Before the Installation

Windows NT Versions and Platforms Supported

Several versions of Diskeeper are available:

Diskeeper 3.0 for Windows NT Server is supported on version 4.0 of the Windows NT Server operating system.   It can also be installed on Windows NT Workstations.

Diskeeper 3.0 for Windows NT Workstation is supported on version 4.0 of Windows NT Workstation.

An earlier version, Diskeeper 1.0, is available on request for Windows NT 3.5 and 3.51 systems.

Diskeeper 3.0 runs on the following Windows NT computer platforms:

- Intel x86 platform
- Digital Alpha platform

File Systems Supported

Diskeeper supports the NTFS and 16-bit FAT file systems, but the 12-bit FAT file system is not supported.   (The 12-bit FAT file system is used on FAT partitions smaller than 16 megabytes in size.)

Disks Supported

Diskeeper supports a wide range of SCSI and IDE disks, including:

- Primary Partitions
- Extended Partitions
- Logical Drives
- Volume Sets
- Mirror Sets
- Stripe Sets (with and without parity)

Resource Requirements

The disk space requirements for Diskeeper vary, depending on the computer platform upon which it is installed.   The table below lists the disk space requirements by platform.

Platform	Space Required
Intel *x*86	2 megabytes or less
Alpha	4 megabytes or less

Installation Overview

Diskeeper is installed by the **SETUP.EXE** program supplied on the Diskeeper CD-ROM. The **SETUP.EXE** program:

- confirms that you have Administrator privileges.
- determines which version of Windows NT you are running.
- checks for sufficient space on the disk for the installation.
- recognizes and will install over previous versions of Diskeeper.
- copies the Diskeeper files to the destination directories, updates the Windows NT Registry, starts the Diskeeper service, and creates a new Program Group for Diskeeper.
- offers you the option to register Diskeeper at Executive Software's Web site.

Installation Procedure

Please Note: If you have previously installed Diskeeper Lite on your computer, Executive Software recommends that you uninstall it before proceeding with the installation of Diskeeper 3.0.   If, however, you decide to leave Diskeeper Lite on your system, be aware that uninstalling Diskeeper Lite after the installation will remove certain Windows NT Registry entries used by Diskeeper 3.0, and you will need to re-install Diskeeper 3.0.   Use the Add/Remove Programs applet in Control Panel to uninstall Diskeeper Lite.

To install Diskeeper, follow these steps while logged into an Administrator account:

1   Insert the Diskeeper CD-ROM into the appropriate drive on your computer.

2   The Windows NT 4.0 AutoPlay feature automatically determines the computer platform you are using and begins installing the correct version of Diskeeper.   If you have disabled the AutoPlay feature, perform these steps:

a) From the Windows NT Explorer, expand the directory folders on the Diskeeper CD-ROM.   You will see directory folders for these platforms:

> **X86** — for the Intel PC platform (includes Pentium)

> **Alpha** — for the Digital Alpha platform

b) Double click **SETUP.EXE** in the directory folder representing your computer platform.   This causes the Executive Software Setup Window to be displayed.

3 Click Next when the welcome message appears.

4   As an option, you can choose the destination location for the Diskeeper files.   By default, Diskeeper will be installed in \ExecSoft\Diskeep on your Windows NT system partition.   To choose another disk partition or directory, click Browse.   If you choose another partition or directory, click OK to accept the new destination location.   Any valid local disk drive and directory names are acceptable.   If the directory you specify does not exist, a new directory will be created by the Setup utility.

5   After accepting or editing the path name, click Next.

6   After a short period of copying files, the Diskeeper Program Group is created and the installation is complete.

After the Installation

Registering Diskeeper

After the Diskeeper installation is complete, you are given the option to register your Diskeeper purchase. You can register Diskeeper at the <u>Executive Software</u> Web site, or FAX the registration card included in the Diskeeper package to Executive Software.   Both methods provide a fast, efficient way to register Diskeeper.

The online Web-based registration option requires that you have a default Web browser or navigator installed on your computer.

Be sure to register your Diskeeper purchase to receive the free 90 days of telephone support included with Diskeeper.

A Note about Installing Service Packs

Since Diskeeper utilizes mechanisms built into Windows NT 4.0 that allow the safe movement of files on a disk that is actively being accessed by users, there is no need to upgrade Diskeeper each time you install a new Windows NT Service Pack upgrade.

However, Executive Software recommends uninstalling Diskeeper before you install the Windows NT Service Pack.   This ensures that Diskeeper Registry entries are not modified by the Service Pack upgrade.   See <u>Uninstalling Diskeeper</u> for more information about uninstalling Diskeeper.

A Note about Repairing Your Windows NT System

Performing an emergency repair of a Windows NT system can possibly change or disable certain system information or services.   For this reason, it may be necessary to reinstall Diskeeper after repairing your Windows NT system.

About the Diskeeper Service

Diskeeper 3.0 is primarily designed as a "Set It and Forget It"® disk defragmenter.   In order to accomplish this goal, it creates a Windows NT service.   The service allows Diskeeper to run in the background while other applications are running.   Diskeeper can defragment your disks whether you are logged on to your computer or not.

After installation, the Diskeeper service starts automatically each time your Windows NT system is booted.   The Diskeeper service runs all the time, whether or not defragmentation is occurring.   This service consumes negligible system resources, and in most cases will never need to be disabled.

Setting Up the Application Event Log

Diskeeper messages are placed in the Windows NT Application Event Log.   By default, this log is 512 kilobytes in size, and is set to overwrite events older than 7 days old. Diskeeper may quickly fill the log file if these default settings are used.   To prevent this, perform these steps to change the size and overwriting characteristics of the Application Event Log:

1   From the Windows NT Start button, choose Programs, then the Administrative Tools Program Group.
2   In the Administrative Tools Program Group, choose the Event Viewer.
3   In the Event Viewer, open the Log menu and choose the Log Settings option.
4   In the Event Log Settings dialog box, perform these steps:
   - Set the Change Setting to Application Log.
   - Set the Maximum Log Size to 2048 kilobytes.

- Enable the Overwrite Events as Needed option.
- Choose OK to return to the Event Viewer Log.

Installing Diskeeper using SMS

Diskeeper can be installed as a distributed installation using Microsoft's System Management Server (SMS).

Follow these steps to install Diskeeper using SMS:

1 Insert the Diskeeper distribution media into the appropriate drive on your computer. Using the Windows NT Explorer, you will see these subdirectory folders:

   X86 — for the Intel PC platform (includes Pentium)

   Alpha — for the Digital Alpha platform

2 Select the appropriate directory(s) for the platform(s) upon which you want to remotely install Diskeeper.

3 Copy the selected Diskeeper files into a directory which can be accessed by all the servers which will be distributing the Diskeeper package.

4 From the SMS Administrator, open the Packages window. Press <Ctrl-N> to create a new package.

5 Click Import and import the Product Definition File, **DKNT.PDF**, from the appropriate Diskeeper source directory.

6 Click Workstations.

7 Click the ellipsis (**...**) button next to the Source Directory window.

8 Select the directory into which you copied the Diskeeper files and click OK.

9 Click Close, then click OK to create the package.

10 Drag the package to the target machine(s) in the Sites window of the SMS Administrator.

11 In the Job Details window, select Install as the Workstation command.

12 Click OK to close the Job Details window.

13 As an option, enter any comments you want in the Comments dialog box.

14 Click OK to send the package to the target machine(s).

Note: When installed by SMS in this manner, Diskeeper will only install to C:\ExecSoft\ Diskeep. To install on a different drive or in a different directory, perform one of these two actions:

1 Share the directory where the Diskeeper installable files reside, then log into the target machine and run **SETUP.EXE** from the target machine as described in the Diskeeper for Windows NT User's Guide; or,

2 Edit the **SETUP.ISS** file and change the line `szDir=C:\ExecSoft\Diskeep` to point to the drive and directory where you want to install Diskeeper.

Uninstalling Diskeeper

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.
4 Click Add/Remove. This removes the Diskeeper program files and registry entries from your computer.   In most cases, the Diskeeper installation directory will not be removed.
5 Manually delete the Diskeeper installation directory if it exists.

Analyzing Fragmentation

Diskeeper can perform a comprehensive analysis of the fragmentation on your partitions. The analysis is shown in either a graphic or a text display.   The graphic display shows different-colored areas representing system files, page files, fragmented files, contiguous files, directories, and free space.   The text display shows a variety of information about the extent of fragmentation on a partition.

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

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

Seeing Results

Especially when using Diskeeper for the first time, you may want to see the results of defragmenting your partitions.   Diskeeper provides several methods by which you can do this.

In order to see the effectiveness of Diskeeper, it is important to first analyze the fragmentation on your partitions *before* defragmenting them.   This is easily done by double clicking the Analyze icon in the disk tree.   Then, after running the analysis, save the analysis results using the Save Analysis option on the Diskeeper File menu.

After saving the analysis results, defragment your partitions by double clicking on a Defragment icon in the disk tree.   Running Diskeeper in the higher-priority "Manual" mode ensures your partitions are defragmented quickly.   Once the defragmentation is complete, re-analyze your partitions as you did before defragmenting them.   (Remember to save the results to a different file name than the "before" results, to avoid overwriting the earlier analysis results.)

By comparing the "before and after" analysis results, you can see the effectiveness of Diskeeper.   Now, if you set and start scheduled "Set It and Forget It" defragmentation jobs for your partitions, Diskeeper can maintain the defragmented state of your partitions automatically in the background, with no further intervention from you!

Manual Defragmentation Mode

Diskeeper is designed to be operated in three ways – the "Manual Defragmentation" mode and the "Set It and Forget It" mode, which run while your disk partitions are on-line and available to other applications and users, as well as the "Boot-Time Directory Consolidation" mode.   The Boot-Time Directory Consolidation mode runs only when you re-boot your computer.

The Manual Defragmentation mode allows you to directly control Diskeeper operation. You have direct control over which partitions are defragmented, when defragmentation is started and stopped, and the priority at which "Manual Defragmentation" jobs run.

There are several ways by which to manually start Diskeeper, but the most direct method is to simply double click the Defragment icon corresponding to the partition you want to defragment.   Alternatively, click on a Defragment icon, then press the Enter key.   You can run more than one manual defragmentation job at the same time.

To stop a manual Diskeeper job, first highlight the Defragment icon for the partition you want to stop defragmenting, then either click the Stop button or select the Stop option from the Defragment menu.

If you exit from Diskeeper (or even log off your computer) while a manual defragmentation job is running, the job will continue running until it is complete.

By default, manual defrag jobs are run at "Normal" priority, the mid-level Windows NT priority.   Because of this, the performance of tasks running on your computer other than the defragmentation job can be impacted.   As an option, you can change the priority at which Diskeeper runs for manual defrag jobs.   To do this, select the Priority option from the Options menu.   Lowering the priority of Diskeeper jobs can help speed the performance of other tasks on your system running at the same time, but can cause Diskeeper to take longer to defragment your partitions.

Click here for more information about setting the Diskeeper priority.

Set It and Forget It Mode

Diskeeper is designed to be operated in three ways --- the "Set It and Forget It" mode and the "Manual Defragmentation" mode, which run while your disk partitions are on-line and available to other applications and users, as well as the "Boot-Time Directory Consolidation" mode.   The Boot-Time Directory Consolidation mode runs only when you re-boot your computer.

The Set It and Forget It mode allows Diskeeper to run in the background while users and other processes are active on the system.

To run Diskeeper in the Set It and Forget It mode, first create a schedule specifying the times Diskeeper either will or will not be allowed to run on a specific partition, then start the scheduled defragmentation job.   After a defragmentation schedule is created for a partition, Diskeeper will follow that schedule until you explicitly stop it.   The defragmentation job will run as scheduled, whether you are logged onto the computer or not.   Also, multiple Set It and Forget It defragmentation jobs can be run at the same time on separate partitions.

To stop a Set It and Forget It Diskeeper job run, first highlight the icon for the partition you want to stop defragmenting, then either click the Stop button or select the stop option from the Defragment menu.   Or, you can open the Drive Scheduler dialog box from the Set It and Forget It menu, highlight the partition for which you want to stop the schedule, then click Stop.

If you exit from Diskeeper (or even log off your computer) while a Set It and Forget It job is running, the job will continue running until the current scheduled run is complete.   It will then be re-scheduled to run at the next specified run time.

By default, Set It and Forget It defragmentation jobs are run at the lowest Windows NT priority.   Because of this, Set It and Forget It jobs should have a minimal impact on other tasks that are running at the same time.   As an option, you can change the priority at which Diskeeper runs for Set It and Forget It jobs.   To do this, select the Priority option from the Options menu.   Raising the priority of Diskeeper jobs can slow the performance of other tasks on your system running at the same time, but can enable Diskeeper to defragment your partitions more quickly.

Click here for more information about setting the Diskeeper priority.

Boot-Time Directory Consolidation Mode

Diskeeper is designed to be operated in three ways --- the "Boot-Time Directory Consolidation" mode, which runs only when you re-boot your computer; as well as the "Set It and Forget It" mode and the "Manual Defragmentation" mode, which run while your disk partitions are on-line and available to other applications and users.

Running during boot-time, the Diskeeper Directory Consolidation feature defragments and consolidates directories into a single location.   This is done at boot-time, since directories are objects that cannot be defragmented while the partition is being accessed by other applications or users.

By its nature, Windows NT allows directories to be written into random locations.   This, in effect, breaks up the available pieces of free space on the partition.   By grouping all the directories into a single location on a partition, larger areas of contiguous free space become available.   As a result, new files are more likely to be written to the partition in a contiguous manner.   This also helps make Diskeeper more effective when it is run in either the Set It and Forget It or Manual Defragmentation modes.

There are, however, two directories that Windows NT expects to find in a particular physical location on the partition.   For this reason, the Diskeeper Boot-Time Directory Consolidation excludes these two directories and does not move them.   The directories are \Recycler and \Recycled.   Because these two directories cannot be moved, the Boot-Time Directory Consolidation will likely still leave one or two directories that are not consolidated with the rest of your directories.

The Boot-Time Directory Consolidation relies on finding enough contiguous free space into which all the directories will fit.   For this reason, you should run Diskeeper in one of its online modes before running the Boot-Time Directory Consolidation feature.

In most cases, you should run the Diskeeper Boot-Time Directory Consolidation shortly after the first time you use Diskeeper on a partition (Diskeeper should run at least once to create a contiguous free space to move the directories into), or after any operation (such as installing a new application) that creates multiple directories.   By moving all the directories together, you create more contiguous free space for file defragmentation. After running the Boot-Time Directory Consolidation, use either the Set It and Forget It or Manual Defragmentation modes to keep the partition defragmented.

Click here for information about setting a partition for Boot-Time Directory Consolidation.

Overview of Diskeeper 3.0

n   A number of new features have been added to Diskeeper for this version. Click here for a list of the main highlights.

n   Two versions of Diskeeper are available − one for Windows NT Server and one for Windows NT Workstation.   The Server version defragments local and network disk partitions, and the Workstation version defragments local partitions only.

n   Diskeeper for Windows NT Server can be installed and run on Windows NT Workstations, allowing you to control defragmentation of the partitions on all the computers on your network from either a single Server or Workstation.

n   Diskeeper 3.0 is supported on Windows NT 4.0.   It cannot be run on earlier versions of Windows NT.   Diskeeper 1.0 is available for Windows NT 3.5 and 3.51.

n   Diskeeper supports the NTFS and 16-bit FAT file systems, but the 12-bit FAT file system is not supported.   (The 12-bit FAT file system is used on FAT partitions smaller than 16 megabytes in size.)

n   In its on-line, Set It and Forget It and Manual Defragmentation modes, Diskeeper cannot defragment files on NTFS partitions with a cluster size greater than 4K (4096 bytes) in size.   This is due to a limitation in Windows NT.   You must have Administrator privileges enabled before running Diskeeper.

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

n   More than one analysis or defragmentation operation can be performed at a time. You can analyze or defragment partitions independently of each other.

n   When running Diskeeper in the on-line mode, you can run other tasks while defragmentation is occurring.

n   When Diskeeper runs at higher priority levels, performance of other active processes will likely be impacted.

n   When Diskeeper runs at lower priority levels, defragmentation may take longer, since Diskeeper "backs off" for other higher-priority processes, including screen savers.

n   Diskeeper runs through the files on the partition in several "stages" during each defragmentation run.   The number of stages varies, depending on the number of files and the degree of fragmentation.

n   In the on-line mode, Diskeeper runs as a Windows NT Service and it optionally logs a variety of defragmentation information into the Windows NT Application Event Log.

n   Diskeeper 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.

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 partition are not contiguous, but rather are broken up and scattered around the partition; and
- a condition in which the free space on a partition 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 for Windows NT, the following goals were established:

- The product must be completely safe to use.
- It must improve Windows NT system performance.   It is not designed to make the disk look "pretty" --- it's designed to improve disk performance and, as a result, overall system performance.
- It should process live disks without interfering with user access to files on that partition.
- It should run without operator intervention.
- It must defragment all possible files and consolidate free space into the smallest possible number of large spaces.

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 people 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,EF(`Connect.exe',"http://www.execsoft.com",1)}

Note: It is necessary for you to have a default Web browser or navigator defined on your computer before clicking on the button.

Using the Diskeeper Interface

The Diskeeper 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 display shown below for information about that section of the Diskeeper display.
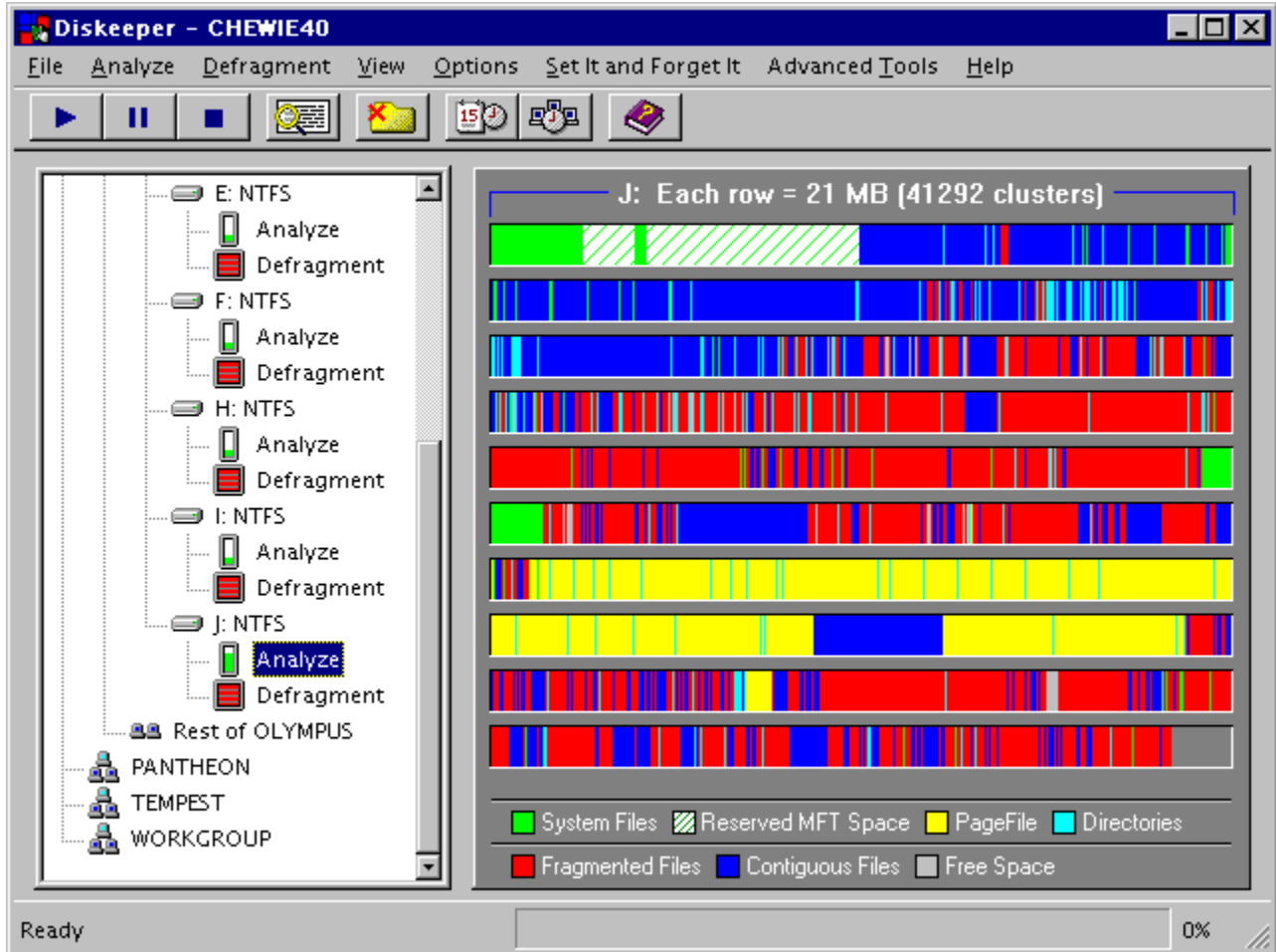
Menu Options

Diskeeper has these menu options:

» File Menu
»   Analyze Menu
»   Defragment Menu
»   View Menu
»   Options Menu
»   Set It and Forget It Menu
»   Connect Menu
»   Help Menu
» Advanced Tools Menu

Toolbar

The Diskeeper toolbar offers these options:

Go Button

Pause Button

Stop Button

View Text Button

File Exclusion List Button

Partition Scheduler Button

Network Scheduler Button

Help Contents Button

Go Button

Click the Go button in the Diskeeper toolbar to begin either a fragmentation analysis or the "Manual Defragmentation" of the selected partition.

Pause Button

Click the Pause button in the Diskeeper toolbar to temporarily pause a fragmentation analysis or the "Manual Defragmentation" of the selected partition.

Stop Button

Click the Stop button in the Diskeeper toolbar to stop a fragmentation analysis or the "Manual Defragmentation" of the selected partition.

View Text Button

Click the View Text button ⟩⟩ to display a text view of either a fragmentation analysis or the defragmentation of a partition.   The text view of a Diskeeper defragmentation job can only be shown after the job has completed.

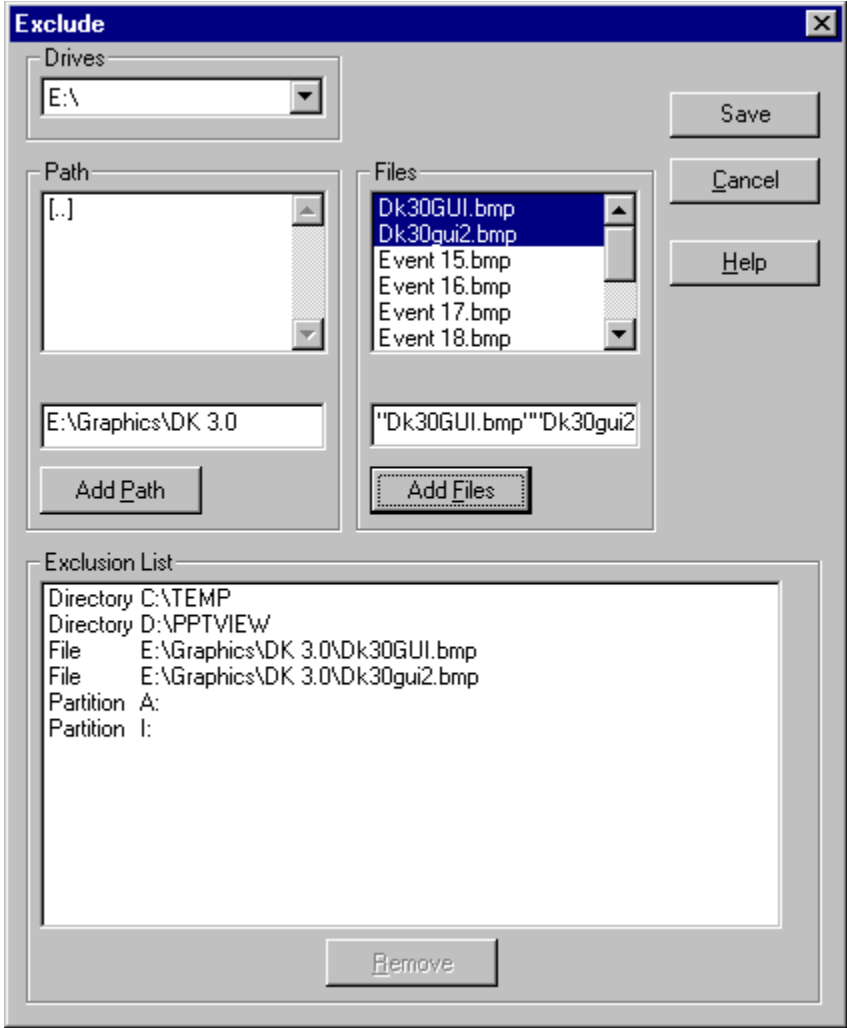Click here to see an example of the fragmentation analysis text display.

File Exclusion List Button

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

Exclusion List

Diskeeper exclusion lists allow you to specify files and directories that will not be allowed to be processed by Diskeeper.   For example, you might not want to defragment temporary files that will soon be deleted.   When you choose the Exclusion List button or menu option, the window shown below appears.   Click on the various options shown in the window below for more information about the options.

Exclude

Drives
E:\

Save

Cancel

Help

Path
[..]

E:\Graphics\DK 3.0

Add Path

Files
Dk30GUI.bmp
Dk30gui2.bmp
Event 15.bmp
Event 16.bmp
Event 17.bmp
Event 18.bmp

"Dk30GUI.bmp""Dk30gui2

Add Files

Exclusion List
Directory C:\TEMP
Directory D:\PPTVIEW
File   E:\Graphics\DK 3.0\Dk30GUI.bmp
File   E:\Graphics\DK 3.0\Dk30gui2.bmp
Partition A:
Partition I:

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 Add Files to add the file to the exclusion list.

Path

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

Select a directory by highlighting it, then click Add Path 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 the disk partition from which you want to exclude files or directories.   To exclude an entire partion, highlight the partition name in this section and click Add Path.

Add Files Button

Click Add Files to add the selected file(s) to the Diskeeper exclusion list.

Add Path Button

Click Add Path to add the selected directory path to the Diskeeper exclusion list.

Exclusion List Box

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

Remove Button

Click Remove to remove specific files, directories, or partitions 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 Remove.

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 partition.

Save Button

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

Cancel Button

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

Help Button

Click Help for context-sensitive help about the Diskeeper file exclusion list option.

Partition Scheduler Button

Click the Partition Scheduler button in the Diskeeper toolbar to create a defragmentation schedule for one or more specific disk partitions.   With the Windows NT Server version of Diskeeper, you can create defragmentation schedules for any computer on your network that is also running Diskeeper.

Click here to see an example of the Set It and Forget It Partition Scheduling dialog box. Use a defragmentation schedule to specify times when "Set It and Forget It" defragmentation jobs will be forced to run, or times they will not be allowed to run. Schedules only affect "Set It and Forget It" defragmentation jobs.   Any active defragmentation job previously started on a partition will complete.   After any previously-started jobs complete, the new schedule takes effect.

When you use the Partition Scheduler, always select one or more partitions in the Partition List box *before* clicking on any of the other Partition Scheduler controls.   To select more than one partition to schedule, hold the <Ctrl> key while clicking on the partitions listed in the Schedule box that you want to schedule.   Or, you can hold the <Shift> key to select a continuous list of partitions in the Schedule box.

Note that to set or alter a run schedule on remote computers on your network (with Diskeeper for Windows NT Server), you must have sufficient permissions to edit a file in the Diskeeper directory on the remote computer.   See Troubleshooting Network Connections for more information.

Network Scheduler Button

Please note: This option is only available in the Windows NT Server version of Diskeeper.

Click the Network Scheduler button ⏩ in the Diskeeper toolbar to create a defragmentation schedule for all the disk partitions on one or more specific computers, workgroups, or domains on your network.

Click here to see an example of the Set It and Forget It Network Scheduling dialog box. Use a defragmentation schedule to specify times when "Set It and Forget It" defragmentation jobs will be forced to run, or times they will not be allowed to run. Schedules only affect "Set It and Forget It" defragmentation jobs. Any active defragmentation job previously started on a partition will complete. After any previously-started jobs complete, the new schedule takes effect.

When you use the Network Scheduler, always select one or more computers, workgroups, or domains in the Machine List box *before* clicking any of the other Network Scheduling controls. To select more than one item to schedule, hold the <Ctrl> key while clicking on the computers, workgroups, or domains listed in the Machine List box that you want to schedule. Or, you can hold the <Shift> key to select a continuous list of items in the Machine List box.

Note that to set or alter a run schedule on remote computers on your network (with Diskeeper for Windows NT Server), you must have sufficient permissions to edit a file in the Diskeeper directory on the remote computer. See Troubleshooting Network Connections for more information.

Also note that you cannot use the Network Scheduler to schedule defragmentation on the computer you are currently connected to. Use the Partition Scheduler to create a schedule for any computer you are currently connected to.

Scheduling Diskeeper

A number of Diskeeper scheduling options exist.   You can specify separate defragmentation schedules for individual partitions, or you can create a single schedule for more than one partition.

A defragmentation schedule specifies the times or days of the week that Diskeeper will (or will not) be allowed to run.

With the Windows NT Server version of Diskeeper, you can create defragmentation schedules for other computers on your network (if they are also licensed to run Diskeeper).   Diskeeper for Windows NT Server even allows you to create defragmentation schedules for all the partitions on individual computers on your network.
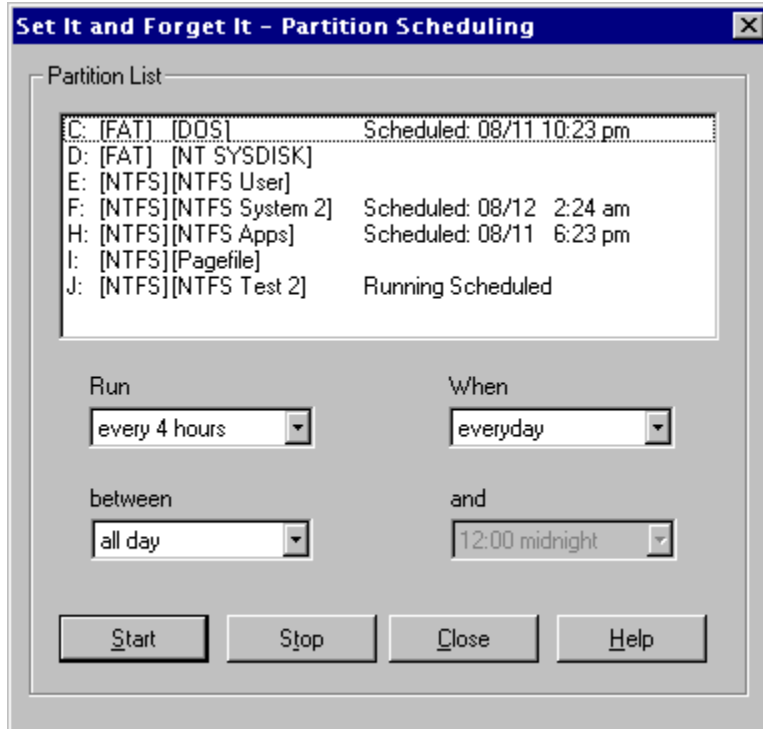
Click here for information about creating defragmentation schedules for individual partitions.

Click here for information about creating defragmentation schedules for all the partitions on your network.

Partition Scheduler

When you click the Partition Scheduler button or select the Partition Scheduler menu option, the window shown below is displayed.

Click on the various options shown in the window below for more information about the options.

```
Set It and Forget It – Partition Scheduling          [X]

┌─ Partition List ──────────────────────────────────────┐
│  ┌──────────────────────────────────────────────────┐ │
│  │ C: [FAT]  [DOS]           Scheduled: 08/11 10:23 pm│ │
│  │ D: [FAT]  [NT SYSDISK]                             │ │
│  │ E: [NTFS][NTFS User]                               │ │
│  │ F: [NTFS][NTFS System 2]  Scheduled: 08/12  2:24 am│ │
│  │ H: [NTFS][NTFS Apps]      Scheduled: 08/11  6:23 pm│ │
│  │ I:  [NTFS][Pagefile]                               │ │
│  │ J:  [NTFS][NTFS Test 2]   Running Scheduled        │ │
│  └──────────────────────────────────────────────────┘ │
│                                                        │
│   Run                      When                        │
│   ┌─────────────────┬─┐    ┌─────────────────┬─┐       │
│   │ every 4 hours   │▼│    │ everyday        │▼│       │
│   └─────────────────┴─┘    └─────────────────┴─┘       │
│                                                        │
│   between                  and                         │
│   ┌─────────────────┬─┐    ┌─────────────────┬─┐       │
│   │ all day         │▼│    │ 12:00 midnight  │▼│       │
│   └─────────────────┴─┘    └─────────────────┴─┘       │
│                                                        │
│   ┌────────┐  ┌────────┐  ┌────────┐  ┌────────┐       │
│   │ Start  │  │ Stop   │  │ Close  │  │ Help   │       │
│   └────────┘  └────────┘  └────────┘  └────────┘       │
└────────────────────────────────────────────────────────┘
```

Network Scheduler

Please note: This option is only available in the Windows NT Server version of Diskeeper.

When you click the Network Scheduler button or select the Network Scheduler menu option, the window shown below is displayed.   Click on the various options shown in the window below for more information about the options.
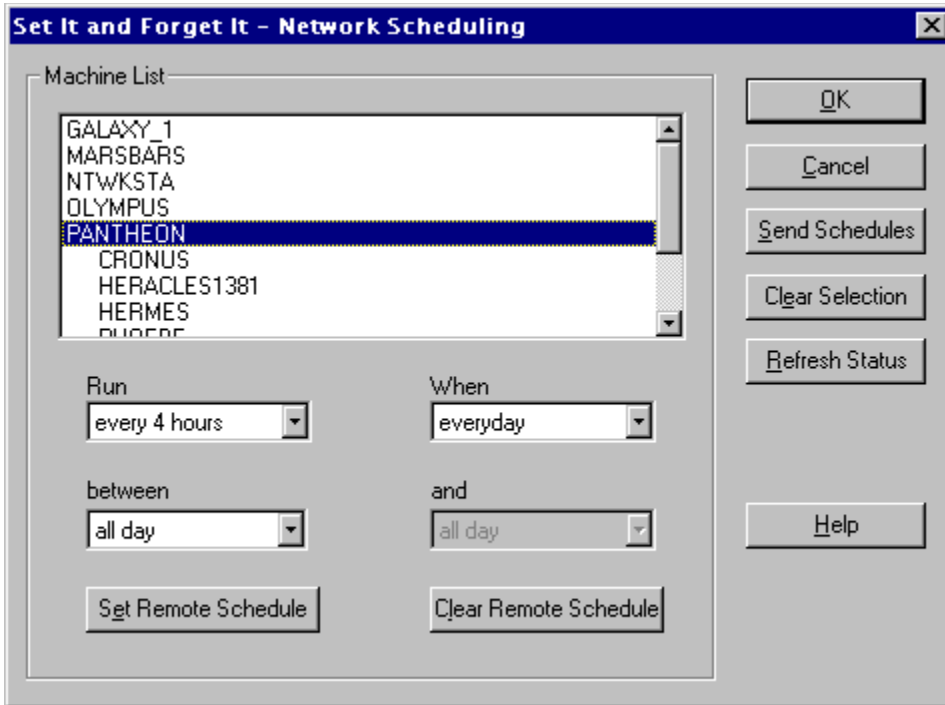

The scheduling of remote computers is accomplished by the Network Scheduler, a feature exclusive to Diskeeper.   This feature allows you to easily set the same "Set It and Forget It" schedule for <u>all</u> the partitions on one or more computers at a time.

To fully use this feature, it is important to understand the method by which Diskeeper creates and controls defragmentation schedules on remote computers.   When you create a schedule for a computer, Diskeeper stores all the necessary scheduling information in a control file (Diskeep.ctl) on the computer for which the schedule was created.   Then, the Diskeeper Service periodically checks the control file to determine whether to start the Diskeeper defragmentation engine on that computer.

In previous versions of Diskeeper, it was necessary for you to connect individually to each computer you wanted to schedule, then specify the schedule(s) for each of the computer's partition(s).   This action updated the Diskeeper control file on each computer.   Not an easy task if you have a few hundred (or thousand) computers on your network!

With this version of Diskeeper, the Network Scheduling Engine performs the work of updating the Diskeeper control files on one or more remote computers, without the need for you to individually connect to each computer.   This is the sequence of events that happen:

§   First, the scheduling information for any selected computers is stored on the local computer from where you are creating schedules.   This information is stored in the \ NetScheduler folder under the folder where you installed Diskeeper.   Individual files are written to this folder for each computer on which you schedule Diskeeper to run.

§   Next, the Network Scheduling Engine is started, running as a separate process.   The Network Scheduling Engine checks all of the machine-specific scheduling information

files on the local computer each time the engine is started.   If any of the files are new or changed since the last time the engine was run, it connects to each respective computer and sends the new or changed information to the Diskeeper control file on the remote computer(s).

§　Then, the Diskeeper Service on each of the individual remote computers "wakes up", checks the control file on each machine, and begins running as specified by the schedule.

Note that to set or alter a run schedule on remote computers on your network (with Diskeeper for Windows NT Server), you must have sufficient permissions to edit a file in the Diskeeper directory on the remote computer.   See Troubleshooting Network Connections for more information.

Also note that you cannot use the Network Scheduler to schedule defragmentation on the computer you are currently connected to.   Use the Partition Scheduler to create a schedule for any computer you are currently connected to.

Partition List

Use this section of the Partition Scheduler display to specify one or more disk partitions for which you want to establish a defragmentation schedule.

Always select the disk partition(s) for which you are specifying a schedule *before* clicking on any of the other Partition Scheduler controls.

Any defragmentation job previously started on a partition will complete the current run through the partition before the new run schedule takes effect.

The Partition List section of the Partition Scheduler dialog box lists the partitions detected on your computer, and shows the partitions that are actively being defragmented or that are scheduled for defragmentation by Diskeeper.   This display also shows the scheduled time for the next defragmentation run for each scheduled partition.

Run

Use this section of the Partition Scheduler display to specify how often Diskeeper should run on the selected partitions.   You can specify any of these run frequencies:

> One Time
> Continuously
> Every 2 hours
> Every 4 hours
> Every 8 hours
> Every 12 hours
> Every 24 hours
> Every 48 hours
> Every 72 hours

When

Use this section of the Partition Scheduler display to specify days the Diskeeper job will (or will not) be allowed to run on the selected partitions.   You can specify any of these time periods to control when Diskeeper is allowed to run:

Everyday	Except Everyday
Weekends	Except Weekends
Weekdays	Except Weekdays
Mondays	Except Mondays
Tuesdays	Except Tuesdays
Wednesdays	Except Wednesdays
Thursdays	Except Thursdays
Fridays	Except Fridays
Saturdays	Except Saturdays
Sundays	Except Sundays

Between

Use this section of the Partition Scheduler display to specify the beginning of a time period the Diskeeper job will (or will not) be allowed to run on the selected partitions. You can specify any of these time periods to specify the beginning of a Diskeeper schedule period:

    All Day

    12:00 midnight through 11:00 P.M. in one hour increments

And

Use this section of the Partition Scheduler display to specify the end of a time period the Diskeeper job will or will not be allowed to run on the selected partitions.   You can specify any of these time periods to specify the end of a time period Diskeeper will (or will not) be allowed to run:

12:00 midnight through 11:00 P.M. in one hour increments

Start Button

Click Start to accept the specified run schedule for the selected partitions.   You must click Start for each schedule you specify.

Any defragmentation job previously started on a partition will complete the current run through the partition before the new schedule takes effect.

Stop Button

Click Stop to stop a scheduled Diskeeper defragmentation job and clear the schedule for the selected partitions.

Close Button

Click Close to leave the Partition Scheduler window.

Click the Start button *before* clicking on the Close button to accept a schedule you have specified.

Do not click Start if you don't want to accept the schedule you have set.

Help Button

Click Help to view help information about using the Diskeeper in the "Set It and Forget It" mode.

Help Contents Button

Click the Help Contents button ⧉ to activate the Diskeeper Help system.   You knew that already, right?

Machine List

The Machine List section of the Network Scheduler dialog box lists the computers, workgroups, and domains detected on your network, and shows the scheduling status of each.

Use this section of the Network Scheduler display to specify one or more computers, workgroups, or domains for which you want to establish the same defragmentation schedule on all partitions.

Double click any domain or workgroup shown in the Machine List to display the computers within that group.   (Keep in mind, however, that you can also schedule entire domains or workgroups.)   To select more than one item to schedule, hold the <Ctrl> key while clicking on the computers, workgroups, or domains listed in the Machine List box that you want to schedule.   Or, you can hold the <Shift> key to select a continuous list of items in the Machine List box.

Always select the computer(s) for which you are specifying a schedule *before* clicking on any of the other Set It and Forget It dialog boxes.

Run

Use this section of the Network Scheduler display to specify how often Diskeeper should run on all the partitions on the selected computers.   You can specify any of these run frequencies:

One Time
Continuously
Every 2 hours
Every 4 hours
Every 8 hours
Every 12 hours
Every 24 hours
Every 48 hours
Every 72 hours

When

Use this section of the Network Scheduler display to specify days the Diskeeper job will (or will not) be allowed to run on the selected computers.   You can specify any of these time periods to control when Diskeeper is allowed to run:

Everyday	Except Everyday
Weekends	Except Weekends
Weekdays	Except Weekdays
Mondays	Except Mondays
Tuesdays	Except Tuesdays
Wednesdays	Except Wednesdays
Thursdays	Except Thursdays
Fridays	Except Fridays
Saturdays	Except Saturdays
Sundays	Except Sundays

Between

Use this section of the Network Scheduler display to specify the beginning of a time period the Diskeeper job will (or will not) be allowed to run on the selected computers. You can specify any of these time periods to specify the beginning of a Diskeeper schedule period:

All Day

12:00 midnight through 11:00 P.M. in one hour increments

And

Use this section of the Set It and Forget It display to specify the end of a time period the Diskeeper job will or will not be allowed to run on the selected volume.   You can specify any of these time periods to specify the end of a time period Diskeeper will (or will not) be allowed to run:

12:00 midnight through 11:00 P.M. in one hour increments

Set Remote Schedule

Use this option to set the specified schedule on the selected computer(s).   When you click Set Remote Computer, the scheduling information is written to the local computer in the \ NetScheduler folder under the folder where you installed Diskeeper.   Individual files are written to this folder for each computer on which you schedule Diskeeper to run.

After clicking this option, you must click OK or Send Schedules to start the Diskeeper Network Scheduling Engine, and to begin sending the schedule information to the remote computers.   OK starts the engine and closes the dialog box − Send Schedules does the same, but does not close the dialog box.   Once the engine starts, it checks the individual scheduling information files on the local computer, determines which ones are new or have changed, then sequentially connects to each respective computer and updates the Diskeeper control file on each computer.

As the Network Scheduling Engine runs, a status window is displayed, showing computer currently being scheduled and the progress of the connection.   You can click Cancel in the status window at any time to stop the Scheduling Engine, but keep in mind that the schedules on any computers that were "Ready" when the Network Scheduling Engine was started will not be updated until the next time the engine is started.

Clear Remote Schedule

Use this option to clear a schedule you have previously set on the selected domains, workgroups, or computers, <u>after</u> you have clicked either OK or Send Schedules.

Much like setting a schedule, clearing a schedule   also involves writing scheduling information to disk on your local computer.   This information is essentially a schedule set to <u>not</u> run.   Once this information has been stored on the local computer (as indicated by the "Ready" status), send it to the remote computers by clicking either OK or Send Schedules.

OK

Click OK after clicking [Set Remote Schedule](#) to start the Diskeeper Network Scheduling Engine, and to begin sending the schedule information to the remote computers.   This option starts the Network Scheduling Engine and closes the Network Scheduling dialog box.

Cancel

Click Cancel to close the Network Scheduling dialog box without making any changes to the schedules on your remote computers.

Send Schedules

Click Send Schedules after clicking Set Remote Schedule to start the Diskeeper Network Scheduling Engine, and to begin sending the schedule information to the remote computers.   This option starts the Network Scheduling Engine, but does not close the Network Scheduling dialog box.

Any defragmentation job previously started on any partition of any selected computers will complete the current run through the partition before the new run schedule takes effect.

Clear Selection

Use this option to clear a schedule on the selected domains, workgroups, or computers, <u>before</u> you have clicked either OK or Send Schedules.

Refresh Status

Use this option to display the latest status of the network schedules and connections on your network.

If you use Send Schedules to start the Network Scheduling Engine, click Refresh Status after the Diskeeper Scheduling Engine stops, to update the status information in the Machine List box.

Help

Click Help to view context-sensitive help information about using the Diskeeper Network Scheduler.

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 partition.

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

Defragment Icon

Click a Defragment icon to highlight it, then click the Go button to start the "Manual Defragmentation" of the selected partition

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

Workgroup Icon

Please Note: This icon only appears with the Windows NT Server version of Diskeeper.

Double click a Workgroup Icon to expand and display a list of all the computers in the Workgroup or Domain.

Rest of Workgroup Icon

Please Note: This icon only appears with the Windows NT Server version of Diskeeper.

Double click a Rest of Workgroup Icon to expand and display a list of all the other computers in the workgroup containing the local computer.
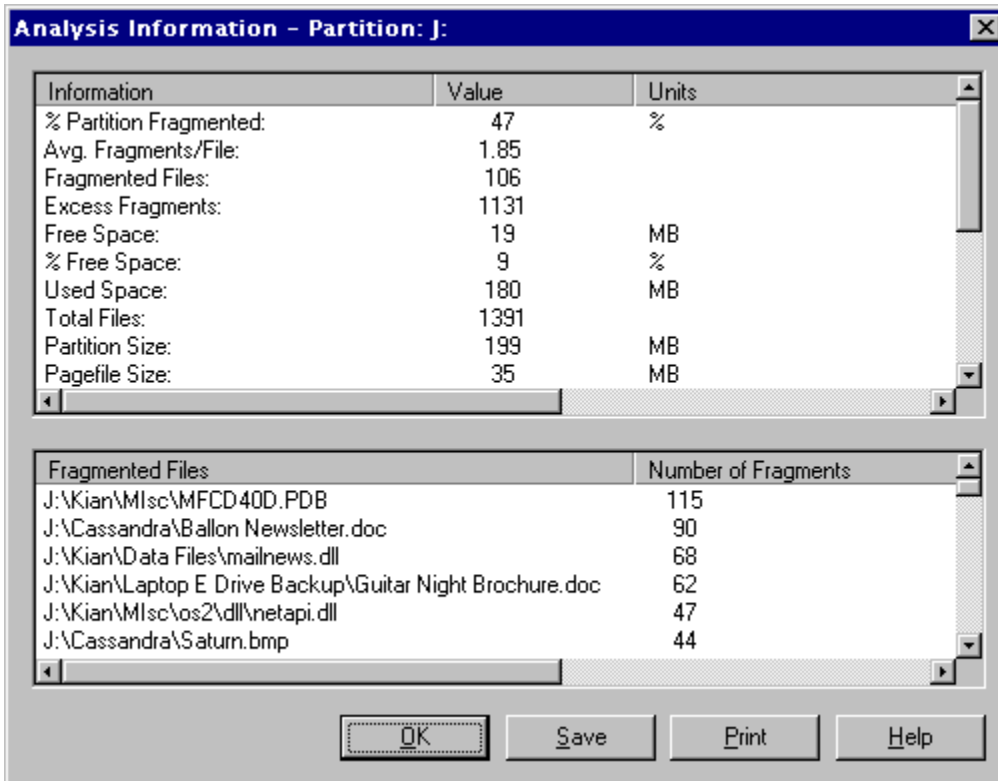
Text Display Button

Click the Text Display Button to switch from a graphic display of your partition to a text report showing the fragmentation analysis or defragmentation information.
to see an example of the Diskeeper text display.

Text Display

A wide variety of information is displayed in the Diskeeper text display.   Click any of the areas of the Diskeeper text display shown here for a description about that part of the display.

Analysis Information – Partition: J:

Information	Value	Units
% Partition Fragmented:	47	%
Avg. Fragments/File:	1.85	
Fragmented Files:	106	
Excess Fragments:	1131	
Free Space:	19	MB
% Free Space:	9	%
Used Space:	180	MB
Total Files:	1391	
Partition Size:	199	MB
Pagefile Size:	35	MB

Fragmented Files	Number of Fragments
J:\Kian\MIsc\MFCD40D.PDB	115
J:\Cassandra\Ballon Newsletter.doc	90
J:\Kian\Data Files\mailnews.dll	68
J:\Kian\Laptop E Drive Backup\Guitar Night Brochure.doc	62
J:\Kian\MIsc\os2\dll\netapi.dll	47
J:\Cassandra\Saturn.bmp	44

OK   Save   Print   Help

Note that most of the information shown in the Diskeeper text display can also be recorded in the Windows NT Event Log.   Click here for more information about logging Diskeeper information to the Windows NT Event Log.

Text Display Information

This section of the Analysis Information display lists a wide variety of information about the files, directories, and free space on your partition.

The following information is shown:

% Partition Fragmented

Average Fragments/File

Fragmented Files

Excess Fragments

Free Space

% Free Space

Used Space

Total Files

Partition Size

Pagefile Size

Use the scroll bar in this display to view this additional information:

Pagefile Fragments

Average File Size

Total Directories

Fragmented Directories

Excess Directory Fragments

Cluster Size

MFT Size

Number of MFT Records

% MFT in Use

MFT Fragments

OK

Click OK to close the Text Display window and return to the main Diskeeper display.

Save

Click Save to save the text 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 you click Save, you are given the opportunity to change the file name and directory location.

This option is useful for comparing the condition of a partition before and after defragmenting the partition 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.

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 the "after" analysis file.

Print

Click Print to print the text fragmentation analysis information.   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 partition before and after defragmenting the partition with Diskeeper.   See the Save help topic for information about saving the fragmentation analysis results.

Help

Click Help to view context-sensitive help about the Diskeeper text display.

Graphic Fragmentation Display

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

n   Green areas show system files, particularly the Master File Table (MFT) but also several other file system files. System files like these cannot be safely moved by Diskeeper (or any other defragmenter).   Keep in mind, however, these are not the files that make up the Windows NT operating system (which Diskeeper can successfully defragment) − they make up the NTFS file system.   The green areas of the display appear only on NTFS partitions.

n   Green-striped areas show space on the partition reserved for expansion of the MFT. This space is reserved when a partition is formatted, and cannot be used by applications, including Diskeeper.   Windows NT will, however, write files to this area when the partition becomes extremely full and no other free space is available. Windows NT provides the capability for Diskeeper to move files <u>out</u> of this reserved area, but does not allow Diskeeper to move files <u>into</u> it.   These areas appear only on NTFS partitions.

n   Yellow areas show the pagefile (if it exists on the partition).

n   Light blue areas show the directories on the partition.

n   Red areas show fragmented files.

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

n   Gray areas show free space on the partition.

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 in the File menu to open and view a (previously saved) text-format fragmentation analysis data file.   When this option is chosen, you are given the opportunity to select the partition, directory, and filename of the fragmentation analysis file.

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

Save Analysis

Use the Save Analysis option in the File menu to save the text 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.

This option is useful for comparing the condition of a partition before and after defragmenting the partition 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.

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 the "after" file.

Print Analysis

Use the Print Analysis option in the File menu 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 partition before and after defragmenting the partition with Diskeeper.   See the Save Analysis help topic for information about saving the fragmentation analysis results.

Exclusion List

Use the Exclusion List option in the File menu 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 in the File menu to completely exit from Diskeeper.   This option does not stop any defragmentation jobs that are running. This applies to both "Set It and Forget It" and "Manual Defragmentation" jobs.   If you exit while defragmentation jobs are running, the defragmentation run will continue until it is complete (in the case of "Manual Defragmentation" jobs) or until its scheduled completion time (in the case of "Set It and Forget It" jobs).

Analyze Menu

Use the options on the Analyze menu to control the analysis of fragmentation on your partitions.

The Analyze menu contains these options:

» Select Partition
» Continue
» Pause
» Stop

Select Partition

Use the Select Partition option in the Analyze menu to select a partition to be analyzed.

When you choose the Select Partition option, a list is displayed of the disk partitions detected on your computer.   To select a partition, either click a listed partition and click OK, or simply double click the listed partition.   This starts the analysis immediately.

Continue

Use the Continue option in the Analyze menu to continue a previously paused fragmentation analysis of the selected partition.

Pause

Use the Pause option in the Analyze menu to temporarily pause the fragmentation analysis of the selected partition.

Stop

Use the Stop option in the Analyze menu to stop the fragmentation analysis of the selected partition.

Defragment Menu

Use the options on the Defragment menu to control the "Manual Defragmentation" of your partitions.

The Defragment menu contains these options:

- Select Partition
- Continue
- Pause
- Stop

Select Partition

Use the Select Partition option in the Defragment menu to select a partition to be defragmented.

When you choose the Select Partition option, a list is displayed of the disk partitions detected on your computer.   To select a partition, either click a listed partition and click OK, or simply double click the listed partition.   This starts the defragmentation of the partition immediately, unless a previously scheduled defragmentation run is actively defragmenting the partition.

Continue

Use the Continue option in the Defragment menu to continue the previously paused defragmentation of a selected partition.

Pause

Use the Pause option in the Defragment menu to temporarily pause the defragmentation of the selected partition.

Stop

Use the Stop option in the Defragment menu to stop the defragmentation of the selected partition.

View Menu

Use the options on the View menu to change the Diskeeper display from a graphic picture to a text description of the fragmentation on your partitions.

The View menu contains these options:

» Text

» Refresh (Diskeeper Server version only)

Text

Use the Text option in the View menu to display a text view of either a fragmentation analysis or the defragmentation of a partition.

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

Refresh

Please note: This option is only available in the Windows NT Server version of Diskeeper.

Use the Refresh option to update the Diskeeper network tree display.   This is useful for times when computers join or exit from the network after you have started Diskeeper.

Options Menu

The Options menu contains these selections:

» Priority
» Event Logging
» Show Summary After Analysis
» Show Summary After Defragmentation
» Show Orientation on Launch

Priority

Use the Priority option in the Options menu to select the priority at which Diskeeper defragmentation jobs run.   You can set the priority independently for both "Set It and Forget It" and "Manual Defragmentation" jobs.

By default, scheduled, "Set It and Forget It" defragmentation jobs run at "Lowest", the lowest possible Windows NT priority.   Also by default, "Manual Defragmentation" defragmentation jobs run at "Normal", the middle Windows NT priority.   The priority for either type of defragmentation job can be changed with the Priority option.

Running at Lowest priority minimizes the system performance impact when Diskeeper is defragmenting a partition.   However, defragmentation jobs running at Lowest priority can take substantially longer to complete than those running at higher priorities, since Diskeeper "backs off" for any process running at a higher priority (even screen savers).

For this reason, you may have occasions where you want to run Diskeeper to complete a defragmentation job more quickly.   In these instances, use the higher priority options. Keep in mind, though, that the performance of other applications running on your computer will probably be impacted when Diskeeper is run at higher priorities.

Event Logging

A log of Diskeeper activity is stored in the Windows NT Application Event Log file.

Use the Event Logging option in the Options menu to alternately enable and disable the logging of various Diskeeper events to the Windows NT Application Event Log.

When Diskeeper logs an event, the event and its message are appended to the Windows NT Application Event Log file, along with the date, time, user, and other identifying information.   These events can then be viewed with the Event Viewer by choosing the Application option in the Event Viewer Log menu.   This can be done on either local computers or remote computers on your network.

The Event Viewer is found in the Windows NT Administrative Tools group.

The Diskeeper Event Logging option displays this dialog box listing events for which logging can be enabled or disabled.   Click on the options shown below for descriptions of the information that is logged.
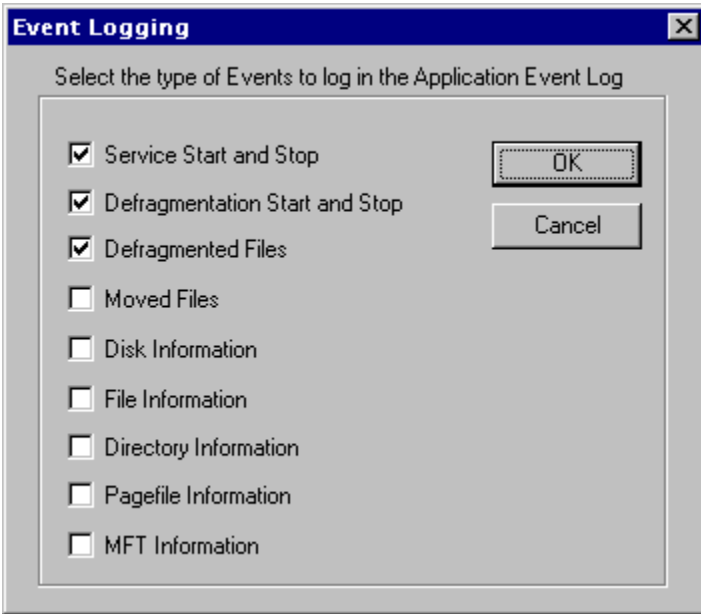
Setting Up the Application Log

Diskeeper messages are placed in the Windows NT Application Event Log.   By default, this log is 512 kilobytes in size, and is set to overwrite events older than 7 days old. Diskeeper may quickly fill the log file if these default settings are used.   To prevent this, perform these steps to change the size and overwriting characteristics of the Application Event Log:

1 From the Windows NT Start button, choose Programs, then the Administrative Tools Program Group.

2   In the Administrative Tools Program Group, choose the Event Viewer.

3   In the Event Viewer, open the Log menu and choose the Log Settings option.

4   In the Event Log Settings dialog box, perform these steps:

- Set the Change Setting to Application Log.
- Set the Maximum Log Size to 2048 kilobytes.
- Enable the Overwrite Events as Needed option.
- Choose OK to return to the Event Viewer Log.

Setting Up the Application Event Log

Diskeeper messages are placed in the Windows NT Application Event Log.   By default, this log is 512 kilobytes in size, and is set to overwrite events older than 7 days old. Diskeeper may quickly fill the log file if these default settings are used.   To prevent this, perform these steps to change the size and overwriting characteristics of the Application Event Log:

1   From the Windows NT Start button, choose Programs, then the Administrative Tools Program Group.

2   In the Administrative Tools Program Group, choose the Event Viewer.

3   In the Event Viewer, open the Log menu and choose the Log Settings option.

4   In the Event Log Settings dialog box, perform these steps:

- Set the Change Setting to Application Log.
- Set the Maximum Log Size to 2048 kilobytes.
- Enable the Overwrite Events as Needed option.
- Choose OK to return to the Event Viewer Log.

Service Start and Stop

When this option is enabled, an entry is made to the Event Log each time the Diskeeper service starts or stops.   This option is enabled by default.

Defragmentation Start and Stop

When this option is enabled, an entry is made to the Event Log whenever a defragmentation run starts or stops. This option is enabled by default.

Defragmented Files

When this option is enabled, an entry is made to the Event Log listing each file that is defragmented by Diskeeper.   Note that enabling this option can cause the Event Log to fill rather quickly, especially if Diskeeper defragments a high number of fragmented files. (This will be particularly likely when Diskeeper is first run on a partition.)   This option is enabled by default.

Moved Files

When this option is enabled, an entry is made to the Event Log each time a file is moved for reasons other than to defragment the file.   This would include cases where files are moved in order to create more contiguous free space.   Here again, enabling this option can cause the Event Log to fill quickly. This option is not enabled by default.

Disk Information

When this option is enabled, an entry is made to the Event Log at the end of each defragmentation run showing general information about the disk partion that was defragmented.   This appears in the Windows NT Event Viewer as Diskeeper Event 15. When you double click Diskeeper Event 15 in the Event Viewer, information similar to this example is displayed.   (Your numbers will be different, of course.)   Click on any of the descriptions shown in the example below for more information about that description. This option is enabled by default.

Event Detail

Date:	8/12/97	Event ID:	15
Time:	5:29:15 PM	Source:	Diskeeper
User:	N/A	Type:	Information
Computer:	CHEWIE40	Category:	None

Description:

```
Diskeeper Message
Disk Information for DriveH:
% Partition Fragmented: 0%
Partition Size:  204 MB
Free Space: 63 MB
Used Space: 141 MB
% Free Space: 30%
Cluster Size: 512 bytes
```

Data: ⦿ Bytes   ◯ Words

[Close]   [Previous]   [Next]   [Help]

File Information

When this option is enabled, an entry is made to the Event Log at the end of each defragmentation run showing information about the files on the disk partition that was defragmented.   This appears in the Windows NT Event Viewer as Diskeeper Event 16. When you double click Diskeeper Event 16 in the Event Viewer, information similar to this example is displayed (with different numbers).   Click on any of the descriptions shown in the example below for more information about that description.   This option is enabled by default.

```
Event Detail                                          X

Date:      8/12/97          Event ID:  16
Time:      5:29:15 PM       Source:    Diskeeper
User:      N/A              Type:      Information
Computer:  CHEWIE40         Category:  None

Description:
Diskeeper Message
File Information for Drive H:
Total Files:1707
Fragmented Files: 0
Excess Fragments:   0
Avg. Fragments/File: 1.00
Avg. File Size 140. 3 KB
Number of Defragmented  Files  13
Number of Fragments Eliminated  97

Data:   ⦿ Bytes  ◯ Words


    Close       Previous      Next       Help
```

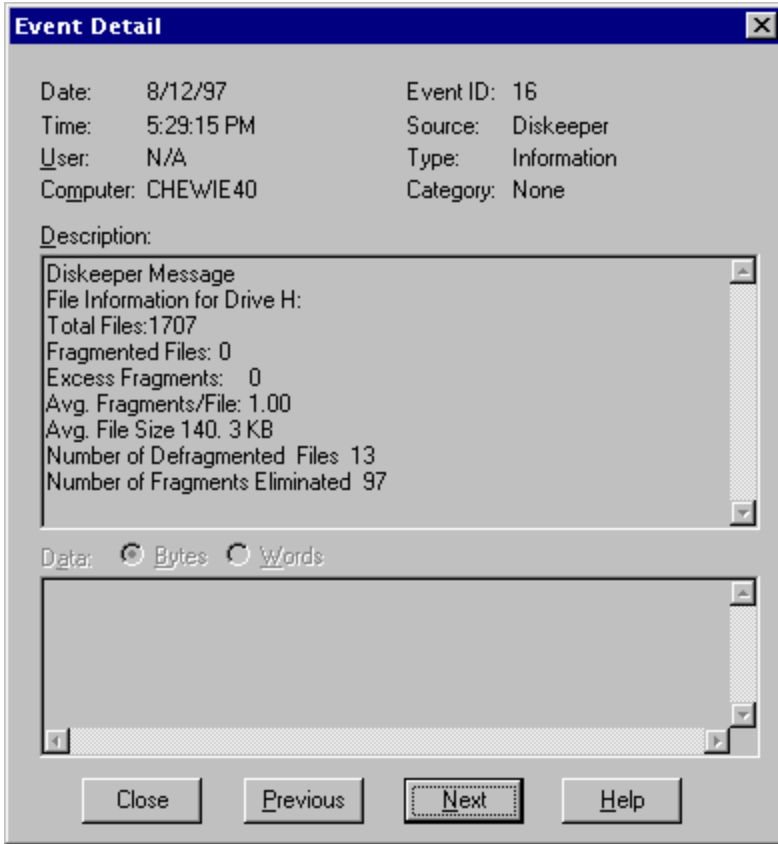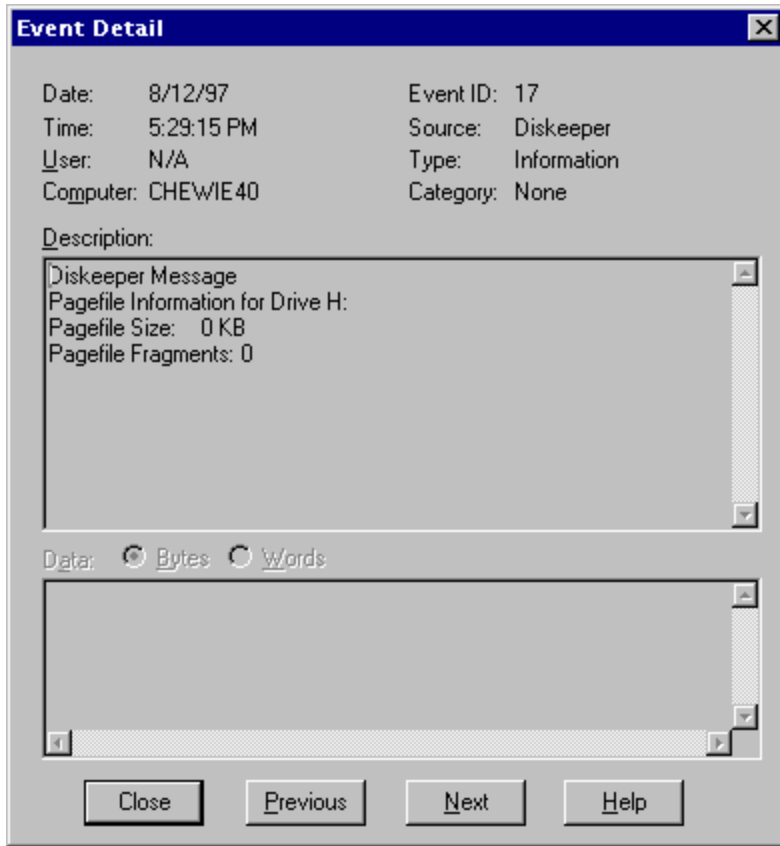## Directory Information

When this option is enabled, an entry is made to the Event Log at the end of each defragmentation run showing information about the directories on the partition that was defragmented.   This appears in the Windows NT Event Viewer as Diskeeper Event 18. When you double click Diskeeper Event 18 in the Event Viewer, information similar to this example is displayed (but the numbers shown will be different, of course).   Click on any of the descriptions shown in the example below for more information about that description. This option is enabled by default.

```
Event Detail                                            [X]

Date:     8/12/97              Event ID:  18
Time:     5:29:15 PM           Source:    Diskeeper
User:     N/A                  Type:      Information
Computer: CHEWIE40            Category:  None

Description:
 Diskeeper Message
 Directory Information for Drive H:
 Total Directories: 122
 Fragmented Dirs:   17
 Excess Dir Frags:  38




Data:  ⦿ Bytes  ◯ Words




    Close        Previous        Next        Help
```
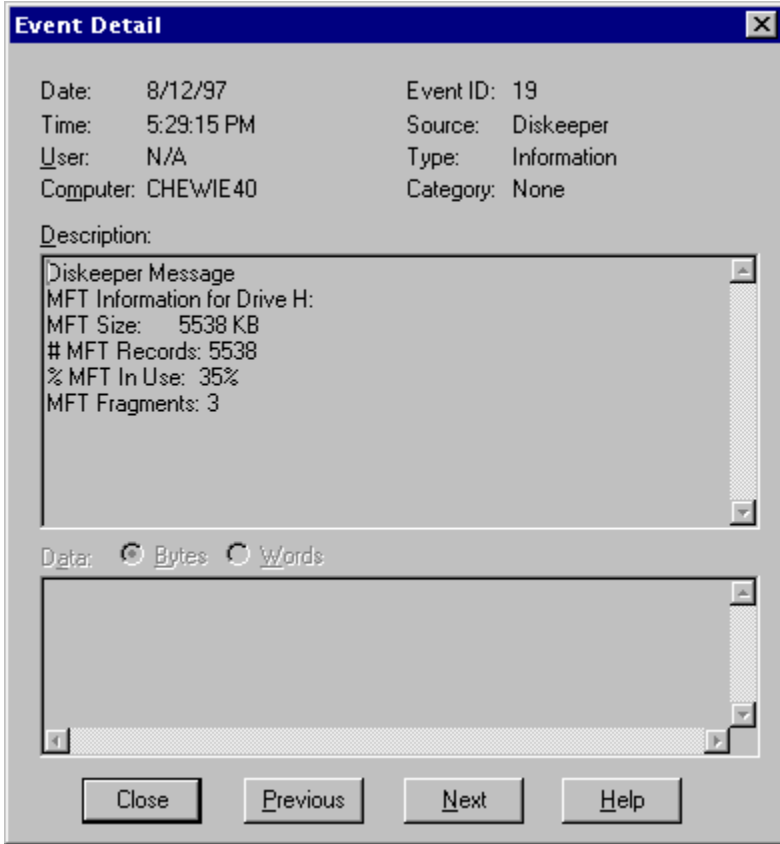
Pagefile Information

When this option is enabled, an entry is made to the Event Log at the end of each defragmentation run showing information about the pagefile on the partition that was defragmented (if it exists on the partition).   This appears in the Windows NT Event Viewer as Diskeeper Event 17.   When you double click Diskeeper Event 17 in the Event Viewer, information similar to this example is displayed (except with different numbers, probably). Click on any of the descriptions shown in the example below for more information about that description.   This option is enabled by default.

```
Event Detail                                    [X]

Date:     8/12/97           Event ID:  17
Time:     5:29:15 PM        Source:    Diskeeper
User:     N/A               Type:      Information
Computer: CHEWIE40          Category:  None

Description:
Diskeeper Message
Pagefile Information for Drive H:
Pagefile Size:   0 KB
Pagefile Fragments: 0




Data:   ⦿ Bytes  ◯ Words




     Close        Previous        Next         Help
```

MFT Information

When this option is enabled, an entry is made to the Event Log at the end of each defragmentation run showing information about the Master File Table (MFT) on the partition that was defragmented.   (Keep in mind, since only NTFS partitions have an MFT, this information will only apply to NTFS partitions.)   The entry appears in the Windows NT Event Viewer as Diskeeper Event 16.   When you double click Diskeeper Event 16 in the Event Viewer, information similar to this example is displayed (but with different numbers).   Click on any of the descriptions shown in the example below for more information about that description.   This option is not enabled by default.

```
Event Detail                                    ☒

 Date:      8/12/97          Event ID:  19
 Time:      5:29:15 PM       Source:    Diskeeper
 User:      N/A              Type:      Information
 Computer: CHEWIE40         Category:  None

 Description:
┌──────────────────────────────────────────────┬─┐
│Diskeeper Message                             │▲│
│MFT Information for Drive H:                   │ │
│MFT Size:     5538 KB                         │ │
│# MFT Records: 5538                           │ │
│% MFT In Use:  35%                            │ │
│MFT Fragments: 3                              │ │
│                                              │ │
│                                              │ │
│                                              │▼│
└──────────────────────────────────────────────┴─┘

 Data:   ● Bytes   ○ Words
┌──────────────────────────────────────────────┬─┐
│                                              │▲│
│                                              │ │
│                                              │ │
│                                              │ │
│                                              │▼│
└─┬──────────────────────────────────────────┬─┴─┘
 │◄│                                        │►│

   ┌────────┐  ┌──────────┐  ┌────────┐  ┌────────┐
   │ Close  │  │ Previous │  │  Next  │  │  Help  │
   └────────┘  └──────────┘  └────────┘  └────────┘
```

Show Summary After Analysis

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

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

Note that the summary screen includes information about the amount of free space available on the partition for defragmentation.   This figure is based on the space available to Diskeeper, but on NTFS partitions this is not necessarily the <u>total</u> free space on the partition.   A certain percentage of the total partition is reserved for the Master File Table (MFT) on NTFS partitions, and this space cannot be used by Diskeeper for defragmenting files.   Because of this, the figure shown in the Diskeeper post-analysis summary on NTFS partitions will not match the total free space figure displayed in the Diskeeper text display (or other utilities like Disk Properties in Windows NT Explorer).

Show Summary After Defragmentation

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

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

The information presented in the summary is based on an analysis made before and after the defragmentation run.

Note that the summary screen includes information about the amount of free space available on the partition for defragmentation.   This figure is based on the space available to Diskeeper, but on NTFS partitions this is not necessarily the <u>total</u> free space on the partition.   A certain percentage of the total partition is reserved for the Master File Table (MFT) on NTFS partitions, and this space cannot be used by Diskeeper for defragmenting files.   Because of this, the figure shown in the Diskeeper post-defragmentation summary on NTFS partitions will not match the total free space figure displayed in the Diskeeper text display (or other utilities like Disk Properties in Windows NT Explorer).

Show Orientation on Launch

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

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

Set It and Forget It Menu

The Set It and Forget It menu contains these options:

- Partition Scheduler
- Network Scheduler (Diskeeper Server version only)

Partition Scheduler Option

Use the Partition Scheduler option in the Set It and Forget It menu to create a defragmentation schedule for one or more specific partitions.

Click here to see an example of the Set It and Forget It Partition Scheduling dialog box.

Use a defragmentation schedule to specify times when "Set It and Forget It" defragmentation jobs will be forced to run, or times they will not be allowed to run.

Schedules only affect "Set It and Forget It" defragmentation jobs.   Any defragmentation job previously started on a partition will be safely stopped when a new run schedule is specified.

When you choose the Partition Scheduler option, always select the partition in the Partition List box *before* clicking on any of the other Partition scheduler controls.

If you are using Diskeeper for Windows NT Server, note that to set or alter a run schedule on remote computers on your network, you must have sufficient permissions to edit a file in the Diskeeper directory on the remote computer.   See Troubleshooting Network Connections for more information.

Network Scheduler Option

Please note: This option is only available in the Windows NT Server version of Diskeeper.

Use the Network Scheduler option in the Set It and Forget It menu to create a defragmentation schedule for all the disk partitions on one or more specific computers, workgroups, or domains on your network.

Click here to see an example of the Set It and Forget It Network Scheduling dialog box.

Use a defragmentation schedule to specify times when "Set It and Forget It" defragmentation jobs will be forced to run, or times they will not be allowed to run.

Schedules only affect "Set It and Forget It" defragmentation jobs.   Any active defragmentation job previously started on a partition will complete.   After any previously-started jobs complete, the new schedule takes effect.

When you use   the Network Scheduler, always select one or more computers, workgroups, or domains in the Machine List box *before* clicking any of the other Network Scheduling controls.   To select more than one item to schedule, hold the <Ctrl> key while clicking on the computers, workgroups, or domains listed in the Machine List box that you want to schedule.   Or, you can hold the <Shift> key to select a continuous list of items in the Machine List box.

Note that to set or alter a run schedule on remote computers on your network (with Diskeeper for Windows NT Server), you must have sufficient permissions to edit a file in the Diskeeper directory on the remote computer.   See Troubleshooting Network Connections for more information.

Connect Menu

The Connect menu contains this option:

» Select Computer

Please note: This option is only available in the Windows NT Server version of Diskeeper.

Select Computer Option

**Please note:** This option is only available in the Windows NT Server version of Diskeeper.

Diskeeper for Windows NT Server can analyze fragmentation and control the defragmentation of partitions on computers connected to your network or partitions on your local computer.   You must specifically connect to a computer before using Diskeeper.

By default, the Network Connections dialog box is displayed each time Diskeeper is started.   Click OK to connect to the local computer or select a computer in the Connect To box to connect to another computer on your network.

After starting Diskeeper, you can change which computer you are connected to by clicking the Connect button on the toolbar or by choosing the Select Computer option on the Connect menu to control Diskeeper on other computers connected to your network.

Diskeeper for Windows NT Workstation or Diskeeper for Windows NT Server must also be installed on the remote computer.

When the Connect button is clicked or Select Computer option is invoked, the Network Connections dialog box is displayed. Click on the different areas of the dialog box sample shown below for information about that section of the Network Connections dialog box.
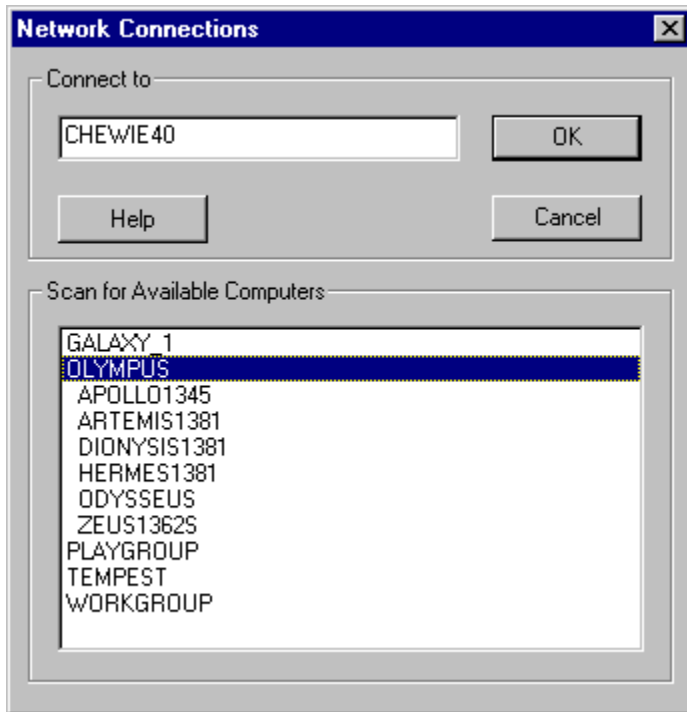
Choose the computer upon which you want to run Diskeeper, then click on OK.   After the computer is connected, the name of the computer being controlled is displayed at the top of the main Diskeeper window.

After selecting the computer upon which to run Diskeeper, start analyzing or defragmenting any of the partitions on that computer in the same manner as running Diskeeper on a local computer.   All of the options available when running Diskeeper on a local computer are also available across a network.

Note that after rebooting your Windows NT system, you may need to wait several minutes for the Windows NT Browser to detect the available network computers before

the listing of available computers on your network appears in the tree view section of the Diskeeper display.

Error messages are displayed if Diskeeper fails to connect to a network computer.

Connect To

This section of the Network Connections dialog box displays the name of the computer you are connecting to.

To connect to remote computers, double click on the computer name shown in the Scan for Available Computers section of the Network Connections dialog box.   Or, if you know the name of the remote computer you want to connect to, simply type the name of the remote computer in the Connect To edit box.

Help Button

Click Help for context-sensitive help about the Diskeeper network connection option.

OK Button

Click OK after selecting the computer to which you want to connect.

Cancel Button

Click Cancel to cancel any changes you have made to the Diskeeper network connection and return to the opening Diskeeper screen.   If no computer has been specified previously, Diskeeper will connect to the local computer.

Scan for Available Computers

When the Network Connections dialog box is first opened, this section displays the domains and workgroups detected on your network.

Double click on any of the domain or workgroup names listed to expand the display and show the individual computers within the domain or workgroup.

Double click an individual computer name to connect to that computer.   Alternatively, click on the individual computer name and click OK.

Troubleshooting Network Connections

Please note: This information only applies to the Windows NT Server version of Diskeeper.

[Network Error Messages](#)

[Editing Exclusion Lists](#)

[Defragmentation Schedules Across a Network](#)

Network Error Messages

If Diskeeper encounters any error while searching the network for computers, a pop-up error message is displayed.   After choosing the OK button in this message box, a list of the computers it did find is displayed.   This list will minimally be the local computer.

The following circumstances can prevent Diskeeper from connecting to a network computer, thus causing the error message to be displayed:

n   Diskeeper is not installed on the remote computer.

n   The Diskeeper service has not been started on the remote computer.

n   The Diskeeper main menu is open on the remote computer.

n   There is a problem within the Windows NT network.

n   You are not logged onto an account with Administrator privileges on the remote computer.

Also, if your computer does not have a network card installed or the network is not started, a message box is displayed stating that the network is not present or not started.

Editing Exclusion Lists

To edit exclusion lists on remote computers on your network, you must have sufficient permissions to edit a file in the Diskeeper directory on the remote computer.   If you do not have sufficient permissions, an error message is displayed stating that access is denied to the exclusion list.   If you cannot edit an exclusion list that you think you have permission to use, there are two likely possibilities:

n   You logged on with a username that the target computer recognizes and a password that it does not recognize.   A common example is to log on to your computer as Administrator and then try to edit an exclusion list on a computer that has its own Administrator account established with a different password.

n   Your computer is not running a protocol that is running on the target computer.

Creating or Altering Defragmentation Schedules Across a Network

To create or alter run schedules on remote computers on your network, you must have sufficient permissions to edit a file in the Diskeeper directory on the remote computer. If you do not have sufficient permissions, an error message is displayed stating that access is denied to the run schedule.   If you cannot create or alter a run schedule that you think you have permission to use, there are two likely possibilities:

n   You logged on with a username that the target computer recognizes and a password that it does not recognize.   A common example is to log on to your computer as Administrator and then try to edit an exclusion list on a computer that has its own Administrator account established with a different password.

n   Your computer is not running a protocol that is running on the target computer.

Empty List of Available Computers

In some instances, when you choose the Connect option in the Network menu, the list of available computers in the Network Connections dialog box may be blank.   This can occur shortly after rebooting your Windows NT computer.

Note that after rebooting your Windows NT computer, you may need to wait several minutes for the Windows NT Browser to detect the available network computers before the tree view of available computers on your network appears, then use the Refresh option in the View menu to update the tree view display.   If the list of computers still does not contain computers you expect to see, there are several possible causes:

- One or more of the remote computers is not running.
- One or more of the remote computers is configured to be hidden from computer browsers.
- Your Browser service may not be started.
- One or more of the remote computers is in a domain that is not in the list of domains to be browsed.   Use the Network applet in the Windows NT Control Panel to reconfigure the Browser service.

Advanced Tools Menu

The Advanced Tools menu contains this option:

» Boot-Time Directory Consolidation

Boot-Time Directory Consolidation

Use the Boot-Time Directory Consolidation option in the Advanced Tools menu to defragment the directories on a partition and consolidate them into a single location.   By doing this, larger areas of contiguous partition space become available for new file creation and modification.
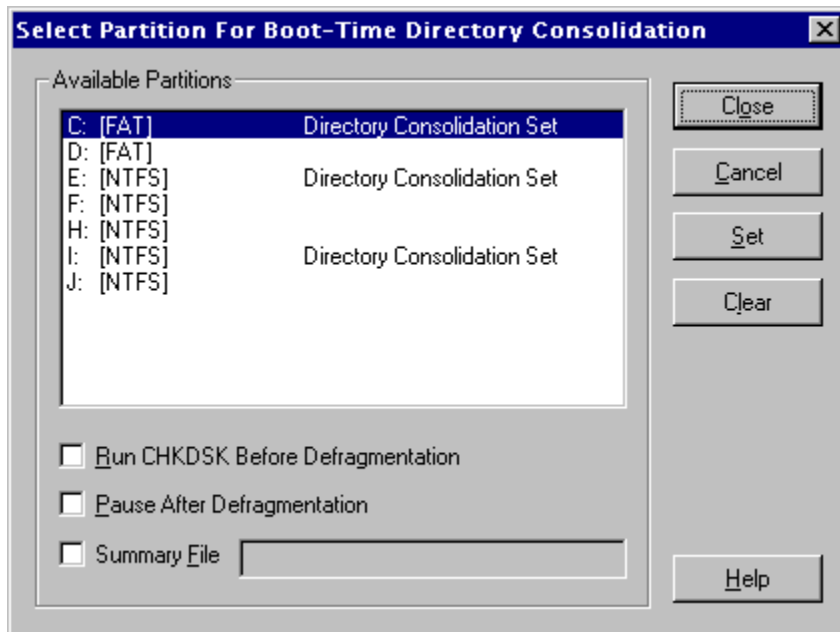
Click here to see an example of the Boot-Time Directory Defragmentation dialog box.

Several points about Boot-Time Directory Consolidation:

1   The Boot-Time Directory Consolidation relies on having a contiguous free space in which to move the directories on your partition.   Therefore, it is important to run Diskeeper in either the Set It and Forget It or Manual Defragmentation mode before running the Boot-Time Directory Consolidation.

2   The Boot-Time Directory Consolidation moves the directories to the first available free space into which the directories will fit.   This can be any location on the partition.

3   The Boot-Time Directory Consolidation is a one-time operation.   After it runs on a partition, it does not automatically get reset to run again.   You must set it each time you want it to run on a partition.

4   It is safe to re-start your computer midway through the Boot-Time Directory Consolidation operation.   However, if you do so, you should use the Error Checking option in Drive Properties/Tools on the partition being processed, and enable both the fix and the scan options, or (if you're running from the command line) run CHKDSK, using the /F and /R qualifiers.   This ensures the files and free space on the partition are correctly allocated.

Boot-Time Directory Consolidation Dialog Box

Click on the different controls in the Directory Consolidation dialog box shown below for information about that control.

Select Partition For Boot-Time Directory Consolidation

Available Partitions

```
C: [FAT]        Directory Consolidation Set
D: [FAT]
E: [NTFS]       Directory Consolidation Set
F: [NTFS]
H: [NTFS]
I:  [NTFS]      Directory Consolidation Set
J: [NTFS]
```

☐ Run CHKDSK Before Defragmentation

☐ Pause After Defragmentation

☐ Summary File

- Close
- Cancel
- Set
- Clear
- Help

Available Partitions

Use this section of the Directory Consolidation dialog box to specify the partition(s) upon which you want to consolidate the directories.   You can select more than one partition at a time, but be aware that the partitions will be processed one at a time, and your computer   will be re-booted automatically after each partition is processed.   This can increase the time needed to complete the operation.

Always select at least one partition *before* choosing any of the other options in the Directory Consolidation dialog box.

Run CHKDSK Before Defragmentation

Use this control to specify whether Windows NT CHKDSK is run before and after the directory consolidation operation.   Running CHKDSK adds time to the directory consolidation operation, but it can correct disk errors that otherwise would hamper effective directory consolidation.

Note that if you enable this option and select more than one partition at a time for Directory Consolidation, CHKDSK will run on each partition separately and cumulatively. This is due to the nature of the Windows NT boot sequence.   For example, if you select partitions C:, D: and E: for Boot-Time Directory Consolidation and have this option enabled, the following sequence occurs:

§   CHKDSK on C:
§   Directory Consolidation on C:
§   CHKDSK on C:
§   CHKDSK on D:
§   Directory Consolidation on D:
§   CHKDSK on C:
§   CHKDSK on D:
§   CHKDSK on E:
§   Directory Consolidation on E:
§   CHKDSK on C:
§   CHKDSK on D:
§   CHKDSK on E:

As you can see, if you select multiple partitions for Directory Consolidation, the cumulative CHKDSK operations will mount up, thus considerably increasing the time needed for the entire re-boot operation.

Pause After Defragmentation

When enabled, this option causes the Boot-Time Directory Consolidation operation to pause after completion.   It remains in this paused state until you manually re-start your computer (by either pressing the Reset button or turning off the power switch).   If this option is not enabled, the Boot-Time Directory Consolidation operation pauses 15 seconds (to allow you to read any messages on the monitor screen), then automatically re-boots your computer.

Summary File

Use the Summary File option to cause a text file to be written that summarizes the Boot-Time Directory Consolidation operation.

When this option is enabled, a default drive, directory, and file name are shown in the dialog box similar to this:
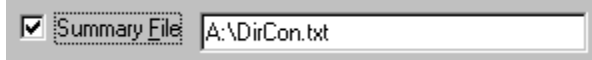
By default, the summary file is written to your floppy drive (A:).   This dialog box can be edited to specify another drive, directory path, and filename.   However, the summary file <u>cannot</u> be written to the partition upon which you are running the Boot-Time Directory Consolidation.

Close

Click Close after clicking Set to save any settings you have made and close the Directory Consolidation dialog box.

Cancel

Click Cancel to close the Directory Consolidation dialog box without making any changes.

Set

Click Set to enable the Boot-Time Directory Consolidation of one or more selected partitions.   When a partition has been set, it will be noted in the Available Partitions box. Also use the Set button to change the characteristics of a previously-set Boot-Time Directory Consolidation (such as enabling/disabling the Summary File option).

The next time the computer is re-booted, the Boot-Time Directory Consolidation will be run on any partitions that are set.

You must set a partition each time you want to run the Boot-Time Directory Consolidation − partitions do not remain set after the Directory Consolidation has been run.

Clear

Click Clear to "un-set" any partition(s) that have been previously set for Boot-Time Directory Consolidation.

Help

Click Help to view context-sensitive help about using the Boot-Time Directory Consolidation.

Help Menu

The Help menu contains these options:

» Orientation
» Contents
» About

Orientation

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

Contents

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

About

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

Partition

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

Partition Size

This section of the fragmentation analysis display or the Windows NT Event Log entry shows the total amount of space on the partition.   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 or the Windows NT Event Log entry shows the cluster size for the partition.   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 or the Windows NT Event Log entry 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 or the Windows NT Event Log entry shows the total amount of free space on the partition.

Percent Free Space

This section of the fragmentation analysis display or the Windows NT Event Log entry shows the percentage of space on the partition that is free.   This includes the free space in the area reserved for the Master File Table (MFT) on NTFS partitions.

Pagefile Size

This section of the fragmentation analysis display or the Windows NT Event Log entry shows the size of the pagefile on the partition.   This section will display zero when no pagefile is present.

Pagefile Fragments

This section of the fragmentation analysis display or the Windows NT Event Log entry shows the number of fragments the pagefile (if it exists on the partition) is broken into.

Total Directories

This section of the fragmentation analysis display or the Windows NT Event Log entry shows the total number of directories present on the partition.

Fragmented Directories

This section of the fragmentation analysis display or the Windows NT Event Log entry shows the number of fragmented directories on the partition.

Excess Directory Fragments

This section of the fragmentation analysis display or the Windows NT Event Log entry shows the total number of directory fragments on the partition.   Contiguous directories are not counted in this total, but each additional piece of any fragmented directory is counted.

Total Files

This section of the fragmentation analysis display or the Windows NT Event Log entry shows the total number of files on the partition.   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 or the Windows NT Event Log entry display shows the average size of all the files on the partition.   This number does not include any zero-length files or pagefiles.

Fragmented Files

This section of the fragmentation analysis display or the Windows NT Event Log entry shows the total number of fragmented files on the partition.

Excess Fragments

This section of the fragmentation analysis display or the Windows NT Event Log entry shows the total number of file fragments on the partition.   Contiguous files are not counted in this total, but each additional piece of any fragmented file is counted.

Percent of Partition Fragmented

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

Average Fragments per File

This section of the fragmentation analysis display or the Windows NT Event Log entry shows the average number of fragments per file on the partition.   This is a good index of how fragmented the files on the partition are.

If the average fragments per file figure 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 or the Windows NT Event Log entry 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 in the text analysis display, and appears as zeros in the Windows NT Event Log entry.

Number of MFT Records

This section of the fragmentation analysis display or the Windows NT Event Log entry 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 partition, since the file records remain in the MFT, even after a 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 or the Windows NT Event Log entry shows the percentage of the Master File Table (MFT) in use.

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

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 or the Windows NT Event Log entry 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.

Most Fragmented Files

This section of the fragmentation analysis display or the Windows NT Event Log entry shows the directory path and filename of the 50 most fragmented files on the partition, and the number of fragments those 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 or the Windows NT Event Log entry shows the number of fragments associated with the most fragmented files on your partition.

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.

Number of Defragmented Files

This section of the Windows NT Event Log shows the total number of files that were defragmented during a Diskeeper defragmentation run.

Number of Fragments Eliminated

This section of the Windows NT Event Log shows the total number of fragments that were eliminated during a Diskeeper defragmentation run.

What is Diskeeper?

Running under the Windows NT operating system, Diskeeper finds files that are not stored on the partition in a single location, but instead are scattered in pieces all over the partition.   Files in such a condition are referred to as *fragmented* files.   As Diskeeper finds such files, it safely moves the pieces of each file, so each file is in a single, contiguous space on the partition.

Diskeeper can do this automatically in the background, while users are actively accessing data on the same partition.   Or, for those times when you want to defragment a partition *now*, Diskeeper provides a manual, high-priority defragmentation option.

Using the Diskeeper Help Internet Access

The Diskeeper 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 default Web browser or navigator on your system.   When you click a text hotspot or button that links to the Internet, your Web browser or navigator is automatically started.

Frequently-Asked Questions

The following topics list several questions often asked about Diskeeper.

Why won't my partition defragment completely?

Why doesn't Diskeeper move directories online?

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 partition?

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

What are the "Stages" Diskeeper goes through to defragment my partition?

How do I determine how often to run Diskeeper on my partition?

Why don't my defragmentation jobs all start at the same time?

Why doesn't the free space reported in the posts-analysis (or defragmentation) pop- up match what the Diskeeper text display shows?

Why didn't the Boot-Time Directory Consolidation move my directories?

Why do files seem to "disappear" the "reappear" in the Diskeeper graphic display during defragmentation?

Click here to visit Executive Software's Home Page for the latest Frequently-Asked Questions:

{button Visit Executive Software,EF(`Connect.exe',"http://www.execsoft.com",1)}

Note: It is necessary for you to have the default Web browser or navigator defined on your computer before clicking on the button.

Why won't my partition defragment completely?

This can be the result of several situations:

n   If your partition 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 partition, 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 partition, increasing the possibility that the temporarily-moved files can be moved back to the partition in a contiguous (or at least less-fragmented) condition.

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

n   A partition 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 site 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.

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

Why doesn't Diskeeper move directories online?

By its very design, Windows NT does not allow directories on a partition to be moved online (when the computer is running and the operating system is fully started).   This is due to data integrity issues related to the way Windows NT maintains directory information while Windows NT is active.   In its online mode, Diskeeper runs while other processes are active on the system, and therefore does not attempt to move directories online.   However, Diskeeper does provide a method by which you can defragment and consolidate the directories on your partition at boot-time.   See Boot-Time Directory Consolidation for more information.

Why doesn᾽t Diskeeper defragment the Master File Table?

The Master File Table (MFT) is the area on an NTFS partition where Windows NT keeps all the information necessary for the operating system to retrieve files from the partition. 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 partition.

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 operating system.   Diskeeper cannot defragment any file that 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 partition.   (From the Windows NT Control Panel, open the System applet, click the Performance tab, and then click Change.)

2   Reduce the initial and maximum size of the original pagefile to zero Kb.

3   Set the Diskeeper Boot-Time Directory Consolidation to run on the partition.

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

5   Run Diskeeper on the original partition.

6   Re-create the pagefile on the original partition.

7   Reduce the initial and maximum size of the temporary pagefile to zero Kb.

8   Reboot your computer so the new pagefile will be used on the original partition.

You need to run Diskeeper on the original partition, 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 partition?

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

- A fragmented pagefile.   See How can I handle pagefile fragmentation? for more information.
- A large number of directories on the partition.   See Why doesn't Diskeeper move directories online? for more information.
- On NTFS partitions, a portion of the free space on a partition is reserved by Windows NT for the Master File Table (MFT).   See Why don't my files get moved to the beginning of the partition? 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 partition?

On NTFS partitions, Windows NT reserves a portion of the free space on a partition for the Master File Table (MFT).   This free space is usually 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 Windows NT reserves this free space for exclusive use, Diskeeper will not move files into these areas of the partition. However, Diskeeper <u>will</u> move files out of this reserved area.

What are the "Stages" Diskeeper goes through to defragment my partition?

As Diskeeper analyzes or defragments your partition, the lower portion of the Diskeeper display shows several numbered "Stages" as they progress.

The analysis operation consists of two stages.   Stage 0 gathers general information about the number of files and file fragments on the partition. Stage 1 gathers additional, more specific, information and displays the information found.

The defragmentation operation is a bit more complex.   First, it runs an analysis of the partition (Stages 0 and 1 of the analysis).   After the analysis, Diskeeper uses up to seven separate stages, each of which employs a separate proprietary algorithm to optimally defragment your partition.

How do I determine how often to run Diskeeper?

There are no set rules on how often you should defragment your disk partitions.   There are many variables that control this, including the level of file activity on your partition, the size and types of files used on the partition, and the amount of free apace available on the partition.

However, there are some general guidelines.

- Disks on busy file servers should be defragmented more often than those on single-user workstations.   You may need to run Diskeeper on a server partition as often as every two to four hours to maintain the optimum performance from your Windows NT system.   On a workstation partition though, you may only need to run Diskeeper daily.

- To determine how often to run Diskeeper on *your* partitions, you can use the logging function of Diskeeper to monitor the number of files moved during each Diskeeper run.   See Event Logging for information about logging the names of files that get moved by Diskeeper.

- In general, if Diskeeper is moving fewer than 50 files per run, you are running Diskeeper frequently enough.   Diskeeper is maintaining the performance of your Windows NT system at an optimum level.   If the number of files moved during each run is more than 50 or so, or is increasing, schedule Diskeeper to run more frequently.

Why don't my defragmentation jobs all start at the same time?

Diskeeper is designed to defragment more than one disk partition at a time.   However, when the defragmentation of two or more partitions is scheduled to begin at the same time, Diskeeper will start each job separately, in one-minute intervals.   For this reason, you will notice the start times for each Diskeeper job run in the Application Event Log can vary by several minutes.   This is no cause for alarm.

Why doesn't free space reported in the post-analysis (or defragmentation) pop-up match what the Diskeeper text display shows?

Several of the post-analysis and post-defragmentation summary screens include information about the amount of free space available on the partition for defragmentation. This figure is based on the space available to Diskeeper, but on NTFS partitions this is not necessarily the <u>total</u> free space on the partition.   A certain percentage of the total partition is reserved for the Master File Table (MFT) on NTFS partitions, and this space cannot be used by Diskeeper for defragmenting files.   Because of this, the figure shown in the Diskeeper post-analysis and post-defragmentation summaries on NTFS partitions will not match the total free space figure displayed in the Diskeeper text display (or other utilities like Disk Properties in Windows NT Explorer).

Why didn't the Boot-Time Directory Consolidation move my directories?

The Boot-Time Directory Consolidation feature requires enough contiguous free space to contain the directories on the partition.   For this reason, you should run Diskeeper in one of its online modes before running the Boot-Time Directory Consolidation.

Also, keep in mind that there are two directories that cannot be safely moved, even at boot-time.   The directories are \Recycler and \Recycled.   Because these two directories cannot be moved, the Boot-Time Directory Consolidation will likely still leave one or two directories that are not consolidated with the rest of your directories.

Why do files seem to "disappear" then "re-appear" in the Diskeeper graphic display during defragmentation?

At times, fragmented files seem to disappear completely from the Diskeeper graphic display, only to re-appear again moments later.   This is especially apparent when free space is low or there are only a few fragmented files remaining on your partition.

This behavior occurs when a portion of a file is being defragmented (known as partial defragmentation) instead of the entire file being defragmented (full defragmentation).   In cases where there is not a suitable contiguous free space available to defragment a file into, Diskeeper will attempt to defragment a part of the file instead, thus partial defragmentation.

During the partial defragmentation operation, the Diskeeper graphic display will momentarily "blank out" the graphic display of the part of the file being considered for movement as it searches for a suitable free space to move the portion into.   This is done to give you a visual indication of the file portion being moved, and can happen repeatedly during the defragmentation run.   If Diskeeper can find sufficient free space to move the portion into, it will.   If not, the "disappearing" red portion in the graphic display will "re-appear" in its previous location.   The file didn't <u>really</u> disappear.   Honest.

New Features!

Diskeeper 3.0 has the following enhancements and improvements over the previous version, Diskeeper 2.0:

- Improved free space defragmentation
- Optional Boot-Time operation allows Diskeeper to defragment and consolidate directories − objects that cannot be defragmented in an on-line mode
- Schedule defragmentation of multiple partitions simultaneously
- Enhanced network scheduling features − now you can create a schedule that controls defragmentation of all the disk partitions on multiple network computers
- Improved selection of logging functions, letting you decide what Diskeeper information is written to the Windows NT Application Event Log
- The text analysis display has been enhanced − It is now displayed as a separate window with improved display controls
- The Windows NT Server version of Diskeeper can now be installed on Windows NT Workstations

Safety

When Diskeeper was designed, SAFETY was the highest priority.

To ensure the safe movement of files on the disk, Diskeeper 3.0 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.

The foremost design goal for Diskeeper for Windows NT was to make sure that no data is ever lost.   To accomplish this goal Diskeeper uses the following criteria for accessing files:

- the contents of data files are never modified under any circumstances
- only one file is processed at a time, not the whole partition
- each processing pass is independent of the other passes
- no information is stored on any other device or in a "scratch space"
- Diskeeper accesses a file in such a way that no user access can conflict with Diskeeper during the critical portion of the relocation process
- file relocation is aborted if any error is encountered, leaving the file in its original state

Diskeeper was designed to err on the side of caution.   In other words, it only moves a file on the partition when it is absolutely certain that no data will be lost, including file attributes.   The only change to file attribute-type information is the physical location of the file on the partition.   None of the file dates are changed and no other fields in the file record header are used to store Diskeeper information.

Diskeeper never defragments or moves files that are specifically stored at a specific physical location on the partition.

If anything causes your computer to crash while Diskeeper is running, or if you abort the Diskeeper defragmentation run in the middle of the file relocation process, no data is ever at risk.

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.

Process Live Disks

It is not acceptable to force users off the disk while performing routine defragmentation. To do so would be a case of the cure being worse than the disease. Access to fragmented files is better than no access at all.

The best solution is to defragment on-line with users active on the same disk. Diskeeper was designed with this in mind. During most of the time Diskeeper is processing a file in its on-line mode, Diskeeper shares the file with any other users that may access the same file. The last step of processing the file, however, involves locking the file for a very brief period, a matter of milliseconds. If another user requests a file that Diskeeper has locked, that request is suspended for the brief period until Diskeeper releases the file. Then the request is serviced. There is never an interruption of either process as a result of this delay.

This solution allows Diskeeper to safely defragment most open files, whether they are open for read operations or for write operations.

Performance

When running in the "Set It and Forget It" mode, Diskeeper is designed to run in the background, without adversely affecting performance of your Windows NT computer. Steps have been taken to assure that by default, Diskeeper overhead has the lowest possible impact on system performance.   Diskeeper can be run at the lowest possible priority, using only otherwise unused CPU cycles.   Diskeeper was designed in such a way to ensure it will not interfere with other processes on your Windows NT computer.

However, for cases where you want to defragment partitions more quickly, Diskeeper allows you to increase the defragmentation priority.   Click here for more information about setting the priority for a Diskeeper defragmentation job.

No Operator Intervention

In keeping with the design goals, once Diskeeper has been started in the Auto Defrag, "Set It and Forget It" mode, it runs automatically in the background, without the need for operator intervention.   It runs indefinitely, unless told otherwise by you.

Efficiency

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

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

Recording What Diskeeper Does

Diskeeper provides a vast amount of information that you save to disk in one of two ways: You can save the text results of an analysis of your partition, or you can record defragmentation results and other partition information in the Windows NT Event Log.

Click here for information about saving the text results of an analysis.

Click here for information about recording Diskeeper information in the Windows NT Event Log.

Defragmenting a Disk Partition

Diskeeper can defragment your disk partitions in two ways: You can run Diskeeper manually, or run it in the scheduled, Set It and Forget It mode.
Click here for information about running Diskeeper in the Manual Defragmentation mode.
Click here for information about running Diskeeper in the Set It and Forget It mode.

Defragmenting Across a Network

The Windows NT Server version of Diskeeper allows you to defragment disk partitions on all the computers in your network (assuming, of course that Diskeeper is installed on the remote computers).   There is no need for you to run around to every computer on the network – you can do it all from your desk.

Click here for information about scheduling Diskeeper to run on all the computers on your network

Defragmenting Directories

By its very design, Windows NT does not allow directories on a partition to be moved online (when the computer is running and the operating system is fully started).   This is due to data integrity issues related to the way Windows NT maintains directory information while Windows NT is active.   In its online mode, Diskeeper runs while other processes are active on the system, and therefore does not attempt to move directories.   However, Diskeeper does provide a method by which you can defragment and consolidate the directories on your partition at boot-time.

Click here for more information about the Diskeeper Boot-Time Directory Consolidation feature.

Getting the Most from Diskeeper

Diskeeper provides a variety of features, all of which are designed to help you get the best performance from your computer.   While there are no "hard and fast" rules governing the use of Diskeeper, here are some general guidelines about using these features that will help you get the most from Diskeeper.

When you first install Diskeeper, analyze all the disk partitions on your computer.   This gives you good information about the extent of fragmentation on your computer.   See Analyzing Fragmentation for more information.

After you have analyzed your partitions, defragment them by running Diskeeper in its Manual Defragmentation mode.   This provides the fastest, highest-priority method for defragmenting the files and free space on your partition.   See Manual Defragmentation Mode for more information.

After you've run Diskeeper in its Manual Defragmentation mode for the initial file and free space defragmentation, it's time to handle the directories that are scattered all over your partitions.   To do this, use the Diskeeper Boot-Time Directory Consolidation feature. Since directories cannot be moved while your computer is fully up and running, the Boot-Time Directory Consolidation defragments and consolidates the directories on your partitions while your computer is booting.   It is important to defragment your partitions before running the Boot-Time Directory Consolidation in order to create a contiguous free space for your directories to be moved into.   See Boot-Time Directory Consolidation for more information.

Once your directories have been consolidated, schedule Diskeeper to run in the background in its Set It and Forget It mode.   Running in the Set It and Forget It mode, Diskeeper works in the background, keeping your disks in prime condition.   See Set It and Forget It Mode for more information.

Contacting Executive Software

Registered users are entitled to 90 days of free telephone support, as well as special upgrade pricing, from Executive Software.   Our free technical support is available Monday through Friday during the first 90 days from 7:00 A.M. to 5:30 P.M. Pacific time.   If you have not yet registered your Diskeeper for Windows NT purchase, use the registration card in your Diskeeper box and do so now.   Or, register your purchase on-line via our Web site at:

http://www.execsoft.com

Click here to visit Executive Software's Home Page:

{button Visit Executive Software,EF(`Connect.exe',"http://www.execsoft.com",1)}

Most technical support questions can be answered from the Technical Support   section of our Web site at the address shown above.

You may also contact our technical support team via the Internet at:

dknt_support@executive.com

or via FAX at:

818-545-9241

Executive Software also makes available unlimited technical support assistance via its support forum on CompuServe.   GO EXECSOFT to access this forum.

If you are within your 90 day free support period, or have purchased telephone support, you can call:

818-547-2050

When your 90 day free support period has expired, you may purchase the support plan which best suits your needs.   Executive Software offers 24-hour, 7-day support plans. Contact Executive Software to find out which support options are best for you.

Executive Software's address is:

Executive Software

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That's Us!

The following people all had hands-on participation in the development of Diskeeper 3.0:

- [Raffi Abnous](#)
- [Grant Akopyan](#)
- [Joan Barnes](#)
- [Myron Chew](#)
- [Jane Davey](#)
- [Ernest Duran](#)
- [Zack Gainsforth](#)
- [John Joseph](#)
- [Mark Kirby](#)
- [Bert Kleinschmidt](#)
- [Tim Lathrop](#)
- [Vaughn McMillan](#)
- [The Three Musketeers](#)
- [Gary Quan](#)
- [Andy Staffer](#)

. . . and many others, to whom we say [thank you!](#)

Raffi

Raffi is one of the famed "Three Musketeers".   He is also known as the "Orkin Man", since he enjoys eradicating bugs.   He's the "real" golfer of the group, but he still puts up with Tim and Ernest pitching the golf ball into the Koosh® basketball hoop.

Grant

Grant is also one of the famed "Three Musketeers".   (He was the first, in fact.)   He eats string tables for breakfast and has literally worked his way up from the ground floor in order to get into software development.   And done quite well at it, I might add.

Joan

Joan (Tigress to her Field Test friends) runs the Field Testing of all Executive Software products.   She sends and receives more e-mail in a day than many people do in a month, but manages to somehow keep it all straight and (almost always) sent to the right people.

Myron

Myron is one of the famed "Three Musketeers".   He's the King of GUIs.   He also likes computer games, Tai Chi, and playing tennis.   He still hasn't had a chance to play a round of tennis with Zack to determine the rightful owner of the prized Executive Software Cup. (Koosh® Tennis, anyone?)

Jane

Jane likes playing NTN trivia, taking care of her dogs (including Angus, the largest dog you'll ever meet) and cats, and taking long walks (probably to get away from the rest of the gang). She's the "Swiss Army Knife" around here — she's the "fixer" of the group, and pretty much runs the show.   She likes the challenge of impossible tasks (like putting up with Vaughn, Tim, and Ernest).

Ernest

Ernest is the artistic one around here.   He rules the Bitmap Kingdom.   He also builds the installation procedures, and does a lot of other things that make it possible to get Diskeeper out the door and into your hands.   He also instigates a fair amount of Koosh® basketball (sorry, no more jump shots while hopping on one foot singing Danny Boy − building management complained).   Other than that, there's not really much else good to say about Ernest.

Zack

Sorry - No Picture Available

Zack, (a.k.a. Z-Man), is always in a good mood (so much so that it bothers the rest of us). He loves computers, physics, SCUBA, and weird science.   He can also keep up with Tim on the freeway (but we think Tim was just being nice).

John

John is known around here   as "Mr. Boot-Time".   He's been working with computers since back in the days when hard drives were bolted to the floor on reinforced concrete foundations (what was known as the "Pizza Oven").   He's forgotten more about computers and operating systems than most people will learn in their lifetime(s).

Mark

Mark supplies the gang with all the high-tech things we need to do our jobs. We're not really sure just <u>what</u> that is, but he keeps it all straight for us. Many would say he's the best-looking one of the group. (But don't tell Gary − he'll get angry, and you don't want to get Gary angry).

Bert

Bert is the picky one of the group.   He's responsible for making sure Diskeeper does what the developers say it will.   He spends his spare time taking things apart and putting them back together.   Sometimes they even work when he's done (unless there's welding involved).   He's into "tech" stuff – automotive tech, mechanical tech, electrical tech, electronic tech, and sewing, of course.

Tim

Tim (the Lizard) likes beating Vaughn at pool, driving fast, and staying warm.   He also enjoys hallway golf and Koosh® basketball with Ernest.   He's a tenacious bug hunter who can break any software he gets his hands on, and blue screen a computer faster than you can say "hemoglobin".   And now a moment of silence please, as we mourn the loss of his brown jacket.

Vaughn

Vaughn is the writer of the gang.   He enjoys very little.   That's just the way he is − no
sense of humor whatsoever.   Yeah, right.   He's a retired rock-and-roll guitarist who got tired
of the construction inspection business − so of course now he's into software development.
Go figure.

The Three Musketeers

"The Three Musketeers" is a collective name for Grant, Raffi, and Myron.   These three worked very closely together during the development of Diskeeper 3.0,and became quite the team.   Their multi-national backgrounds (Russian Armenian, Persian, and Chinese) has resulted in many very interesting conversations.

Gary

Gary (or Big G)   is the "Strongest Software Engineer in the World".   Not many people can lift their desks over their head with one hand while they plug in their computers, but Gary can. He's a great person to take to lunch, because he'll clean up all the leftovers.   He's also one of the nicest people you could ever hope to know.   (I had to say that − he's bigger than me.)

Andy

Andy, the head of our R&D area, is the father of Diskeeper for Windows NT, as well as 3.5 kids.   He also works part-time as our Cable Tidiness Monitor, but Jane says we love him anyway.

Thank You!

Click this button to make your choice.

Check your desired options.

Enter your input in this field.

Click this button to make your choice.

Check your desired options.

Enter your input in this field.

Closes this dialog and saves any changes you have made.

Closes this dialog without saving any changes you have made.

Check your desired options.

Check your desired options.

Check your desired options.

Check your desired options.

Check your desired options.

Enter your input in this field.

Choose an item from the list.

Choose an item from the list.

Choose an item from the list.

Click this button to make your choice.

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Choose an item from the list.

Click this button to make your choice.

Click this button to make your choice.

Enter your input in this field.

This is the whole enchilada.

Choose an item from the list.

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Choose an item from the list.

Choose an item from the list.

Start the specified schedule on the selected volume(s)

Click this button to make your choice.

Click this button to make your choice.

Click this button to make your choice.

Click this button to make your choice.

Click this button to make your choice.

Choose an item from the list.

Click this button to make your choice.

Enter the name of the computer you want to connect to in this field.

Click this button to make your choice.

Check your desired options.

Click this button to make your choice.

Check your desired options.

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Click this button to make your choice.

Check your desired options.

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Click this button to make your choice.

Check your desired options.

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Check your desired options.

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Click this button to make your choice.

Click this button to make your choice.

Choose an item from the list.

Closes this dialog and saves any changes you have made.

Closes this dialog and saves any changes you have made.

Select your preferred option.

Select your preferred option.

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Select your preferred option.

Select your preferred option.

Closes this dialog and saves any changes you have made.

Closes this dialog without saving any changes you have made.

Closes this dialog and saves any changes you have made.

Closes this dialog without saving any changes you have made.

Check your desired options.

Check your desired options.

Check your desired options.

Check your desired options.