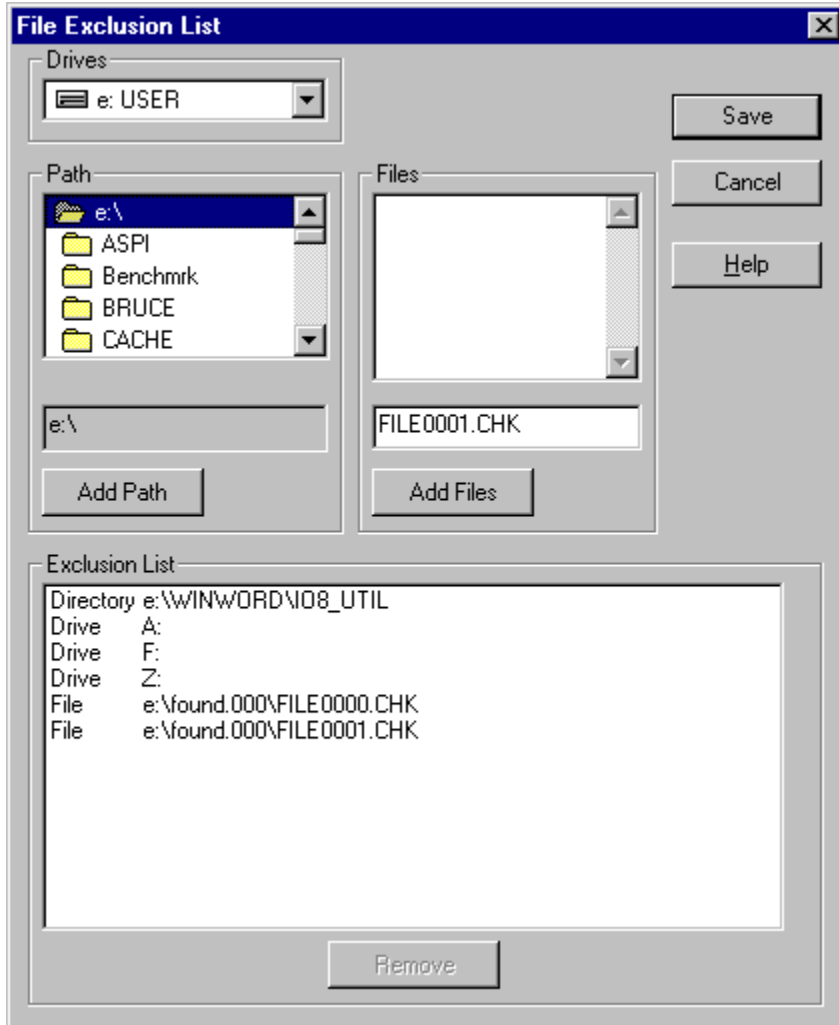Click here to see an example of the fragmentation analysis text display.

File Exclusion List Button

Click the Exclusion List button to create a list of files or directories you want to be excluded from being defragmented.

Click here to see an example of the file exclusion list dialog box.

Exclusion List

When you choose the Exclusion List button or menu option, the window shown below appears.   Choose the various options shown in the window below for more information about the options:

File Exclusion List

Drives

e: USER

Save

Cancel

Help

Path

e:\
ASPI
Benchmrk
BRUCE
CACHE

e:\

Add Path

Files

FILE0001.CHK

Add Files

Exclusion List

```
Directory e:\WINWORD\IO8_UTIL
Drive     A:
Drive     F:
Drive     Z:
File      e:\found.000\FILE0000.CHK
File      e:\found.000\FILE0001.CHK
```

Remove

Files

Use this section of the Exclusion List window to choose specific files (by name) to be excluded from defragmentation.   Choose the name of the file to be excluded, then click the Add Files button to add the file to the exclusion list.

Path

Use this section of the Exclusion List window to choose specific directories to be excluded from defragmentation.

Select a directory by highlighting it, then click the Add Path button to add the directory to the exclusion list.

When a directory folder is added to the exclusion list, any subdirectories below the directory in the tree are also excluded.

Drives

Use this section of the Exclusion List window to choose specific disk drives to be excluded from defragmentation.

Current Choice

This dialog box indicates the file, directory, or drive that has been selected for exclusion. It will not be added to the exclusion list until the Add Files button is clicked.

Add Files Button

Click this button to add the selected files to the Diskeeper exclusion list.

Add Path Button

Click this button to add the selected directory path to the Diskeeper exclusion list.

Exclusion List Box

This dialog box shows the files, directories, and drives that will be excluded from defragmentation.

Remove

Click this button to remove specific files, directories, or drives from the Diskeeper exclusion list.   To remove an item from the list, highlight the item by clicking on it in the Exclusion List Box and click the Remove button.

File List

This section of the Exclude Files dialog box lists the files matching the specification shown in the File Name edit box.

Directory Folder List

This section of the Exclude Files dialog box lists the directory folders in the selected disk..

Cancel Button

Choose the Cancel button to cancel any changes you have made to the Diskeeper exclusion list and return to the opening Diskeeper screen.

OK

Click on the OK button to accept any changes you have made to the Diskeeper exclusion list and return to the opening Diskeeper screen.

Save Button

Click the Save button to save the exclusion list and return to Diskeeper.

Help Button

Click the Help button to view help information about using the Diskeeper Lite File Exclusion List.

Help Contents Button

Click the Help Contents button to activate the Diskeeper Lite Help system.   Of course, if you're reading this, you most likely figured this out already.

Disk Drive Icon

Double click any of the disk drive icons to alternately hide and display the Analyze and Defragment icons.

Analyze Icon

Click an Analyze icon to highlight it, then click the Go button to start a fragmentation analysis of the selected disk.

Alternately, you can simply double click the Analyze icon to start the fragmentation analysis without needing to click the Go button.

When the fragmentation analysis is underway, the magnifying glass in the icon moves back and forth, because we figured you'd like to have something to watch while Diskeeper Lite is analyzing your disk.

Defragment Icon

Click a Defragment icon to highlight it, then click the Go button to start the defragmenting the selected disk

Alternately, you can simply double click the Defragment icon to start defragmenting the disk without needing to click the Go button.

When Diskeeper Lite is defragmenting a disk, the "magic hand" in the icon moves back and forth.   The "magic hand" is not really moving the files — Diskeeper Lite is!

Text Display Button

Click the Text Display Button to switch between a graphic display of your disk to a text report showing the fragmentation analysis information.

Click here to see an example of the fragmentation analysis text display.

Graphic Display Button

Click the Graphic Display Button to switch between a text report to a graphic display of the fragmentation analysis information.

Click here to see an example of the fragmentation analysis graphic display.

Text Display

Click on any of the areas of the Diskeeper Lite text display for a description about that part of the display.

Executive Software - Diskeeper Lite

File   Analyze   Defragment   View   Options   Upgrade   Auto Defrag   Help

Analyze
Defragment
H: FAT
Analyze
Defragment
I: NTFS
Analyze
Defragment
J: NTFS
Analyze
Defragment

Disk: J:

Disk Size:	199 mb	Total Files:	1518	
Cluster Size:	512 bytes	Ave. File Size	62.7 kb	
Used Space:	105 mb	Fragmented Files:	553	
Free Space:	94 mb	Excess Fragments:	3200	
% Free Space:	47 %	% Disk Fragmented:	75 %	
Pagefile size:	0 kb	Avg. Fragments/File:	3.10	
Pagefile Fragments:	0	MFT size:	9456 kb	
Total Directories:	56	# MFT records:	9456	
Fragmented Dirs:	8	% MFT in use:	16 %	
Excess Dir Frags:	55	MFT Fragments:	27	

Most Fragmented Files   Number of Fragments

J:\User.00\WINNT351\system32\sh...	175
J:\User.00\WINNT351\system32\NT...	131
J:\User.00\WINNT40\explorer.exe	84
J:\User.00\WINNT40\system32\srv...	71
J:\User.00\WINNT40\system32\ssm...	71
J:\User.00\WINNT351\system32\dr...	69

Ready

Graphic Fragmentation Display

This section of the Diskeeper Lite display shows a graphic representation of the fragmentation of your disk.   The colors of the display indicate the type and condition of the data on your disk.

- Green areas show system files such as the Master File Table (MFT).

- Yellow areas show the pagefile (if it exists on the disk).

- Light blue areas show the directories on the disk.

- Red areas show fragmented files.

- Dark blue areas show contiguous (non-fragmented) files.

- Gray areas show free space on the disk.

Status Bar

The status bar indicates the percentage done of either the fragmentation analysis or various stages of defragmentation.

File Menu

The File Menu contains these options:

- Open Analysis
- Save Analysis
- Print Analysis
- Exclusion List
- Exit

Open Analysis

Use the Open Analysis option to open and view a (previously saved) fragmentation analysis data file.   When this option is chosen, you are given the opportunity to select the disk, directory, and filename of the fragmentation analysis file.

This option is useful for comparing the condition of a disk before and after defragmenting the disk with Diskeeper.   See the Save Analysis help topic for information about saving the fragmentation analysis results.

Save Analysis

Use the save Analysis option to save the results of a fragmentation analysis.   Use this option after running the fragmentation analysis.

By default, the analysis file is saved as a file named DriveX.any (where *X*   represents the drive letter) in the directory where Diskeeper is installed.   When this option is chosen, you are given the opportunity to change the file name and directory location.

Note that if you are saving "before and after defragmentation" analysis files, you should use unique names for the files.   This prevents the "before" analysis file from being overwritten by "after" file.

This option is useful for comparing the condition of a disk before and after defragmenting the disk with Diskeeper.   Be sure to save the analysis before running Diskeeper, so you can see the benefits of running Diskeeper.   See the Open Analysis help topic for more information about opening a (previously saved) fragmentation analysis data file.

Print Analysis

Use the Print Analysis option to print the text portion of a (previously saved) fragmentation analysis data file.   This option sends the fragmentation analysis information to whatever printer is designated as your default printer.

This option is useful for comparing the condition of a disk before and after defragmenting the disk with Diskeeper.   See the Save Analysis help topic for information about saving the fragmentation analysis results.

Exclusion List

Use the Exclusion List option to create a list of files or directories you want to be excluded from being defragmented.

Click here to see an example of the file exclusion list dialog box.

Exit

Use the Exit option to completely exit from Diskeeper Lite.   Using this option safely stops any analysis or defragmentation operation that may currently be running.

Analyze Menu

The Analyze menu contains these options:

» Select Disk
» Continue
» Pause
» Stop

Select Disk

Use the Select Disk option to select a disk to be analyzed.

When you chose the Select Disk option, a list is displayed of the disk partitions detected on your computer.   To select a disk, either click on a listed drive and click OK, or simply double click the listed drive.

Continue

Use the Continue option to continue a previously-paused fragmentation analysis of the selected disk.

Pause

Use the Pause option to temporarily pause the fragmentation analysis of the selected disk.

Stop

Use the Stop option to stop the fragmentation analysis of the selected disk.

Defragment Menu

The Defragment menu contains these options:

» Select Disk
» Continue
» Pause
» Stop

Select Disk

Use the Select Disk option to select a disk to be defragmented.

When you chose the Select Disk option, a list is displayed of the disk partitions detected on your computer.   To select a disk, either click on a listed drive and click OK, or simply double click the listed drive.

Continue

Use the Continue option to continue the previously-paused defragmentation of a selected disk.

Pause

Use the Pause option to temporarily pause the defragmentation of the selected disk.

Stop

Use the Stop option to stop the defragmentation of the selected disk.

View Menu

The View menu contains these options:

▶ Graphics
▶ Text
▶ Orientation

Graphics

Use the Graphics option to display a graphic view of either a fragmentation analysis or the defragmentation of a disk.

Click here to see an example of the fragmentation analysis graphic display.

Text

Use the Text option to display a text view of either a fragmentation analysis or the defragmentation of a disk.

Click here to see an example of the fragmentation analysis text display.

Orientation

Use the Orientation option to display the Diskeeper Lite orientation opening screen.   This display presents a brief "quick start" of Diskeeper Lite operation.

Options Menu

The Options menu contains these selections:

- Show Summary After Analysis
- Show Summary After Defragmentation
- Show Orientation on Launch

Show Summary After Analysis

Use the Show Summary After Analysis option to alternately enable and disable a summary screen displayed after a fragmentation analysis.

This summary screen explains the condition of the analyzed disk, and makes recommendations based on the condition found.

Show Summary After Defragmentation

Use the Show Summary After Defragmentation option to alternately enable and disable a summary screen displayed after a disk is defragmented.

This summary screen explains the condition of the disk after defragmentation, and describes any situations found which might prevent Diskeeper Lite from completely defragmenting the disk.

Show Orientation on Launch

Use the Show Orientation on Launch option to alternately enable and disable the Diskeeper Lite orientation screen each time Diskeeper Lite is started.

The Diskeeper Lite orientation opening screen display presents a brief "quick start" of Diskeeper Lite operation.

Upgrade Menu

The Upgrade menu contains these options:

» Diskeeper Server
» Diskeeper Workstation
» Bulk Purchase

Diskeeper Server

Use the Diskeeper Server option to display information about the full-featured version of Diskeeper for Windows NT Server 4.0.

{button Diskeeper Server Information,EF(`S.HLP',`',1,`')}

Diskeeper Workstation

Use the Diskeeper Workstation option to display information about the full-featured version of Diskeeper for Windows NT Workstation 4.0.

{button Diskeeper Workstation Information,EF(`W.HLP',`',1,`')}

Bulk Purchase

Use the Bulk Purchase option to display information about bulk purchase discounts on the full-featured version of Diskeeper for Windows NT 4.0.

{button Bulk Purchase Information,EF(`B.HLP',`',1,`')}

Auto Defrag Menu

The Auto Defrag menu contains this option:

 Info

Info

Use the Info option to display a series of screens describing the features and functionality of the full-featured version of Diskeeper for Windows NT 4.0.

Help Menu

The Help menu contains these options:

» Contents
» About

Contents

Use the Contents option to view the Table of Contents for the Diskeeper Lite help system.

About

Use the About option to view the version number and other really interesting information about Diskeeper Lite.

Disk

This section of the fragmentation analysis display shows which disk drive is being analyzed.

Disk Size

This section of the fragmentation analysis display shows the total amount of space on the disk.   This includes files and free space, as well as disk space used by the operating system (such as directory files and the Master File Table) but not reported in "Used Space".

Cluster Size

This section of the fragmentation analysis display shows the cluster size for the disk.   A disk cluster represents a number of disk sectors treated as a single unit. The entire disk is divided into clusters, each one a minimum increment of storage.

Used Space

This section of the fragmentation analysis display shows the total amount of disk space (in kilobytes) currently occupied by files.   This does not include zero-length files, or certain files used by the operating system (such as directory files and the Master File Table).

Free Space

This section of the fragmentation analysis display shows the total amount of free space on the disk.

Percent Free Space

This section of the fragmentation analysis display shows the percentage of space on the disk that is free.

Pagefile Size

This section of the fragmentation analysis display shows the size of the pagefile on the disk.   This section will display zero when no pagefile is present.

Pagefile Fragments

This section of the fragmentation analysis display shows the number of fragments the pagefile (if it exists on the disk) is broken into.

Total Directories

This section of the fragmentation analysis display shows the total number of directories present on the disk.

Fragmented Directories

This section of the fragmentation analysis display shows the number of fragmented directories on the disk.

Excess Directory Fragments

This section of the fragmentation analysis display shows the total number of directory fragments on the disk.   Contiguous directories are not counted in this total, but each piece of any fragmented directory is counted.

Total Files

This section of the fragmentation analysis display shows the total number of files on the disk.   This number does not include zero-length files or (in most cases) files less than one cluster in size on NTFS partitions.   Files less than one cluster in size may be included, depending on the file size and the cluster size.

Average File Size

This section of the fragmentation analysis display shows the average size of all the files on the disk.   This number does not include any zero-length files or pagefiles.

Fragmented Files

This section of the fragmentation analysis display shows the total number of fragmented files on the disk.

Excess Fragments

This section of the fragmentation analysis display shows the total number of file fragments on the disk.   Contiguous files are not counted in this total, but each piece of any fragmented file is counted.

Percent of Disk Fragmented

This section of the fragmentation analysis display shows the percentage of the disk that contains fragmented data.   For example, a figure of 33% indicates one-third of the disk contains fragmented files.   This figure is a good overall indication of the state of fragmentation on the disk.

Average Fragments per File

This section of the fragmentation analysis display shows the average number of fragments per file on the disk.   This is an index of how fragmented the files on the disk are.

If the average fragments per file is 1.00, the files are contiguous.   If the figure is 1.10, then 10% of the files, on average, are in two pieces.   1.20 means 20%, 1.30 means 30%, etc.   A figure of 2.00 means the files average two fragments each.   1.00 is the best figure attainable, indicating that all files or nearly all files are contiguous.

MFT Size

This section of the fragmentation analysis display shows the size of the Master File Table (MFT).

Since the MFT is only used on NTFS partitions, this section is grayed out on FAT partitions.

Number of MFT Records

This section of the fragmentation analysis display shows the number of individual file records found in the Master File Table (MFT).   This figure will not necessarily correspond with the number of files presently on the disk, since in some cases the file records remain in the MFT after the file is deleted.

Since the MFT is only used on NTFS partitions, this section is grayed out on FAT partitions.

Percent of MFT In Use

This section of the fragmentation analysis display shows the percentage of the Master File Table (MFT) in use.

The MFT grows as the number of files on the disk increases, but is not reduced in size when files are deleted from the disk.

Since the MFT is only used on NTFS partitions, this section is grayed out on FAT partitions.

MFT Fragments

This section of the fragmentation analysis display shows the number of fragments the Master File Table (MFT) is broken into.

Since the MFT is only used on NTFS partitions, this section is grayed out on FAT partitions.

Total Fragments

This section of the fragmentation analysis display shows the total number of file fragments on the disk.   Contiguous files are not counted in this total, but each piece of any fragmented file is counted.

Most Fragmented Files

This section of the fragmentation analysis display shows the directory path and filename of the most fragmented files on the disk, and the number of fragments the files are in.   If these files are ones that users access frequently, the impact to your system performance may be greater than indicated by the Average Fragments per File figure.

Number of Fragments

This section of the fragmentation analysis display shows the number of fragments associated with the most fragmented files on your disk.

Fragmentation Analysis Status Bar

When the fragmentation analysis is running, this section of the display shows the percentage of the analysis completed, and also displays a message indicating when the analysis is done.

Uninstalling Diskeeper Lite

Follow these steps to remove Diskeeper from your computer:

1. From Control Panel, double click Add/Remove Programs.

2. Click the Install/Uninstall tab.

3. Highlight Diskeeper Lite.

4. Click the Add/Remove button.   This removes the Diskeeper program files from your computer.

Executive Software

Executive Software, founded by its Chairman and CEO Craig Jensen, was incorporated in 1981. In 1986, Diskeeper for VAX/VMS was introduced, establishing Executive Software as the leader in defragmentation products for the corporate marketplace.

A fundamental aspect of the company's corporate purpose has been to help Data Center Managers solve performance problems. Superior technical capability coupled with meticulous market research fueled rapid growth for Executive Software, and resulted in a high degree of customer satisfaction.

Executive Software has grown from five staff in 1986 to more than 125 today, with headquarters in California and branch offices throughout the world. The expansion of the company and the popularity of its products demonstrate a successful implementation of the company's purpose and the degree of technical and administrative capability that backs it up.

Click here to visit Executive Software's Home Page:

{button Visit Executive Software,Inet("http://www.execsoft.com")}

Note: It is necessary for you to have your Web browser or navigator up and running before clicking on the button.

Using the Diskeeper Help Internet Access

The Diskeeper Lite Help system gives you the ability to jump directly from the running Help system to the Internet.   This assumes, of course, that you have Internet access and a browser or navigator on your system.
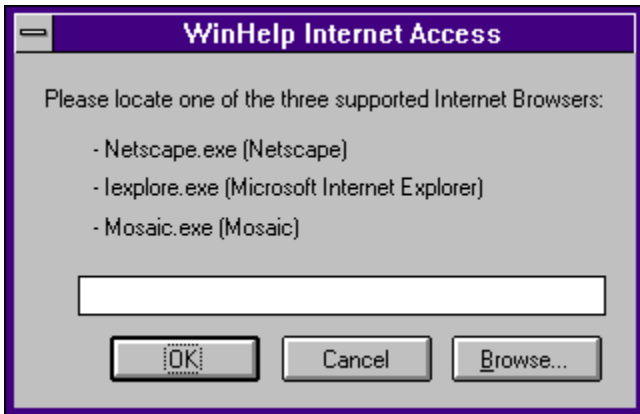
In the case that you have more than one navigational tool on your system, Diskeeper Lite is shipped with the file SETBROWS.EXE.   This is an executable image that allows you to specify the browse path for an Internet browser or navigator.

Using   SETBROWS.EXE

You only need use this option if you have more than one Internet navigational tool on your system and want to specify a particular browse path for the browser or navigator, or if for some reason, you receive an error message requesting a browser.

Follow these steps to use SETBROWS.EXE:

1. Using the Windows NT Explorer, double click the SETBROWS.EXE file that is installed in the directory where Diskeeper Lite is installed.   By default, this is ExecSoft\DkLite on your Windows NT system disk.   This causes the dialog box shown below to be displayed:

1.   Do one of the following:

   n Enter the path and name of the browser or navigational tool.

   n Click Browse.   Using the drives and directories, select the browser or navigational tool and click OK.

1. Click OK.

Installing a Browser from the Internet

If you do not have a navigational tool on your system, but do have Internet access, you can download one of several such tools directly from the Internet.   Two popular browsers are Netscape and Microsoft Internet Explorer.   Their Web sites are:

Netscape Home Page   http://home.netscape.com/

Microsoft Home page   http://www.microsoft.com/

Frequently-Asked Questions

[Why won't my disk defragment completely?](#)

[Why doesn't Diskeeper move directories?](#)

[Why doesn't Diskeeper defragment the Master File Table?](#)

[Why doesn't Diskeeper defragment pagefiles?](#)

[How can I handle pagefile fragmentation?](#)

[Why doesn't Diskeeper completely consolidate the free space on my disk?](#)

[Why don't my files get moved to the beginning of the disk?](#)

[How do I get to the Dilbert Zone?](#)

Where's Dilbert?

It's easy . . . crank up your browser and [click here](#)!

Why won't my disk defragment completely?

This can be the result of several situations:

- If your disk is extremely full, there may not be sufficient free space to effectively defragment the files.   In this case, we recommend temporarily moving some of the files off the disk, particularly large files.   This temporary measure often allows Diskeeper the "working room" it needs to complete the defragmentation process.   Also, this allows Diskeeper to defragment the free space on the disk, increasing the possibility that the temporarily-moved files can be moved back to the disk in a contiguous (or at least less-fragmented) condition.

- Another cause for incomplete defragmentation is a fragmented pagefile. See Why doesn't Diskeeper defragment pagefiles? for more information.

- A disk that has (at one time or another) been filled to capacity may have a severely fragmented Master File Table (MFT).   There is a White Paper entitled *The Effects of Fragmentation on Windows NT File System Performance* available from the Executive Software Web page that describes the causes and effects of MFT fragmentation.   To view or download this White Paper, start your Web browser or navigator and click here.

- Another situation that can prevent complete defragmentation of a disk is the existence of a large number of directories on the disk.   See Why doesn't Diskeeper move directories? for more information.

Why doesn't Diskeeper move directories?

By its very design, Windows NT does not allow directories on a disk to be moved.   This is due to data integrity issues related to the way Windows NT maintains directory information while Windows NT is active.   Since   Diskeeper runs while other processes are active on the system, it does not attempt to move directories.

Why doesn't Diskeeper defragment the Master File Table?

The Master File Table (MFT) is the area on an NTFS disk where Windows NT keeps all the information necessary for the operating system to retrieve files from the disk.   The MFT also contains information such as the file creation, modification, and backup dates and times.   In essence, the MFT contains everything Windows NT needs to know about the files on the disk.

Since the MFT is held open for exclusive use, Diskeeper is unable to move any pieces of this critical system file.   Otherwise, data integrity would be jeopardized.

Why doesn't Diskeeper defragment pagefiles?

Diskeeper cannot defragment pagefiles, since pagefiles <u>must</u> be open for exclusive use by Windows NT at all times.   See How can I handle pagefile fragmentation? for information about handling pagefile fragmentation.

How can I handle pagefile fragmentation?

The pagefile is open for exclusive use by the Windows NT system.   Diskeeper cannot defragment any file which is open for exclusive use.   There is, however, a way to defragment the pagefile, or at least reduce the degree of fragmentation of the pagefile. The steps are:

1. Create a new pagefile on another disk.

2. Reboot your computer to cause the system to use the new temporary pagefile.

3. Delete the original fragmented pagefile, PAGEFILE.SYS, in the root directory of the disk.

4. Run Diskeeper on the original disk.

5. Recreate the pagefile on the original disk.

6. Reboot your computer so the new pagefile will be used on the original disk.

7. Delete the temporary pagefile created in step 1 above.

You need to run Diskeeper on the original disk, since even with a fairly high percentage of free space, it is likely that free space will be quite fragmented.   A moderately large file like a pagefile will be created in a fragmented condition unless the free space has been consolidated prior to creating the file.

Why doesn't Diskeeper completely consolidate the free space on my disk?

There are several factors that can prevent the free space on a disk from being defragmented:

- A fragmented pagefile.   See How can I handle pagefile fragmentation? for more information.

- A large number of directories on the disk.   See Why doesn't Diskeeper move directories? for more information.

- On NTFS partitions, a portion of the free space on a disk is reserved by Windows NT for the Master File Table (MFT).   See Why don't my files get moved to the beginning of the disk? for more information.

It is important to know that having all of the free space in a single, contiguous piece provides very little (if any) performance benefit.   Free space fragmented into hundreds of pieces will impact disk performance, but free space that's in a few pieces should not have any effect on the performance of your disk.

Why don't my files get moved to the beginning of the disk?

On NTFS partitions, a portion of the free space on a disk is reserved by Windows NT for the Master File Table (MFT).   This free space is most noticeable at the physical "beginning" of the partition (easily seen using the graphic fragmentation analysis display), but space is also reserved for use by the MFT in other areas of the partition.

Since this free space is reserved for exclusive use by Windows NT, Diskeeper Lite will not move files into these areas of the partition.

Upgrade Information

Diskeeper Lite is a scaled-down version of Diskeeper 2.0 for Windows NT.   Click one of the buttons below for more information about the full-featured version:

{button Info,JI(`DKLITE.HLP',`General_Information')}   General information about the full version of Diskeeper for Windows NT

{button Safety,JI(`DKLITE.HLP',`Safety')}   The built-in safety guards

{button Specs,JI(`DKLITE.HLP',`Specifications')}   Product specifications

{button Purchase,JI(`DKLITE.HLP',`Purchasing_Information')} Upgrade to the full version of Diskeeper for Windows NT

General Information

The full-featured version of Diskeeper for Windows NT offers a number of enhancements not available in Diskeeper Lite.   Click one of the buttons below for more information about the full-featured version:

» Fully Automatic Operation
» Server and Workstation Versions
» New Features!

Fully Automatic Operation

The full-featured version of Diskeeper for Windows NT is a completely automatic defragmenter, with full scheduling capabilities.   It runs transparently in the background, while you continue to work.   You can also schedule it to run during your "off hours" — you can even set times when you DON'T want Diskeeper to run.

Diskeeper uses only idle resources, backing off when user or system needs increase.

In all, Diskeeper is a truly "Set It and Forget It" product — once installed, fragmentation is eliminated from your Windows NT system, and you don't have to even think about it again!

Server and Workstation Versions

Diskeeper for Windows NT comes in workstation <u>and</u> server versions.   The server version can remotely install, schedule, and monitor Diskeeper across an entire Windows NT network.

Note: In a network situation, the required number of workstation and server licenses needs to be purchased before installing Diskeeper network-wide.   Bulk licenses are available at reduced rates at most resellers.

New Features!

Diskeeper 2.0 has the following enhancements and improvements:

- Fully compatible with Windows NT 4.0 (as is Diskeeper Lite)

- Does not modify any system files when you install it

- Includes the "Priority Defrag" feature (similar in operation to Diskeeper Lite), allowing you to perform a dedicated defragmentation of a disk, in addition to the fully automatic defragmentation mode

To purchase Diskeeper for Windows NT 3.51, or to order Diskeeper 2.0 for Windows NT 4.0 in advance, click here.

Safety

When Diskeeper was designed, SAFETY was the highest priority.

To ensure the safe movement of files on the disk, Diskeeper uses mechanisms built into Windows NT 4.0 that were developed and implemented by Executive Software, and fully incorporated into Windows NT by Microsoft.

By using these built-in mechanisms, Diskeeper maintains cache coherency, file security and permissions information, and file content integrity no matter how fragmented the files on the disk are.

It is no wonder that Diskeeper is the preferred defragmenter, found on the computer systems at NASA, McDonnell Douglas, Lockheed, Boeing, AT&T, Unisys, Bechtel, E. I. Dupont, Northrop, Caterpillar, and many other companies.

Specifications

Diskeeper for Windows NT 4.0 is supported on Intel x86 (including Pentium), Alpha, MIPs and PowerPC platforms running Windows NT 4.0.

Diskeeper safely defragments all types of FAT and NTFS files, including compressed files.

Diskeeper safely defragments open files, including system files — even when they are open, if not open for exclusive use.

Diskeeper safely defragments all types of disks, including large capacity disks, all RAID configurations, including stripe sets, mirror sets, and volume sets.

Diskeeper is compatible with all types of database and application files.

In its "Set It and Forget It" mode, Diskeeper maintains a level of defragmentation which keeps your disks operating at optimal performance level while using only unused CPU cycles to accomplish the task.

Efficiency

In its automatic, "Set It and Forget It" mode, the full version of Diskeeper for Windows NT is very efficient, using only otherwise unused CPU cycles to perform its work.

One key design criteria was for the defragmentation process to use fewer resources than using the disk in a fragmented condition.   This criteria has been met in the full version of Diskeeper for Windows NT.

Purchasing Information

The full-featured version of Diskeeper for Windows NT is available from a wide array of computer resellers.   The following is a partial list.   In cases where a reseller's name is underlined, you can click on the name to jump directly to their home page.   (Note that your Web browser or navigator must be active for this option to work properly.)

SOFTWARE HOUSE — 800-527-6389

THE CORNER STORE — 800-428-9672 or 205-649-5247

INACOM — http://www.inacom.com —   800-843-2762

JSI — http://www.jsiinc.com — 800-585-9588

MICROAGE — http://www.microage.com   — 800-528-1415

PROGRAMMER'S PARADISE — http://www.pparadise.com — 800-213-4480

PROGRAMMER'S SHOP — http://computing.supershops.com — 617-740-2510

SOFTWARE SPECTRUM — http://www.swspectrum.com — 800-824-3323

STREAM INTERNATIONAL — http://www.stream.com — 800-677-4000

SUNBELT — http://www.ntsoftdist.com — 800-688-8404

TECH ARTS — http://www.techarts.com — 800-455-9853

EXECUTIVE SOFTWARE — http://www.execsoft.com — 818-547-2050

. . . or contact your favorite reseller!

Beta Release Information

This section provides information about the Diskeeper Lite Beta release.   Click any of the buttons below:

» Sending Us Beta Feedback
» Downloading the Latest Beta Release
» Known Limitations and FAQs

Sending Us Beta Feedback

Executive Software welcomes any feedback or comments about Diskeeper Lite.   We have set up e-mail capabilities via the World Wide Web specifically for the purpose of getting this type of information from you.   This is also the means by which you should contact Executive Software for any Technical Support issues you may have regarding Diskeeper Lite.

To access the Diskeeper Lite Beta feedback line, activate your Web browser or navigator and click the button below.

{button Diskeeper Lite Beta Feedback,Inet("http://www.execsoft.com/dklite/feedback.htm")}

Downloading the Latest Beta Release

Bug fix upgrades to the Diskeeper Lite Beta software will be made available from our Web site on an as-needed basis.   To access the Diskeeper Lite Beta download area, activate your Web browser or navigator and click the button below.

{button Download Beta Upgrades,Inet("http://www.execsoft.com/dklite/download.htm")}

Known Limitations and FAQs

To provide up-to-the-minute answers to questions you may have about Diskeeper Lite, Executive Software will make available a list of the known limitations and frequently-asked questions.   This list will also identify which of these issues have been addressed in later Beta release updates (which will be made available for downloading from the Executive Software Web site).   To view this list (and download any available Beta release upgrades), activate your Web browser or navigator and click the button below.

{button Known Limitations and FAQs,Inet("http://www.execsoft.com/dklite/litefaq.htm")}