O&O Defrag V8 Server Edition

O&O Defrag V8 Server Edition User's Guide
Rev. 2005-03-6

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Overview

Introduction

Thank you for choosing O&O Defrag V8! In doing so you now have access to one of the best and most user-friendly defragmentation software packages developed for Windows. With its exclusive O&O OneButtonDefrag you will be able to optimize your computers performance for the rest of its usable life with just the touch of a button. No additional settings or customization are required.

We hope that you're satisfied with our new O&O Defrag V8 and that it helps you, like it has helped millions of other users worldwide, to keep your system performance at a maximum level!

Your O&O Software Team
http://www.oo-software.com/

New in O&O Defrag V8

In addition to the tried and tested features from previous versions, many new functions have been added to the new Version 8. A lot of functionality has been completely overhauled. The graphic interface, for instance, has been entirely redesigned to fit the new Windows XP style. Automatic defragmentation and network management in the Server Edition have now been made even easier to use. Even new users can set up an automatic defragmentation in a matter of a few simple steps. After this initial set-up, O&O Defrag will take care of the rest.

Properties of Version 8

- Online and Offline defragmentation of all volumes supported by Windows including RAID systems

- Five different defragmentation methods for optimal speed increase.

- A lot less free space needed for defragmentation (only about 5% or less, depending on the size of the volume)

- Unique O&O ActivityGuard to monitor the system load and adjust the resource usage of O&O Defrag

- Unique cluster viewer for detailed information on the state of the volumes.

- Many volumes can be viewed at the same time in the cluster view

- Task pane to easily run tasks the way XP does

- O&O TrueRemoteControl – Control a computer as if you were sitting right in front of it without any limitations or performance loss

- Power management for Notebooks

- O&O ClusterInspector to check hard drive zones.

- Automatic defragmentation with integrated heuristic evaluation for optimal planning

- O&O Defrag management through the tasktray

- DefragWizard for automatic defragmentation in just one click (OneButtonDefrag™)

- Status reports in HTML format to keep track of your performance changes

- **New:** Windows Explorer Integration – Disk drive defragmentation in Windows Explorer

- **New:** Simplified operation of the boot-time defragmentation

- **New:** Support of removable drives (USB Sticks, Memory Cards, etc.)

- **New:** Improved functionality of the Tasktray icon

- **New:** Execution of Windows commands (Batches) before and after defragmentation

- **New:** Screen saver mode automates defragmentation whenever the computer is idle

Improved Network Management

Thanks to our continual improvements to our Defrag software, O&O Defrag V8 Server Edition is now better than ever. The very well-known O&O OneButtonDefrag feature from the Professional Edition of this software is now available for an entire network. With just the single click of a button, all computers on a network will automatically be defragmented and remain that way for the rest of their running lives. With the help of O&O Defrag, the problem of data fragmentation will no longer be an issue for you. Ensuring this peace of mind is this software's most stunning feature: the automatic installation of O&O Defrag-Agents on network workstations. It has never before been this easy to keep all of your network computers in top form.

Batch Execution Before and After Defragmention

A further highlight of the newest Version 8 is the ability to execute batch commands before and after O&O Defrag is running. This enables you, for example, to pause certain Windows services before defragmenting a disk volume and then continuing them afterwards. Files that are normally in use by other applications can now be defragmented online without difficulty or risk to the system's stability. If you are using O&O Defrag on a Microsoft Exchange or SQL server, you can pause these services, run defrag, and then automatically restart them all in one command. Scripts are no longer needed. Everything can now be controlled from the user interface in O&O Defrag. Further information regarding the creation of batch files can be attained through our technical support department.

O&O TrueRemoteControl

O&O Defrag V8 Server Edition enables you to access any computer on your network and administer defrag, just as if you were sitting in front of the workstation personally. The O&O TrueRemoteControl technology gives you the ability to quickly and thoroughly analyze specific computers on your network. With O&O SiteControl you can enjoy the luxury of seeing all installed computers on your network listed clearly with their respective fragmentation information. With just one click of the mouse, all of these volumes can be defragemented. It does not get any simpler than that.

Group Policies

If you are using Windows Active Directory services on your company's network, the new O&O Defrag V8 makes it possible for you to distribute all of your settings onto the entire network by way of Group Policies. O&O Defrag V8 integrates itself seamlessly into your network infrastructure and can even be installed automatically through the Windows software distributor. For further information regarding this issue, please contact our technical support. They will be glad to assist you.

Status Reports

Status reports give you detailed information regarding the state of your computers, so that you can easily find out what exactly has been slowing down your server or workstations. The reports' convenient HTML format is easily accessible from every computer on the network. If you defragment a whole group of PCs, the reports sums up the status of each computer in a single report, showing you your performance gains clearly in black and white.

Power Management for Notebooks

Defragmenting storage volumes on a notebook is very important. O&O Defrag offers the option of pausing any defragmentation activity while the computer is in battery mode, thus conserving your available working time.

As soon as your notebook is reconnected to an energy outlet, defragmentation will resume. O&O Defrag monitors your system and takes care of all the details and settings.

Screen Saver Mode

New in version 8 is the possibility of starting O&O Defrag every time the screen saver is activated. As soon as the screen saver is closed, Defrag will be stopped. Automatically recognizing where O&O Defrag left off, a specific defragementation can then be continued at a later time without any wasted time.

With the screen saver mode, you can run Defrag whenever your computer is idle, for instance when you are away on your lunch hour. This function can also be activated for all computers on the network.

O&O ActivityGuard Pro

File fragmentation is one of the main reasons for performance loss of PC systems. Studies show that numerous PC users lose precious time and performance because of fragmentation. Although Microsoft includes its own defragmentation software in Windows XP/2003 and Windows 2000 it is rudimentary at best. With this software it is virtually impossible to keep working on your computer while it is being defragmented, leading to more losses in productivity than gains. As a response to this, we developed O&O Defrag and gave it a special and unique monitoring technology: O&O ActivityGuard. This technology monitors the system load and adjusts the resource usage of O&O Defrag accordingly, allowing you to continue your work on the computer without any difficulty.

Other Features of the Server Edition

- Easy defragmentation of the entire company network

- Management of your computers in groups (Sites)

- Definition of group settings for PCs

- Creation of a time table for automatic defragmentation in just a few clicks (Defrag Jobs)

- Automatic installation of O&O Defrag-Software in the network with integrated distribution software (O&O ComponentInstaller)

- **New:** Integration into Active Directory und group policies for network distribution and configuration of software

- **New:** Execution of Windows commands (Batches) before and after Defragmetation

Two different editions: Professional and Server

O&O Defrag V8 is available in two versions:

- O&O Defrag V8 Professional Edition and

- O&O Defrag V8 Server Edition

The Professional Edition is the version to defragment a single PC. It cannot be used on a server system and contains no network management console but it can be used as client for the Server Edition.

The Server Edition contains the management console to control O&O Defrag in a network. It can be used both on server computers and workstations, the latter making more sense when the administrator wishes to control and monitor the defragmentation process from his computer.

Fragmentation: Causes and Effects

Fragmentation results from saving your files on your hard drive. When files are saved, Windows automatically looks for free space and saves the file accordingly. Sometimes, however, there is not enough contiguous free space on the storage volume to save the file into a single block. This happens whenever files are created, modified, or deleted. When you delete a file, the space occupied by this file is marked as free, opening up this space for new files to be saved. If a new file does not exactly fit into this spot, Windows splits the file up into fragments and stores them in different locations on the storage volume. When you open the file, Windows first has to find all the fragments, load them, and then put them back together. This process can be very time consuming, especially if you create or get rid of files often.

Regular Defragmentation is the Only Solution

Even in the age of fast and affordable hardware, an important part of a system's performance is dependent on the operating system used and its integrated file management. The most frequent problem is file fragmentation. Files are separated in multiple single fragments and distributed over the user's hard disk. As a result, processing these files takes much longer, because all segments belonging to one file have to be relocated, read, and reassembled. The impact is particularly dramatic in Windows - the longer a system is in use, the more intensive file fragmentation, inevitably causing performance losses. O&O Defrag rediscovers this lost system performance, saving both time and money.

File and database servers, as well as workstations can substantially improve their system performance using O&O Defrag V8. Regular defragmentation prevents new hard disk fragmentation and will ease the use of Windows XP/2003, Windows 2000 and Windows NT 4 in the long term.

O&O Defrag is the Best Solution

O&O Defrag analyses and reorganizes your files. Fragmented files are moved to a block of contiguous free space. Accessing files then takes less time because Windows does not need to look for each separate file

fragment, seeing as the file can be read in one block. This is how O&O Defrag brings back lost performance and helps save time and money.

O&O Defrag can easily be installed locally on each system (single computer version) or, by means of a network management console, over a network. Choosing settings and using it is done intuitively. You can also choose to let O&O Defrag work automatically. Our sophisticated task manager brings you a variety of possibilities to optimize your systems individually and in accordance with your needs.

Lower Your Costs (TCO) with O&O Defrag

Fragmented files slow your systems and their availability down. Accessing file takes, depending on the level of fragmentation, more time, leading to an unnecessary reduction in efficiency. Reading files that are normally opened very quickly can take up to 10 times the time because of fragmentation. System boot time can take up to three times as long and evening back-ups up to an hour more.

The system performance lost because of fragmentation not only costs both time and money because the available resources are not used efficiently. This has an indirect effect on the productivity of the systems in the company and thus on the productivity of the employees using these systems. Fragmentation should always be avoided. System fragmentation can even lead to the premature replacement of hardware when lost performance is not improved through defragmentation.

Contact O&O

Since 1997 O&O Software GmbH, a member of the O&O group, has become one of the worldwide leading software companies in the field of system tools for Windows. We consider it our duty to offer you the best service possible. If you have questions or problems, we're here for you!

Sales

In addition to single user licenses, we also offer your company cheap multiple user licenses as part of our volume licensing program "O&O EasyLicensing". You will find our authorized resellers on our website, who will do their best to help you. OF course, you can also contact us directly.

Technical Support

All registered users can take advantage of our installation and product support for free for 90 days after the day of registration. Please do not forget to provide your registration code when contacting our support team. Please read the FAQ on our website (see below) before you contact our support team. You might find the answer to your problem there!

Please have the following information ready while filling out the support form:

- Name of the O&O Product and its version (see the help menu "About O&O Defrag")

- Your license number (Support for evaluation users only per e-mail)

- OS, OS type (Workstation, Server etc.), Version and Service Packs installed

- Your name, address, telephone number and E-mail-Address

- Exact description of the error if possible.

Contact Information

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First Steps

Starting O&O Defrag

When you install O&O Defrag, a program group will be integrated into the start menu. Depending on which option you chose during the installation, this can be seen by all users or only the current one. The program group can be found under O&O Software\O&O Defrag.

This group includes the program elements of O&O Defrag Server for use on the local computer, the O&O Defrag Management Console for network administration, and a link to the online defragmentation.

The online documentation is the central source of information on how to use O&O Defrag. You can either click through to it from the icon in the start menu or select it from the O&O Defrag help menu. Alternatively, you can press the F1 key at any time whilst using the software.

Microsoft Management Console

If you want to use the network functionality integrated into the O&O Defrag Server Edition, you have to use it within the Microsoft Management Console. You can either use the MSC file included in the O&O Defrag program group, or add your own file. Start up the Microsoft Management Console.

- From the file menu, select "Add/Remove Snap-In" and click "Add".

- In the Snap-In dialog, select "O&O EMC" ("O&O Defrag Server Edition" only transfers control over the local computer to the MMC)

- O&O Defrag Server Edition with the O&O Enterprise Management Console is now ready. Please save the file.

Starting from "My Computer"

If you choose O&O Defrag as your default defragmentation program, you can start it straight from the desktop. Click on "My Computer", and then right-click on the relevant partition. A menu will appear, from which you can select the option "Properties". Click on the "Tools" tab and click on the "Defragment now" button. O&O Defrag will then start automatically.

Starting from the Command Line

You can also start O&O Defrag from the command line. The relevant command is OODCMD. With the help option (/?), you can display the possible parameters and their syntax. You can find out more about this in the chapter on "Using the Command Line Version".

When you start from the command line, you won't see the main window. A miniature O&O Defrag icon will be displayed, and you can follow the progress of the defragmentation in your DOS-prompt.

Tip: If you start O&O Defrag from the command line, you can start the graphical user interface later. This will then show you the current status without interrupting or stopping the running processes.

Controlling O&O Defrag Over the Network

O&O Defrag Server Edition offers a sophisticated, detailed and user-friendly network administration option. The O&O Defrag Management Console is integrated into the Microsoft Management Console and is based on the O&O Enterprise Management Console. The O&O EMC provides the network management option. You can use domains and ActiveDirectory structures, which you can also group together in sites

Under the branch "O&O Defrag Server Edition", you can see your sites. You can perform all actions via the context menu or the Actions menu. Frequently used commands are incorporated as buttons into the Management Console toolbar.
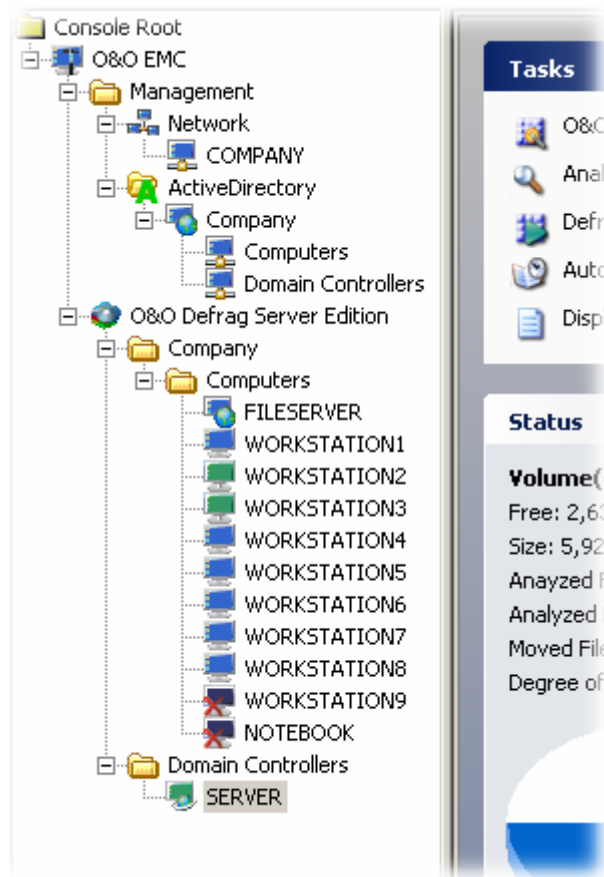
Defragmenting Computers on the Network

After you install O&O Defrag Server Edition on any of your computers (workstation or server), you can defragment your entire network from here – it doesn't matter if it's in the same room, the same building or in various places throughout the world. The three easy steps are the same:

1. Create a group of PCs (site)
2. Roll out the O&O Defrag Agent onto the network
3. Defragment the site

Creating a Group of PCs (site)

O&O Defrag allows you to perform all actions either on a single computer or a group of computers. We have called such groups "sites". You can define sites independently of their domain structure. For example, you could group all workstations and servers together in two different sites and define jobs for each group. Thus, you avoid using server configurations on workstations and vice versa.

You can find more information in the section "Creating a Site".

Rolling out the O&O Defrag Agent onto the network PCs

You need the O&O Defrag Agent in order to defragment the network PCs. This can be installed either via the O&O ComponentInstaller, which is integrated into O&O Defrag Server Edition, or you can use the Windows installation wizard that is in all versions from Windows 2000 upwards. You can also install O&O Defrag by means of a software distribution utility such as   Microsoft Systems Management Server.

The O&O ComponentInstaller is automatically activated when you roll out a defragmentation job and checks if the correct version is installed on the computer. If this is not the case, you will be prompted to install it. You don't need any additional software or extra configurations on the target computers. You simply need administrator privileges for the target computers, which will generally be the case for domain administrators.

Defragmenting a Site

Select the site you wish to defragment and choose the action "Create job". The Job dialog will lead you through the necessary steps to create a defragmentation job.

After you create the job, it will automatically be sent to the target computer. You will see a status dialog which will keep you informed about whether the job has been successfully sent.

When the job has been carried out, you can read about how successful the defragmentation has been in the status reports.

O&O OneButtonDefrag

With O&O OneButtonDefrag it is possible to automate the defragmentation of your computer. Once set-up, you will never have to worry about the optimization of your storage volumes again. Everything will be taken care of in the background by O&O Defrag.

> 1.   In the Job Assistant click on the feature "O&O OneButtonDefrag".
>
> 2.   An assistant will then open. Through this it will be possible to activate or deactivate this feature.
>
> 3.   After the assistant has been completed, the defragementation of your computer is now automated. Depending on the degree of fragmentation on your storage volume, O&O Defrag will run in the background. This function can be deactivated at any time.

Analysing Your Volumes

Analysing your hard disks gives you an overview of how heavily fragmented they are. O&O Defrag creates a detailed status report about the fragmentation level once the analysis has been completed.

This level will be somewhere between 0 and 100 – the lower the number (zero is the ideal), the less fragmented your hard disk. A value near 100 is the worst case – your files are almost completely fragmented. Even values of around 30 mean that the performance of your system is seriously suffering from the level of fragmentation, and that a defragmentation run is strongly recommended.

Level	Explanation and action needed
< 10	All files are almost completely defragmented. This is the ideal condition and can only be achieved and maintained through regular defragmentation.
10 – 30	This level is reasonable, and means that your hard disks are in good condition.
31 – 50	Your system is working more slowly than normal because of heavy fragmentation. Defragment regularly and use the time planning facility included in O&O Defrag. This will keep your system running at a good speed.
51 – 90	Your system is very heavily fragmented and is suffering from very serious performance losses. You should defragment your system right away and create jobs for regular defragmentation. Compare the fragmentation levels before and after the defragmentation run.
> 90	Almost all of your files are fragmented – you've probably never, or very seldom, defragmented your system. The effect on your system is dramatic. Defragment your hard disks frequently, and bear in mind that it might take several runs before an ideal fragmentation level is reached.

Starting an Analysis

- Select the volume to be analysed in the volume list.

- Start the analysis via the toolbar or from the context menu (select "Analyse"). The analysis can take a few moments, even if the volume is small. You can follow the progress of the analysis on the volume symbol and the progress display.

- When the analysis is finished, a dialog window with a summary of the volume information will be displayed. You can display the detailed status report as a HTML document in your web browser.

Note: You can analyse several volumes simultaneously. Mark the various volumes by keeping the Ctrl key depressed whilst selecting.

Defragmenting Your Volumes

- Select the volume you wish to defragment from the volume list.

- Start the defragmentation by clicking on the start button on the taskbar, or choose the desired defragmentation method from the context menu.

- Depending on the size of your volume, the defragmentation can take up to a few hours. O&O Defrag will display the estimated time

remaining in the volume list. You can follow the defragmentation process via the volume symbol and the progress display.

- Whilst O&O Defrag is running, you can carry out your work on the PC undisturbed.

- After the defragmentation is finished, you can display the detailed status report as an HTML document in your web browser.

Note: you can defragment several volumes simultaneously. Mark the various volumes by keeping the Ctrl key depressed whilst selecting S.

Tips for Your First Defragmentation

As a rule, the first defragmentation will take the longest, as O&O Defrag has to perform a complete check on your system and perhaps move fragmented files into an optimum position. Especially with systems that have been in use for a long time and have seldom or never been defragmented, this can take a long time.

The COMPLETE methods in particular are very time-consuming, because the entire file structure is thereby optimized, which involves moving even files that are not fragmented. We therefore recommend an initial defragmentation with the STEALTH or SPACE methods. These methods consolidate your hard disks very quickly and efficiently. Afterwards, you can use the COMPLETE methods for optimum performance or stick to the quicker STEALTH and SPACE methods. Whichever method you choose, your system will be significantly quicker than it was before!

Online and Offline Defragmentation

O&O Defrag V8 can carry out defragmentation runs online and offline. In this context, "online" means that the defragmentation is carried out in the background whilst your system is running. Thus, you can carry on your work as usual. However, some system files are locked by the operating system whilst it is running, and these files can only be defragmented before the operating system has locked them. This is possible in the so-called start phase of Windows. This is before the usual operating system processes take place and you as user cannot start any applications. Defragmentation at this time is known as offline defragmentation (or often Boot-time defragmentation).

The following table shows which file types can be defragmented on- and offline, according to which operating system you are running. If online defragmentation is impossible, O&O Defrag will automatically select offline defragmentation. This will take place at the next system start. You can stop this at any time by pressing any key.

The options for offline defragmentation can be viewed and changed simply and comfortably by way of the Options dialog.

	Windows XP/2003	Windows 2000	Windows NT 4
System files	online+offline	online+offline	offline only
Paging file	offline only	offline only	offline only
MFT (NTFS volumes)	online+offline	offline only	offline only
Registry	online+offline	offline only	offline only
Directories (NTFS volumes)	online+offline	online+offline	offline only

Continuing Work During Defragmentation

O&O Defrag is the only defragmentation software to offer you the O&O ActivityGuard. This tool checks the CPU usage during the defragmentation process. This guarantees that you can work undisturbed whilst O&O Defrag works unnoticed in the background. At times when you're not using the PC, for example at lunchtime, O&O ActivityGuard notices this and automatically allocates more resources to O&O Defrag.

This all happens automatically! You can find more information about O&O ActivityGuard in the section about the Options dialog.

Installation

System Requirements

PC System

- PC System with Intel 486 (Pentium recommended) or comparable processor
- 32 MB RAM (64 MB recommended)
- CD-ROM drive
- SVGA-Adapter (min. 800x600/256 colors), keyboard and mouse
- 30 MB free hard disk space

If you wish to use the network functionality, you must also have the following available:

- Network card and connection
- TCP/IP protocol

Operating Systems Supported

Operating system	Professional Edition	Server Edition
Windows XP Professional	yes	yes
Windows XP Home Edition	yes	yes
Windows XP Tablet-PC	yes	yes
Windows XP Media Center	yes	yes
Windows 2003 Server	no	yes*
Windows 2000 Professional	yes	yes
Windows 2000 Server	no	yes*
Windows NT 4 Workstation	yes	yes
Windows NT 4 Server	no	yes*

* All variants of this server operating system are supported

Windows NT 4

If you're running Windows NT 4 the following service packs and applications are needed (not part of the operating system itself):

- Service Pack 6 or higher

- Microsoft Internet Explorer 5.01 or higher

- Microsoft Windows Installer 2.0 or higher

- If you wish to use O&O Defrag as a Snap-in for the Microsoft Management Console, you will also need the Microsoft Management Console 1.2 or higher.

Access Privileges

To install O&O Defrag, you require local administration privileges. This is likely to be the case if you've been able to install other applications.

During the installation, you can also decide to allow ordinary users to access O&O Defrag. Otherwise, only the local administrator(s) will have access.

In a network, you must be the domain administrator if you wish to install and control O&O Defrag locally as well as on the network computers.

Microsoft Windows Installer

The installation takes place with the help of Microsoft Windows Installer. This is a component already integrated into Windows XP/2003/2000 which simplifies the installation process.

If you're running Windows NT 4, O&O Defrag will check at installation which version of the Windows Installer your system has. If the program is missing or the version is too old, O&O Defrag Setup will install an adequate version.

Installing O&O Defrag

Installing the MMC is a very quick and easy process. Please follow the steps below:

- Boot up the computer on which you wish to install O&O Defrag and the MMC.

- Start Windows and log on as the local administrator, or use an account with similar privileges.

- Start the O&O Defrag Setup program included in the software package you received from us.

- The following error messages can appear during the initial phase of the setup program:

  o **Windows NT 4 Service Pack 6 required** – O&O Defrag only runs on Windows NT 4 with Service Pack 6 or higher.

o **Administrator's rights** – You have to be an administrator or have similar rights to install O&O Defrag.

o **Internet Explorer 5 required** – O&O Defrag only runs when Internet Explorer Version 5 or higher is installed.

o **Other edition installed** – You can only install either the Professional or the Server Edition on the same computer but not both at the same time.

o **Not on servers** – You can't install the Professional Edition on a server system!

Once the setup program has started successfully, it checks whether the MMC is already installed. If yes, it will check whether it is the correct MMC version (minimum required is Version 1.2). If the setup program does not find the MMC or if the version is too old, you will be asked to install the MMC now. Please run the MMC setup program.

Install Updates of O&O Defrag

Updating from V6.x to V8

When updating from the previous version O&O Defrag V6.x to the current O&O Defrag V8, please follow the steps listed below:

1. Start the installation for O&O Defrag V8.

2. During the installation, the previous settings will be transfered to the new version, unless you stated otherwise.

3. Simply Follow the normal on-screen steps to install O&O Defrag. After the installation dialouge has closed, the new version of O&O Defrag will be installed.

Updating to a New Release

Updating to a new release of O&O Defrag V8 can be done both quickly and simply.

Microsoft Software Installer 2.0 or higher

1. Start the setup of the new release.

2. A screen comes up, in which you can choose to modify, repair or remove the program.

3. Choose **Repair program** and click on **Next**.

4. The new version is being installed. Previous settings will automatically be retrieved.

Microsoft Software Installer 1.0

1. Open the control panel from the start menu **'settings'**.

Click on **Add/Remove programs**

Choose **O&O Defrag Professional Edition** or **O&O Defrag Server Edition** from the list of currently installed programs.

Click on **Add/Remove**.

O&O Defrag's uninstallation program is starting.

A screen appears where you can choose to modify, repair or remove the program.

Choose **Remove program** and click on **Next**. (The option **Repair program** is not available on older MSI).

The old version is being uninstalled. You can choose to keep previous settings so that the new version retrieves them.

Once the uninstallation is complete, install the new release. To do so, follow the instructions given to install O&O Defrag V8.

Updating Network Computers

O&O ComponentInstaller allows the update of O&O Defrag agents in the Server Edition. When ComputerControl or SiteControl is activated, the version of the Agent on the network computer is checked automatically. If it's older, you will be able to choose an automatic update. Once the update is complete, the new Agent is immediately ready to work.

Note: If you choose not to update the agent despite O&O ComponentInstaller's suggestion, problems may appear during communication between the Management Console and the Agent. Please, always update the agent!

Entering the License Key

Note: To activate the product after the installation or later, you need to have a valid license key. If you do not type in a valid license key, you may use O&O Defrag only as a trial version and for a maximum of 30 days. If you have any questions, please don't hesitate to contact our support.

Once the installation is complete, the new O&O registration wizard starts up automatically and allows you to register your O&O Defrag easily. To register O&O Defrag you will need the license key which you received when you bought the product.

This key is also called registration code, serial number or product ID. It can be made out of just the serial number or of your name, company and serial number together. Please check the instructions given with the license code.

You can enter the registration code directly during the the installation process or at a later time in the registration wizard. To open it up, simply start O&O Defrag.

Unregistered Trial Version

This dialog will pop up if you are using the unregistered trial version or if you entered a wrong registration key. In this case, please check your code and try again to register the product.

First, you have to choose whether you want to enter the **registration key**, **continue to test the product** without registering or **buy it** now, then click on **Next**.

Choose **Enter registration code** to get to step 2 of the registration process.

If you wish to **continue to test without registering**, the program will start up. The number of remaining days in the test period will be indicated at the top of the wizard.

If you choose **Buy now!** you will be taken to our homepage where you will find more information on how to buy the product.

Choose the option you want and click on **Next**. You can stop the registration process at any time by clicking on **Cancel** and answering yes to the security question.
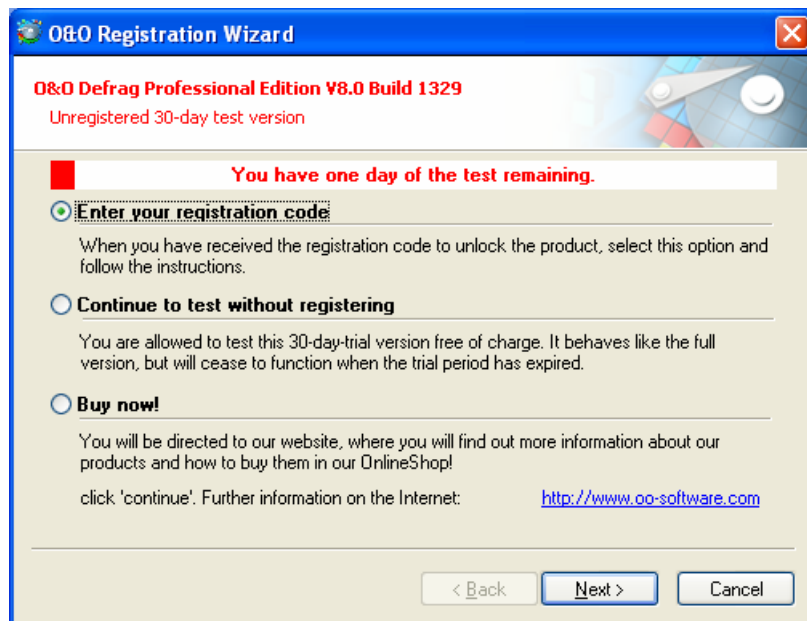
Registration Wizard

In the registration wizard you can enter the registration code you received when you bought O&O Defrag.

Enter your name and company, then your serial number. Please make sure that this number is exactly the same as the one on your license document or license mail! Check that you didn't confuse Os and zeros and that you didn't type in any spaces.

Click on **Next** to save the registration data or **Cancel** to close the wizard and not to save the data.
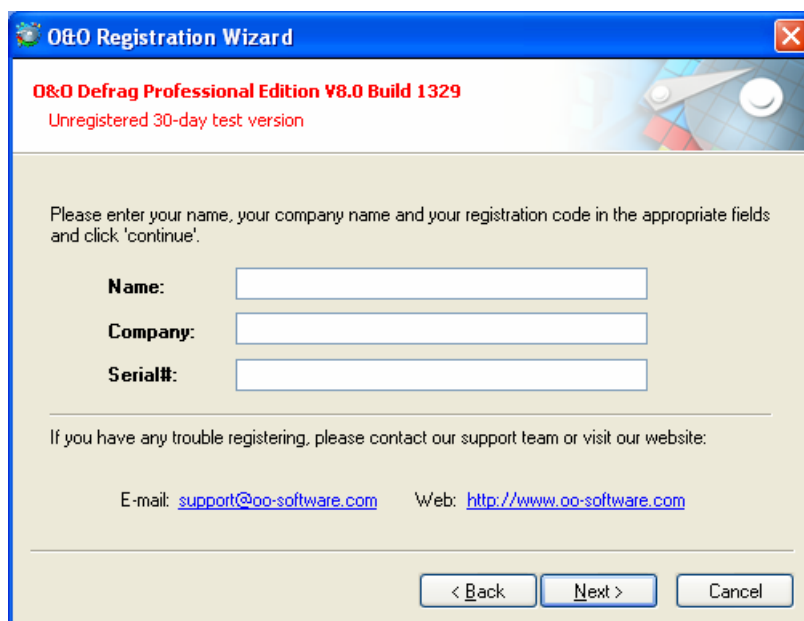
If you have trouble registering, please contact our support team.

Registration Complete

Once you've entered the license key correctly, this will be confirmed by the wizard. You can then immediately register online and thus make sure you can enjoy many advantages, such as technical support and cheaper updates.

To do so, click on **Register product online now!** To close the wizard, choose **Close**.

License Management for Network Computers

To use O&O Defrag in your network, you need to have a license for every computer you wish to defragment. You don't need to enter these licenses in the target computers. They are actually managed from and saved on your computer by O&O Defrag Server Edition. Choose in the context menu the command "License management".

The license dialog will then open. There, you can choose to give and remove licenses.

Note: The license management saves license data on the local computer in the registration database. It is not possible to move license data from one computer to another, so the data has to be entered again if you change computers.

Adding a License

To enter license data, choose the command **Add license** in the license management.

Once the license has been entered, its validity will be checked. If you made a mistake when entering the information, this will be shown to you

Note: Please check whether you have to enter you name and company. If yes, please make sure you enter them exactly as they are given on your license information document.

Once you've successfully entered the data, these will show up in the viewing screen of the license management. Licenses can be used immediately after a valid registration code has been entered.

Removing a License

Chose the license code you want to remove and click on **Remove** (the red cross). This action cannot be cancelled.

Modifying License Data

To modify license data, you have to first remove the license in question and enter it again. It is impossible to change a valid license code after it has been entered.

Uninstallation

To uninstall O&O Defrag, please follow these steps:

1.   Open the control panel from the Start menu **'Settings'**.

2.   Click on **Add/Remove programs**

3.   Choose **O&O Defrag Professional Edition** or **O&O Defrag Server Edition** in the list of programs.

4.   Click on **Add/Remove**.

5.   The O&O Defrag uninstall program is starting.

6.   You can now choose whether you want to remove O&O Defrag completely or keep the settings. This is important if you decide to install an update and do not want to lose your present settings. If you choose the complete uninstallation, all the settings will be removed and previous settings (e.g. standard defragmenter) will be put back.

7.   Confirm then the uninstallation of O&O Defrag. Once the uninstallation is complete, you may have to restart your computer.

Uninstalling Network Computers

To remove O&O Defrag from network computers, you can use the O&O ComponentInstaller.

- Choose the site to which the computer you wish to uninstall belongs, then start O&O ComponentInstaller from the context menu.

- Choose the uninstall option and confirm your choice.

- O&O Defrag will be removed from all computers. The program will put together a report on the success of the action. Please note that the computers need to be switched on.

If you made the installation with a different software distribution, you can uninstall O&O Defrag the same way. You can also remove it manually from the software menu in the control panel. You will find a corresponding entry for the O&O Defrag Agent there.

O&O Defrag Methods

Overview

O&O Defrag V8 offers you five different methods of defragmenting your computer:

- STEALTH
- SPACE
- COMPLETE/Access
- COMPLETE/Modified
- COMPLETE/Name

Each of these methods offers you an efficient and quick online defragmentation of your files, i.e., no service or application must be paused or stopped whilst the defragmentation takes place. STEALTH and SPACE are optimized for the fastest possible defragmentation of your files, whereas the COMPLETE methods provide a more thorough defragmentation. This requires more time and more free hard disk space. By re-arranging your files to use the available space as efficiently as possible, further fragmentation is avoided.

All methods can be used on all volumes, including volume sets, stripe sets with and without parity, etc., and are equipped for best possible data security. This is achieved by working together with the defragmentation routines integrated into Windows, and makes sure that data are not lost in your computer or network crashes, or if there is a power cut.

STEALTH Method

The STEALTH method differs from the other methods in that it is much faster and uses much less central memory for the defragmentation.

The STEALTH method has been designed with large fileservers in mind. It can, however, be used to great effect on workstations and other computers.

Algorithm

The STEALTH method is based on our unique STEALTH technology, allowing an unprecedented level of defragmentation on computers with a large number of files, little free space or available central memory.

This method defragments all fragmented files and tries to consolidate them in order to optimize available free space. Here, speed and resource usage are the main considerations and the method is therefore not quite as thorough as the SPACE and COMPLETE methods.

Recommended usage

The STEALTH method is particularly recommended for the following systems. STEALTH can also be used for regular defragmentation runs.

- Initial defragmentation of your system

- Computers with few available resources, as the method does not greatly increase the CPU usage and does not require much free hard disk space.

- Servers with very large hard disks (e.g. more than 1 terabyte)

- Computers with a very large number of files (more than 250,000 files)

SPACE Method

The SPACE methods offer you a great solution if your volumes are very heavily fragmented. It also allows you to consolidate your data so that the amount of contiguous free space is as large as possible and further fragmentation is prevented.

The SPACE method is the best one for your initial defragmentation and for defragmentation in the background, as long as there is enough free space on the hard disk and the number of files is not too great. Otherwise, you should consider using the STEALTH method.

Algorithm

All fragmented files will be defragmented, and then placed into the free slots in which they fit. This maximizes contiguous free space. This method is very quick and efficient and it does reorganize your volume, but not as thoroughly as the COMPLETE methods.

Further defragmentation will not be affected by the SPACE method. The SPACE method is ideal for the first defragmentation run on a system that has never been defragmented, as it requires far less free space than the COMPLETE methods.

Recommended Usage

The SPACE method is particularly recommended for the following systems. SPACE can also be used for regular defragmentation runs.

- For the initial defragmentation of your system.

- Computers with few available resources, as the method does not greatly increase the CPU usage and does not require much free hard disk space.

- Servers with large hard disks (e.g. more than 100 gigabytes)

- Computers with a large number of files (more than 100,000 files)

COMPLETE/Access Method

The COMPLETE/Access method defragments your files and reorganizes your file structure. Although this method is slower than the STEALTH and SPACE methods, it guarantees maximum system performance when your files are being read.

The COMPLETE/Access method is suitable for servers and workstations. Please bear in mind that this method uses a lot of central memory due to the reorganization of your system. If this is likely to be a serious problem for your system, we recommend you use the STEALTH or SPACE methods.

Algorithm

Files are sorted according to when they were last accessed. The files that have been accessed the least will be placed at the beginning of the partition, and those that are accessed that most frequently are put near the end. Seldom-used files are defragmented and will not need to be moved in future. Frequently-used files are placed at the end of the volumes. This strategy means that future defragmentation runs are as quick as possible, as fewer files need to be checked and defragmented.

Recommended Usage

The COMPLETE/Access method is particularly suitable for use on the following systems. Please bear in mind that using the COMPLETE/Access method for regular defragmentation runs should not be mixed with other methods. This would lead to longer defragmentation times, as the file system has to be reorganized again.

- Maximizes the read access performance on servers.

- For regularly defragmenting your volumes

- On computers that have sufficient resources available when the defragmentation takes place – CPU usage is likely to increase significantly (it is strongly recommended that you use the O&O ActivityGuard). A larger amount of free disk space is necessary with this method.

- All kinds of servers and workstations

COMPLETE/Modified Method

The COMPLETE/Modified method defragments your files and also reorganized your file structure. Although this method is slower that the STEALTH or SPACE methods, it guarantees maximum performance in the reading of your files.

The COMPLETE method is particularly suitable for databases and fileservers. It is important to bear in mind that this method requires quite a lot of central memory due to the file reorganization. If this is a serious problem for your system, we recommend you use the STEALTH or SPACE methods.

Algorithm

Files are sorted according to the date on which they were last changed. The files which have not been changed recently are placed at the beginning of the partition, and the files that have been changed recently are placed at the end. This option is a good one for file or database servers which contain files that have never been changed (e.g. system files), but where others are frequently modified. (e.g. database files)

This strategy means that future defragmentation runs will be much quicker, as only a few files need to be checked and defragmented.

Recommended Usage

The COMPLETE/Modified method is particularly suitable for use on the following systems. If you want to use the COMPLETE/Modified method for your regular defragmentation runs, you should bear in mind that you only use this method and do not mix it with any other. This means that future defragmentation runs are slower, as the file system would need to be reorganized.

- Maximizes the performance for write access on servers.

- Use for regular defragmentation runs

- Use on computers that have sufficient free resources at the time when you wish to defragment, as CPU usage will increase specifically and a lot of free space is required – using the O&O ActivityGuard is particularly recommended.

- Suitable for all types of servers and workstations.

COMPLETE/Name Method

The COMPLETE/Name method defragments your files and also reorganizes your file structure. Although this method is slower than the STEALTH and SPACE methods, it guarantees maximum performance for the read access to your system.

The COMPLETE/Name method is particularly suitable for system volumes. Please bear in mind that this method needs a lot of central

memory due to the reorganization process. If this is a serious problem for your system, we recommend you use the STEALTH or SPACE methods.

Algorithm

Files are sorted alphabetically from the beginning to the end of the partition. This leads to quick access to files in a directory. When Windows starts up, many system files will be read in sequence from the \WINDOWS and the \WINDOWS\system32 directories (DLLs, system drives, etc.) and the start-up time will therefore be shorter.

This method is particularly recommended for computers on which the files rarely change. This reduces the reorganization time that is needed for every defragmentation.

Recommended Usage

The COMPLETE/Name method is particularly suitable for use on the following systems. Please bear in mind that if you use the COMPLETE/Name method for your regular defragmentation runs, you should not mix it with other methods. If you do this, the defragmentation will take longer, as the files will have to be rearranged once more.

- Maximizes the performance for the read access to workstations

- For regular defragmentation of a volume

- For computers which have sufficient available resources at the time when you wish to defragment, as CPU usage will increase and a lot of free hard disk space is required (use of the O&O ActivityGuard is particularly recommended).

- All types of servers and workstations.

Tips for optimizing your performance

Defragment your system regularly!

Only regular defragmentation can ensure that you always get the best out of your system! O&O Defrag offers you the best way of planning an optimum defragmentation of your system.

Don't wait too long before you defragment!

As soon as you've installed your operating system, the file system will begin to fragment. Avoid system performance losses right from the beginning and install O&O Defrag in good time! Only then can you be sure that your hard disks can access your files quickly. You will also avoid unnecessary wear and tear on your hardware due to increased movement of the read/write head.

Large files need more free hard disk space

If you want to defragment large files, you need more free hard disk space. For reasons of data security, the original (fragmented) file remains on the volume until the defragmented copy has been safely saved to disk. We recommend you have at least 5% free space – if you have more, this will speed up the defragmentation. If you have a very large hard disk system (more than 100 gigabytes), this value can be significantly lower.

Avoid moving large numbers of files during the defragmentation

If you are using the SPACE or COMPLETE methods, O&O Defrag will calculate the best position for your files before and during the defragmentation. If you copy, move or delete files, these calculations will have to be carried out once more. This will take time and lengthen the defragmentation time. Please bear this in mind!

Automatic defragmentation with the threshold tool

O&O Defrag offers you a method of automatically defragmenting your system with a time schedule. You can additionally increase your system performance by defining threshold values for your defragmentation. This means that defragmentation will only take place when a particular degree of fragmentation is reached. You can thereby avoid unnecessary defragmentation runs. You will find more on this in the section on scheduling.

Using O&O Defrag on your notebook

In this latest version of O&O Defrag, we have introduced power management. This allows you to suppress defragmentation runs when your notebook is running from battery power. The length of your battery life will therefore not be shortened, and you don't have to stop the defragmentation manually. O&O Defrag will recognize the switch between mains and battery power, and will carry out the defragmentation according to your own configuration. You can read more on this in the section about options.

Which defragmentation method for which type of system?

Below, you will find several pieces of advice about which method is the best for your system. Search for the relevant tip and use this to determine the best defragmentation method for you!

My computer is mainly used as a workstation

The STEALTH, SPACE and COMPLETE methods are particularly suitable for workstations. User files are changed less regularly on workstations than they are on servers. For this reason, sorting by name is a

good way of speeding up the startup of your system. The files that are read at startup are arranged in the Windows directory so that they are read in sequence.

We recommend an initial defragmentation with COMPLETE/Name and then regular defragmentation with the STEALTH or SPACE methods.

My computer is mainly used as a server

The methods STEALTH, SPACE, COMPLETE/Access and COMPLETE/Modified are particularly suitable for servers. On all servers, but particularly file servers, files are created, changed and deleted with great regularity. Fragmentation therefore occurs more quickly and severely than on other computers. The COMPLETE methods organize your files in order to prevent the need for subsequent complete reorganizations – only the files that have recently been changed need to be defragmented.

We recommend an initial defragmentation with COMPLETE/Modified and the use of STEALTH or SPACE.

Please bear in mind that using COMPLETE/Access, COMPLETE/Modified and COMPLETE/Name on one partition leads to much slower defragmentation runs, as the files are sorted in different ways in each of these methods. Please decide on just one of the COMPLETE methods to use on your system!

A large number of files are saved on my computer

If you have a large number of files saved on your system, e.g., more than 100,000, the STEALTH defragmentation is the best method for you. The STEALTH method avoids the need to read the complete file information, which can be extremely time-consuming.

I only have a small amount of main memory for the defragmentation

Depending on the number of files on your system, the STEALTH defragmentation is the best method for you. If you have only a relatively small number of files on your system (fewer than 100,000), you can use the SPACE method. The STEALTH method removes the need for reading the whole file information, and no additional main memory is required. The defragmentation of the system can therefore take place without negatively affecting the whole system.

How much free space is needed for the defragmentation?

Free space is a very important factor for a successful defragmentation. The less space that is available, the greater the time required for the defragmentation. This is true of all methods described here. We recommend you keep at least 5% free space on the volume(s) you wish to

defragment. This value is, however, dependent on the individual system configuration, the number of files and their size. On NTFS drives, it is particularly important to note the real free disk space. You can find this on the drive information dialog under **Free without res. MFT** This is the amount of space that is actually available for the applications such as O&O Defrag. Windows itself can write to the MFT reserved area, but for security reasons other applications may not. This is one reason why Windows displays more space than is actually available.

Carry on working whilst defragmenting without interruptions

Particularly in the case of workstations or servers that are under pressure all the time, it is important that the defragmentation can take place in the background without negatively affecting the day-to-day running of the system. In such situations, we recommend you use O&O ActivityGuard Pro, which keeps an eye on the resource usage and automatically adjusts the burden placed on your system by O&O Defrag.

User Interface (GUI)

Basics

O&O Defrag V8 offers you a completely new user interface, making it easier than ever to defragment your volumes. For example, we've integrated an XP-style task pane into the GUI, which lists for you the most important functions and explains them with useful tips. This task pane can also be used even with Windows NT4, so that the GUI is the same, whichever version of Windows you use.

Integration into the Microsoft Management Console (MMC)

O&O Defrag can be used as a Snap-In for the Microsoft Management Console (MMC) or as an independent application without the MMC.

The advantage of using the MMC is the framework provided by Microsoft, which allows you to integrate numerous system tools into the same operating environment. For example, the Computer Management used in Windows XP/2003 and Windows 2000 is a summary of the most important system tools – these used to be independent administration tools.

From Windows 2000, the MMC was integrated into the operating system. It can be installed free of charge if you're running Windows NT4. If you don't want to install the MMC, you can simply use O&O Defrag as an independent or "container" application. You will see the same user interface (GUI) as if you were using the MMC, and a detailed menu structure is also included.

The container application is also recommended if you only want to use O&O on your computer from time to time. However, the network functionality in O&O Defrag Server Edition can only be used within the MMC.

O&O Defrag Management Console

The O&O Defrag Management Console is used for the network administration of O&O Defrag. For the sake of simplicity, we will refer to

this as O&O Defrag Server Edition. This enables you to install, actualize, configure and remove O&O Defrag Agents in your network. The O&O Defrag Server Edition is a Snap-In for the Microsoft Management Console (MMC) and is based on our O&O Enterprise Management Console (O&O EMC). This provides the network functionality for O&O Defrag. It is part of the O&O Defrag Server Edition and is automatically installed with the network version..

The entire administration is embedded in the MMC, and corresponds to the Microsoft-defined standard. You can display the function menu via the relevant context menu or the actions menu. Frequently used commands are displayed as pictograms in the taskbar.
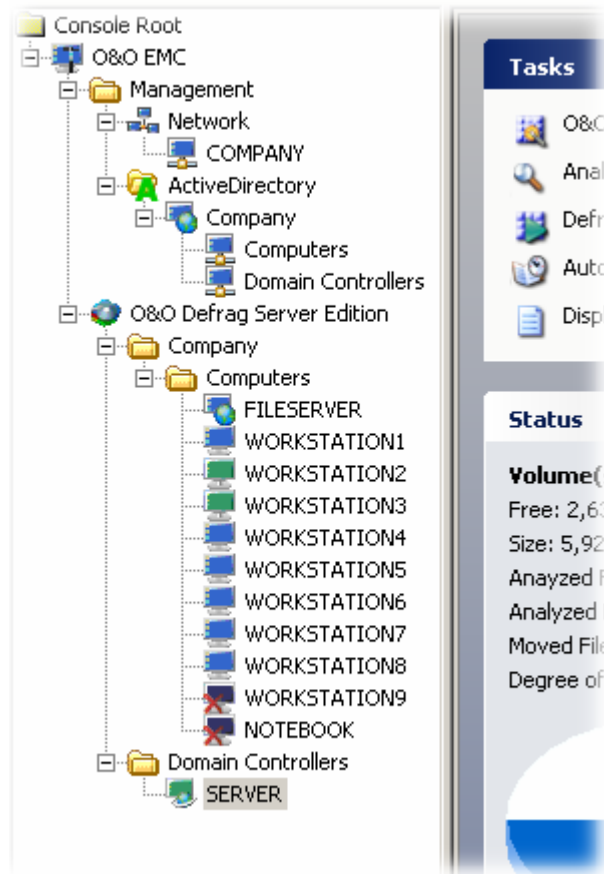
Management File

There are two branches in the management file:

- **Network** – displays all domains and workgroups in your network

- **Active Directory** – lists the Active Directory structure of the connected AD server.

If you activate the network branch, all domains and workgroups in your network will be shown. This search will take place in the background, so you can carry out other actions simultaneously. The display of the domains and workgroups corresponds with the network environment used in Windows.

The Active Directory branch shows the AD structure of your network, if available.
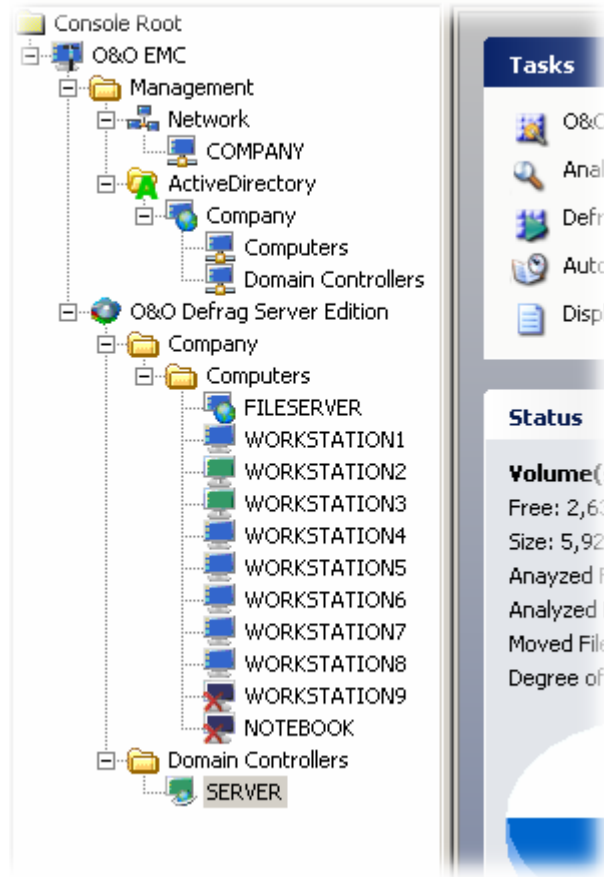
O&O Defrag Server Edition

O&O Defrag Server Edition administers your computers in groups, which we call "sites". These sites are the basis of defrag jobs, site reports and site configurations. You can group your computers independently of your existing domains and AD structure. For example, you can group all workstations and all servers together in two groups. Under the O&O Defrag Server Edition folder, you can see the sites that have been created. These are shown as folders and can contain as many computers as you wish. The computers that belong to a site are listed on the right hand side. There, you can toggle between different views. You can choose between three different views:

- **Reports** – includes all status reports from the site jobs.

- **Jobs** – contains all site jobs

- **Computer** – contains all the computers in one site. One site can also contain sub-sites (hierarchy).

ComputerControl and SiteControl

With O&O Defrag Server Edition, you have a choice of two views: ComputerControl und SiteControl.

The **ComputerControl** is used for defragmenting a single computer. It is exactly the same as the GUI used in O&O Defrag Professional Edition and offers True Remote Control, i.e., the functions and possibilities are the same as if you were actually sitting in front of the computer in question. So you can, for example, analyse individual volumes, look at the contents of the volume with O&O ClusterInspector and read status reports.

SiteControl allows you to defragment groups of computers. These are called sites. Sites can be placed in a hierarchy and aren't tied to the existing domain model. For example, you can group workstations and servers into two separate groups and administer them independently.

SiteControl allows you to create jobs and configurations that apply to all computers in the site. In this way, you can plan and roll out the defragmentation for your entire company in only a few steps. SiteControl also controls the O&O Defrag Agent with the help of the O&O ComponentInstaller. It automatically detects whether the agent is installed on the target computer. If it isn't, you can specify whether it should be automatically installed or not. Thus, you don't have to use any other software distribution mechanism to roll out O&O Defrag in your company.

Defragmenting a Computer (ComputerControl)

O&O Defrag Server Edition's ComputerControl is identical to the user interface found in O&O Defrag Professional Edition. You have exactly the same possibilities and options that you would have if you were sitting in front of the computer you want to defragment. You can therefore defragment individual computers, such as web servers, at a distance.

Menu and Taskbar

This contains all actions that you can carry out with O&O Defrag. The taskbar provides you with a shortcut to the most frequently-used menu actions, which you can perform with one click of the mouse. All views of O&O Defrag (except the task pane) also have context menus, which show you the command you can use within that view.

Task Assistant

In the O&O Defrag V8 the task assistant has been completely redesigned. This is designed in the familiar Windows XP style and can be found on the left hand side of the main window. Depending on which view you are currently using, the assistant displays the most frequent tasks. If you hover with the mouse over a task, a short explanation will appear.

The assistant appears in the cluster view and explains the different block colors. Clicking on the descriptions allows you to choose your own colors.

Note: The task assistant is also available if you're running Windows 2000 or Windows NT 4.
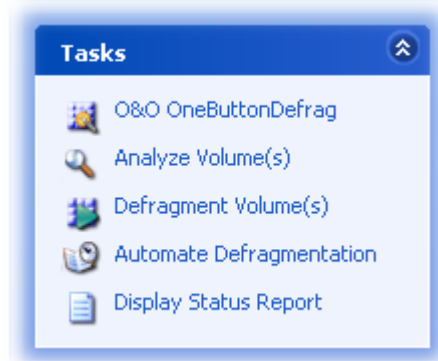
Volume List

The volume list displays information about the volume and the task which is currently being carried out. You can configure the list columns yourself. Simply select "Change columns" from the context menu.

As a default option, the following information is displayed; volume letter, status, progress in percent ("% completed"), fragmented files, size in MB, free space in MB, file system, time remaining and current file/directory.
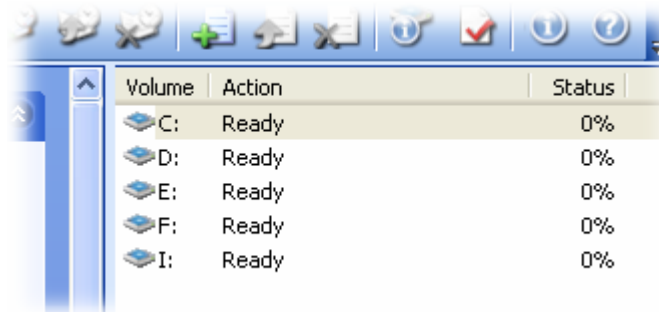
Job View

The job viewi displays all jobs on the computer. You can edit or remove these jobs. The job view can be selected by clicking on the "Jobs" tab in the main view.

Cluster View

The cluster view displays the contents of the volume chosen by means of a block graphic. Please note that you can display several volumes by dividing the cluster view. You can toggle between the cluster view and report view with the cluster view button.

For viewing purposes, a certain number of clusters will be summarized in one block. This number is displayed at the top of the cluster view. You can change the size of the blocks and the way they appear on screen (3D view/shading) with the context menu. The shaded view shows you how full the block is with darker and lighter shades. If you choose not to use shading, the block will be displayed in full color. Below you will find a description of all colors used

Description	Explanation
In processing (light blue)	O&O Defrag is currently working on one or more cluster in this block.
Fragmented (red)	At least one cluster belongs to a fragmented file.
Exclusively locked (dark red)	The block contains files that are exclusively locked by Windows or other applications (e.g. the registry).
Paging file (brown)	Block contains clusters from the pagefile.
Occupied (dark blue)	At least one cluster contains data.
Compressed (blue)	At least one cluster is compressed (NTFS only).
System (green)	At least one cluster belongs to a system file.
Reserved for the MFT (yellow)	At least one cluster is reserved for the MFT.
Directory (orange)	Block contains cluster of one or more directories (Windows 2000 or XP only).
Free (white)	All clusters are empty.

Report View

When you have chosen to have status reports created, these will be displayed in the report view. You can open a report by double-clicking on it and displaying it in your internet browser.

Defragmenting a Group of Computers (Sites)

With O&O Defrag Server Edition's SiteControl, you can change the configuration and scheduled jobs of a whole group of computers (a site). You can create a job for the site or change the standard configuration used for the defragmentation.

O&O ClusterInspector

To use the O&O ClusterInspector, activate the ComputerControl for the target computer and change to the cluster view.

O&O Defrag's ClusterInspector offers you a simple way of finding individual files within the Cluster View. The ClusterInspector can be activated by clicking on a block in the block view. The dialog window shows which clusters are occupied by which files. The first and last clusters will be followed by the file name.

To choose another cluster or block, click with the mouse over the start cluster in the block view. The list will automatically be updated. If you enter a cluster number below that is larger than the number of clusters on the volume, you will see an error message.
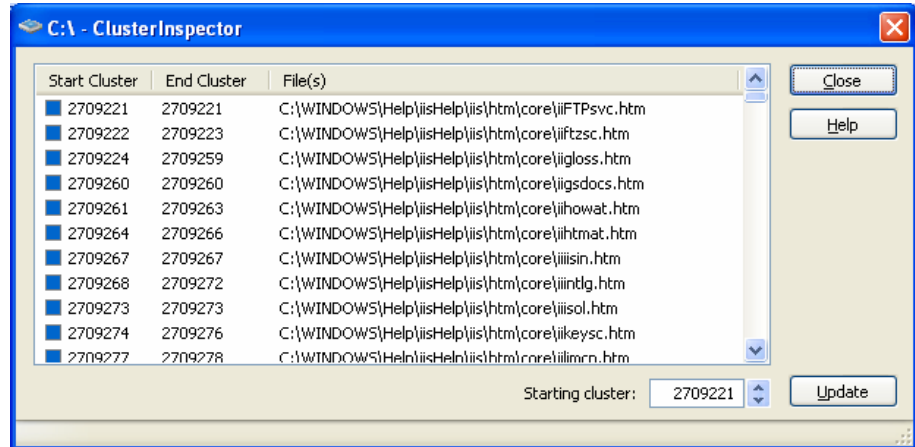
Volume Information

To see the volume information, activate ComputerControl for the target computer.

The volume information dialog can be opened either over the taskbar or the context menu on the volume display. There will be a separate dialog for each volume, and they will all be displayed tiled on the screen. The dialog shows you useful information about the volume and the fragmented files it contains. You can choose between four tabs:

General

This tab is divided into four parts and contains information about your drive, clusters and MFT. The pie chart changes as defragmentation takes place, and gives you information about the blocks.
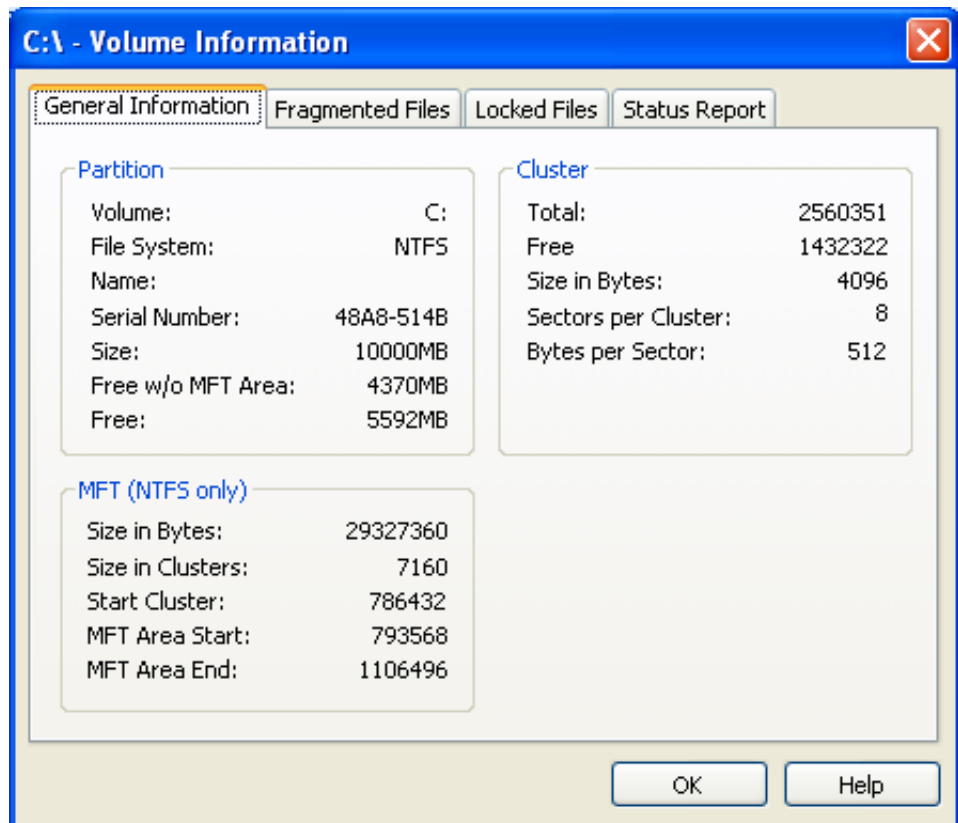
Fragmented Files

Here, you will find a list of all fragmented files with the number of fragments, start and end cluster. You can change the order of display by clicking on the columns.

Exclusively Locked Files

Here, you will find a list of all the system files that are exclusively barred by Windows and cannot be defragmented whilst your system is running. However, you can defragment these files as your computer boots up.

Status Report

The status report gives you information about the file system and the number of files on the volume, as well as the constantly updated progress of the defragmentation. This report contains the number of fragmented files before and after the defragmentation.

Defragmenting a Group of Computers (Sites)

Overview

O&O Defrag Server Edition divides your computers into groups, which we call sites. These sites are the basic administrative elements for defragmentation jobs, site reports and site configurations. You can group your computers independently of existing domain and AD structures. For example, you can group all your workstations and all your servers into separate groups.

Underneath the O&O Defrag Server Edition folders, you will see the sites you've defined. These are displayed as folders and can contain as many computers as you wish. The computers which belong to a given site are displayed on the right hand side. You can choose between the various views there. You have a choice of three views:

- **Reports** – contain all status reports for the site jobs

- **Jobs** – contains all site jobs

- **Computers** – contains all computers in the site, bearing in mind that sites can also contain sub-sites (hierarchy).

Creating a Site

To create a site, choose the command **add site** from the context menu or the **actions menu,** or click on the relevant button on the **taskbar.** These commands are available when either a site or O&O Defrag Server Edition is selected.

Adding Computers to a Site

To add a computer to a site, choose the command **Add computer** from the context menu or from the actions menu when the site is selected. You can also either click on the relevant button in the taskbar or move a computer by means of Drag-&-Drop into the required site.

Adding Domains or Workgroups

You can also add a complete domain or workgroup to a site. Pull the required domain or workgroup into the desired site by means of Drag-&-Drop.

Using Active Directory

With O&O Defrag V8, you can also add computers from your Active Directory to a site. Select the AD element from your AD structure (displayed under the AD branch) and pull into the desired site.

Finding a Computer on the Network

The ComputerBrowser will search your network for installed computers. In the console structure, domains and workgroups will be displayed.
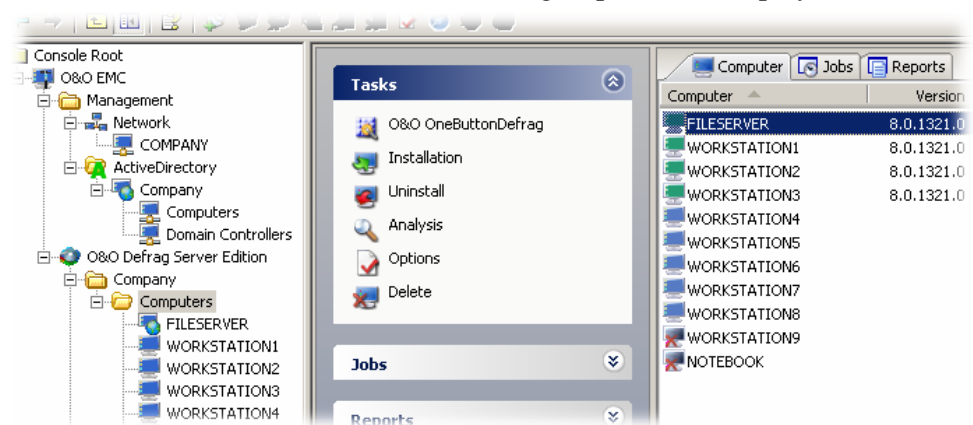
Removing a Site

To remove a site, choose the command **Remove** from the context menu or the **actions menu**, or click on the relevant button.

Note: Removing a site doesn't delete the site jobs from the computer. You have to specifically remove these from the job list!

Options

Options can either be applied to an entire site or an individual computer. Choose the entry "options" from the context menu of a particular site if you wish to apply the options to the whole site. This will overwrite the individual options and configurations for this computer.

If you want to change the options for one computer, select this computer within the site and choose "Options" from the context menu. The options for this computer will be displayed, and any changes you make will only apply to this computer.

General

The options determine how O&O Defrag analyses and defragments.

Reports and Event Logging

You can have reports created and display them as HTML documents. You can save a maximum of 999 reports for one computer.

You also have the opportunity to include O&O Defrag actions in the Windows event log – simply activate this option. You can specify yourself how detailed you want the log entries to be. Level 1 includes only errors, whereas Level 4 includes all information. Please note that this can consist of large amounts of information and requires a great deal of disk space.

Excluding Files

If you don't want to include certain files and/or directories, you can enter them here. These files will be ignored in the defragmentation

Control from the Taskbar

O&O Defrag displays a pictogram in the taskbar as soon as it begins an action (analysis or defragmentation), if you wish. After the action is finishes, this pictogram will disappear.

If you want to allow logged-in users to stop or cancel O&O Defrag jobs, activate this option. Otherwise, the user will only know about the defragmentation/analysis because of this pictogram and will not be able to interfere (unless he is the administrator).

Checking Volumes

You can have O&O Defrag check the integrity of your volumes before a defragmentation. If O&O Defrag finds errors on your disk, the defragmentation will not take place (for safety reasons). This check is like the Windows chkdsk function, but errors that are found will not be corrected. You can correct errors with the chkdsk function.
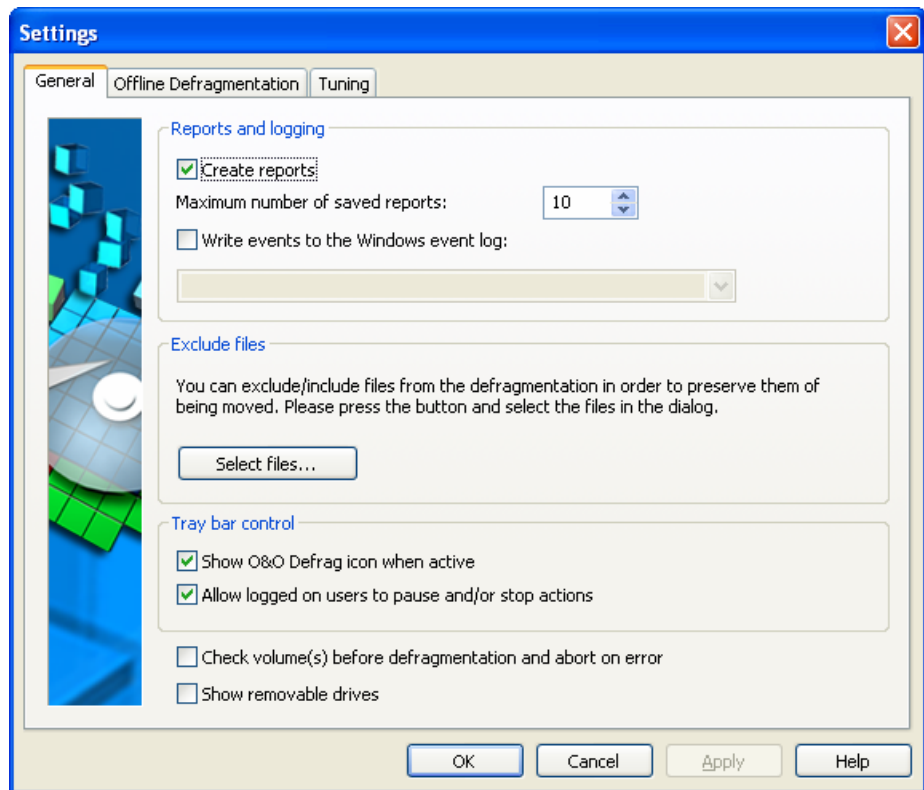
Offline Defragmentation

Using O&O Defrag V8, you can perform a so-called Offline Defragmentation – a defragmentation will be carried out upon system start-up, right before the whole operating system has been loaded. It is now possible, through this feature, to defragment files, which are in exclusive use by the operating system. These files are usually the page file, the registry databases, the hibernation file and the MFT (Master File Table).

Please note: O&O Defrag V8 is able to defragment the registry databases and the MFT on Windows XP and Windows 2003 Server. An offline defragmentation for these files is not required.

Please use the following steps in order to activate the offline defragmentation:

- Please choose, whether you would like the offline defragmentation to be performed once, on **next system start-up** only, or regularly, upon **each system start-up**

- Please select the volumes to be defragmented upon system start-up from the volumes list and enable the offline defragmentation using the **Activate** and **Deactivate** buttons.

You can disable the offline defragmentation at any time through the **Deactivate** radio button.
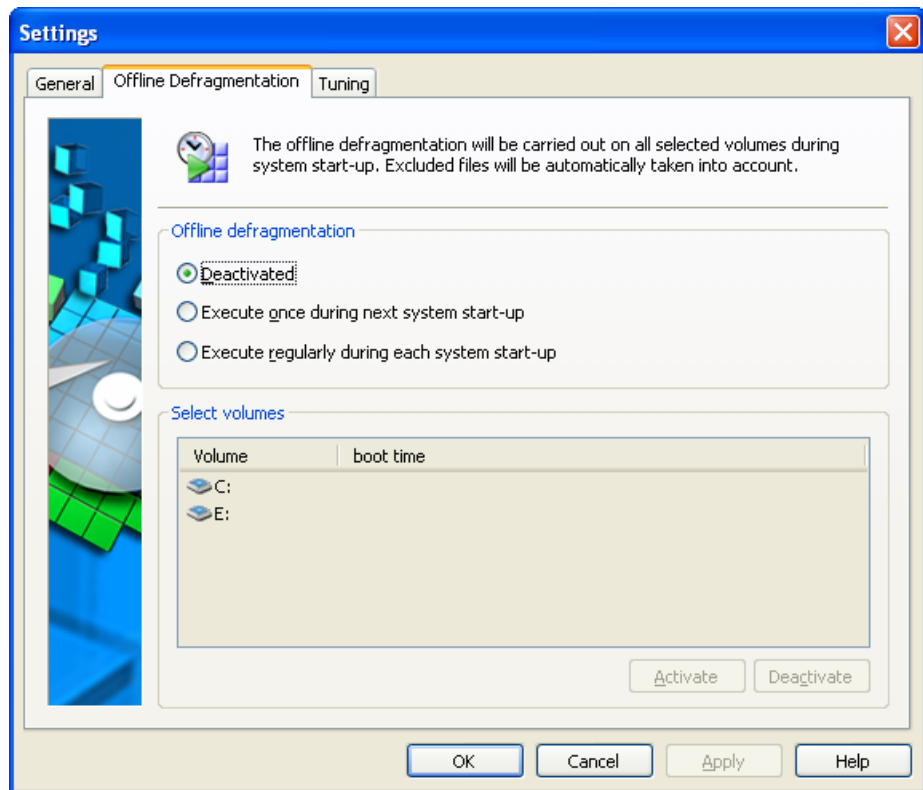
Tuning

O&O Defrag offers many ways in which you can make your defragmentation even more effective and efficient. The standard configurations are in any case optimized for most systems, so that you don't normally have to make any alterations here. However, you can also change the tuning options yourself.

O&O ActivityGuard Pro

This feature controls the demand on your system and automatically adapts them to the current circumstances. Thus, you can work undisturbed whilst your system is being defragmented. This is particularly helpful if you don't know exactly when a computer will be available for a defragmentation. Thanks to the O&O ActivityGuard Pro, you don't have to worry about that anymore.

The O&O AutoSense method regularly performs an automated check on how much of your resources are available for the defragmentation. This is the recommended configuration.

If you want to carry out the defragmentation as fast as possible, you can use all system power for this purpose. Please note that your other work can be affected by the defragmentation if you choose this option.

You can also give in the percentage of the resources O&O Defrag should use manually. O&O Defrag will then keep to this percentage and the rest of the resources will be available for other applications.

Carrying Out Defragmentation

You can defragment your volumes either in parallel or sequentially. Sequential defragmentation means that one volume will be defragmented after the other, in alphabetical order.

If you choose parallel defragmentation, volumes (partitions) that lie on physically separate hard disks can be defragmented simultaneously. This makes for a much faster defragmentation. If you only have one physical hard disk in your computer, your volumes will be defragmented sequentially.

Power Management

Power Management is a special feature for notebooks. You can specify that defragmentation does not take place if the notebook is working from battery power. This means your notebook battery will last longer. When the notebook is reconnected to the mains, the defragmentation continues as normal.

If your computer is switched off, O&O Defrag can "wake" it from standby mode. You can therefore defragment at night or at the weekend without having to leave your computer on all the time, and without you having to be there!
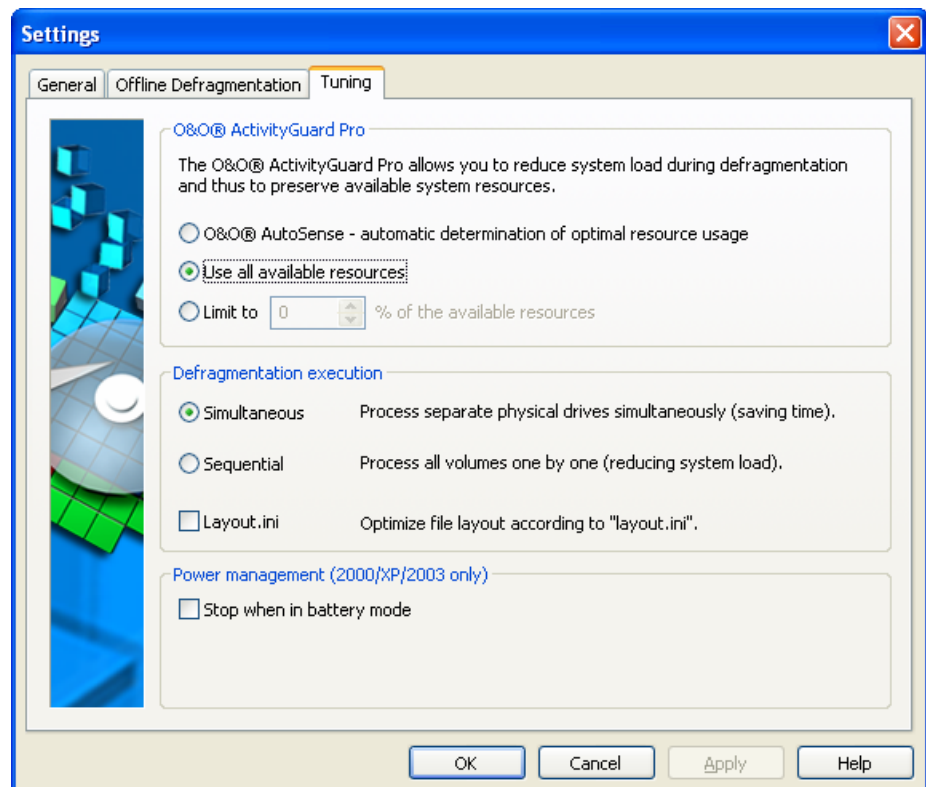
Screen Saver Mode

O&O Defrag can be instructed to always start when the screen saver is active. This will allow O&O Defrag to run only when your computer is idle. This option can be activated in the options dialogue.

Please note that O&O Defrag will only run when the screen saver is activated in Windows. More information on activating the screen saver can be found in the Windows help file.

As soon as the screen saver is ended (through user activity on the computer), O&O Defrag cease operation. When activated again, manually or automatically, O&O Defrag will continue from where it left off.

Automatic Defragmentation (Jobs)

Overview

Regular defragmentation is the key to consistent top performance. O&O Defrag offers you a sophisticated scheduling system, so that you don't have to run the defragmentation manually each time.

So-called defrag jobs allow you to define the time, action and other parameters for the defragmentation. You can configure all options as familiar from the options dialog.

In this Version 8 of O&O Defrag, the scheduling system has been completely re-worked and includes numerous new functions and possibilities.

You can create, change or delete jobs with this system. If you want to leave out a job for a short period of time, but don't wish to cancel it completely, you can deactivate it. The job won't then be carried out until you reactivate it.

The automatic scheduling system is also new in this version. With this option, O&O Defrag automatically detects the right time for the next defragmentation with the help of heuristic methods. As a rule of thumb – the more severely and quickly your system fragments, the more often it will be defragmented. If your system does not show a high degree of fragmentation, the frequency of the defragmentation runs will decrease.

O&O OneButtonDefrag

With O&O Defrag V8 you can automate the defragementation of your computer with just one click of the mouse. In the server edition, this can be done for all computers on a site.

1.   In the Job Assistant click on the feature "O&O OneButtonDefrag".

2.   An assistant will then open. Through this it will be possible to activate or deactivate this feature.

3. After the assistant has been completed, the defragementation of your computer is now automated. Depending on the degree of fragmentation on your storage volume, O&O Defrag will run in the background. This function can be deactivated at any time.

Computer and Site Jobs

The scheduling system included in the new O&O Defrag Server Edition represents a great breakthrough. Never before has it been so easy to defragment entire networks with a single job. In particular the deletion and addition of computers has been made much easier. Detailed status reports allow you to oversee the success of each job, and you are kept in the picture about the condition of the computers in your network.

Creating Jobs

To create a new job, select "Add job" from the menu or click on the appropriate button.

If you want to use a job that already exists as a guide, you can simply duplicate this job (from the menu, "Duplicate job"). You can then edit and save this.

You can define all options for this job in the O&O Defrag job dialog.

Job ID

Enter the name of your job. This will be used for the creation of reports and serves as information about which action is being carried out by the job. The name of the job is only important for this purpose and it is possible to use this name for other jobs too.

In the "Notes" field, you can enter any other information you wish to remember or share about the job.

Job Activated

If you want to leave out a job for a short period of time, but don't wish to delete it altogether, you can deactivate it. It won't run again until you re-activate it.
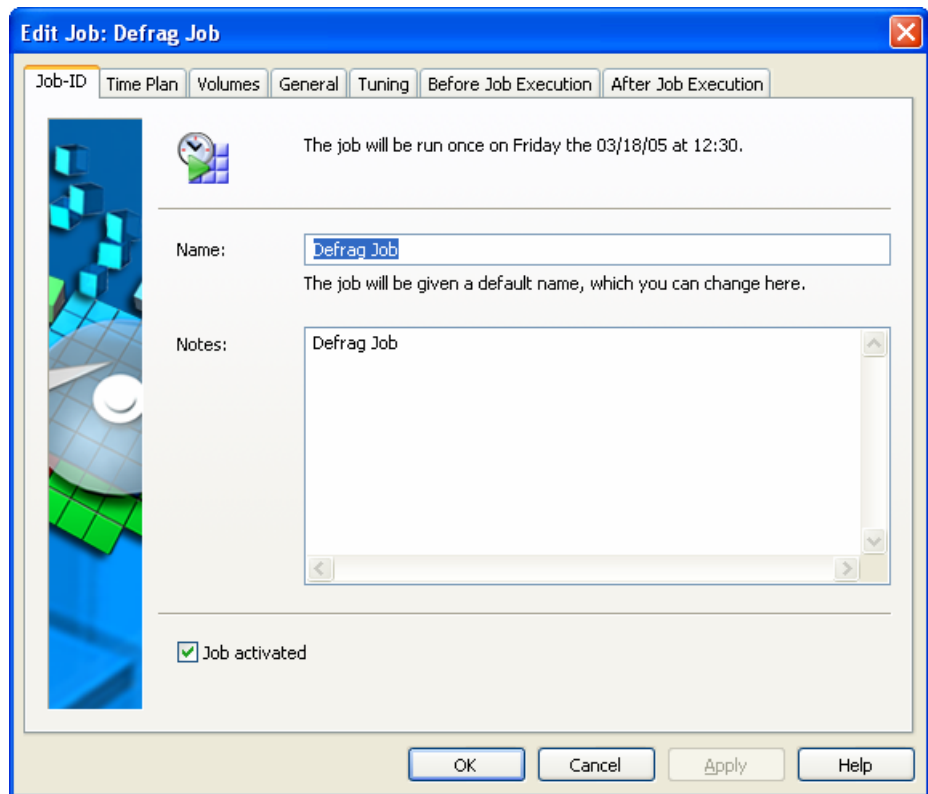
Scheduling

On the scheduling page, you can define the time at which the job should be carried out. You can run the job just once, weekly or even automatically. The options change according to the frequency you've chosen.

You can also enter advanced options. With the start and end dates, you can define the period over which the job should be carried out. The maximum running time limits the job to a particular time frame, after which the job will stop whether it has finished or not. The job will start from where it left off when the next defragmentation run starts.

If you want a job to be carried out more than once a day, enter the required time interval under "Start all new".

The option of starting the job later if a defragmentation is not possible at the given time is intended for systems that are not always on. Normally the job would simply be left out if the computer is switched off. If this option is activated, the defragmentation will be carried out in any case as soon as the computer is switched back on. This ensures that your job won't be left out.
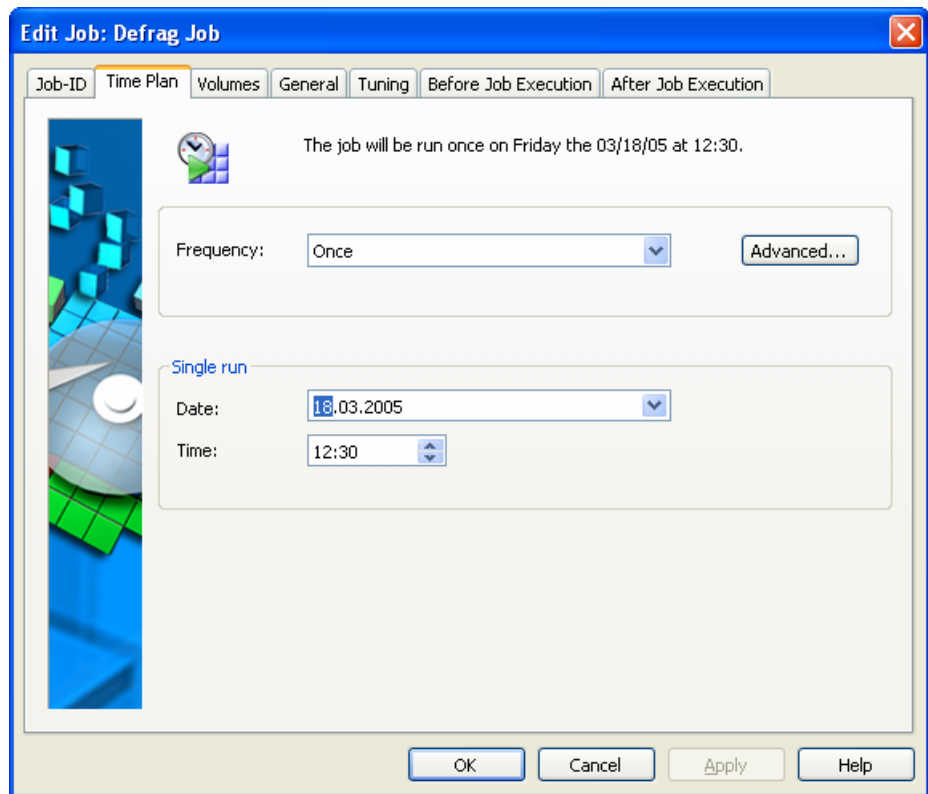
Volume

Choose the volume and the defragmentation method you wish to use. You can also activate the boot time defragmentation for each volume, so that blocked files can be defragmented when your system starts up.

By entering a fragmentation level, you can define the fragmentation level at which defragmentation will automatically be started. You can thereby significantly reduce the necessary number of defragmentation runs, if you are happy with a system that is not completely defragmented. 0 means that your system will always be defragmented. We would recommend you enter a value of between 2 and 5.

Select the volume, choose your method and further options, and then click on "Set". You can switch off the defragmentation by marking the volume and clicking on "delete".

If your system BIOS supports power management functions, you can get O&O Defrag to shut down or restart your system when the defragmentation is finished. If you chose to restart, the program can perform an offline defragmentation run. You can then leave your computer whilst it is being defragmented – it will shut down afterward automatically.
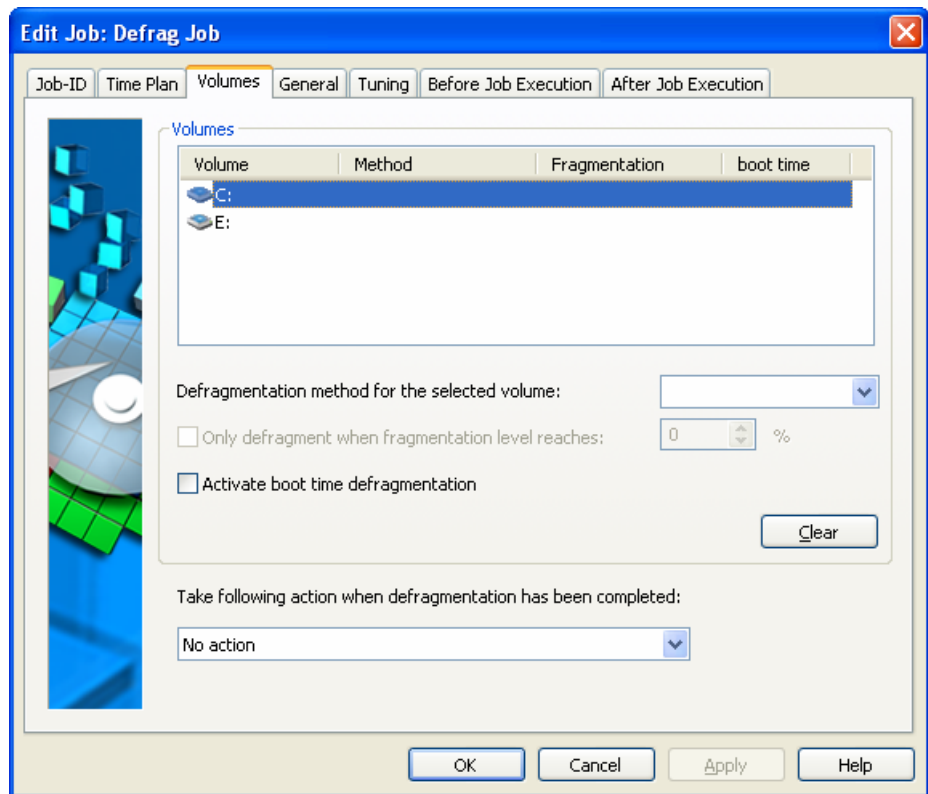
General

You can determine the options for each job as well as defining them for a computer. These job options then override the options for the particular computer whilst the job is being carried out.

Reports and Event Logging

You can create reports with O&O Defrag. These are the status reports that you can later view as HTML documents. You can save a maximum of 999 reports for each job.

If you also wish to carry out event logging of all O&O Defrag's actions in the Windows event log, activate this option. You can determine the level of detail – Level 1 only logs errors, whereas Level 4 logs all available information. Please bear in mind that this can constitute a lot of information and requires a large amount of free hard disk space.

Excluding Files

If you don't wish to defragment particular files and directories, you can enter them here. These files will be ignored by the defragmentation.

Controlling from the Tasktray

If you wish, O&O Defrag can display a pictogram in the tasktray when an action (analysis or defragmentation) begins. When the action has been completed, this will be removed.

If you want to allow the current user to pause or stop O&O Defrag, you can activate this option. Otherwise, the user will only be informed about

the defragmentation by the pictogram, and cannot intervene in the program (if he isn't the administrator).

Check Volumes

You can get O&O Defrag to check the integrity of your volumes before each defragmentation. If O&O Defrag finds errors on your volumes, the defragmentation will not be carried out (for safety reasons). The checking of your volumes is like the chkdsk function in Windows, although the errors won't be corrected. You have to do this yourself with the chkdsk function.
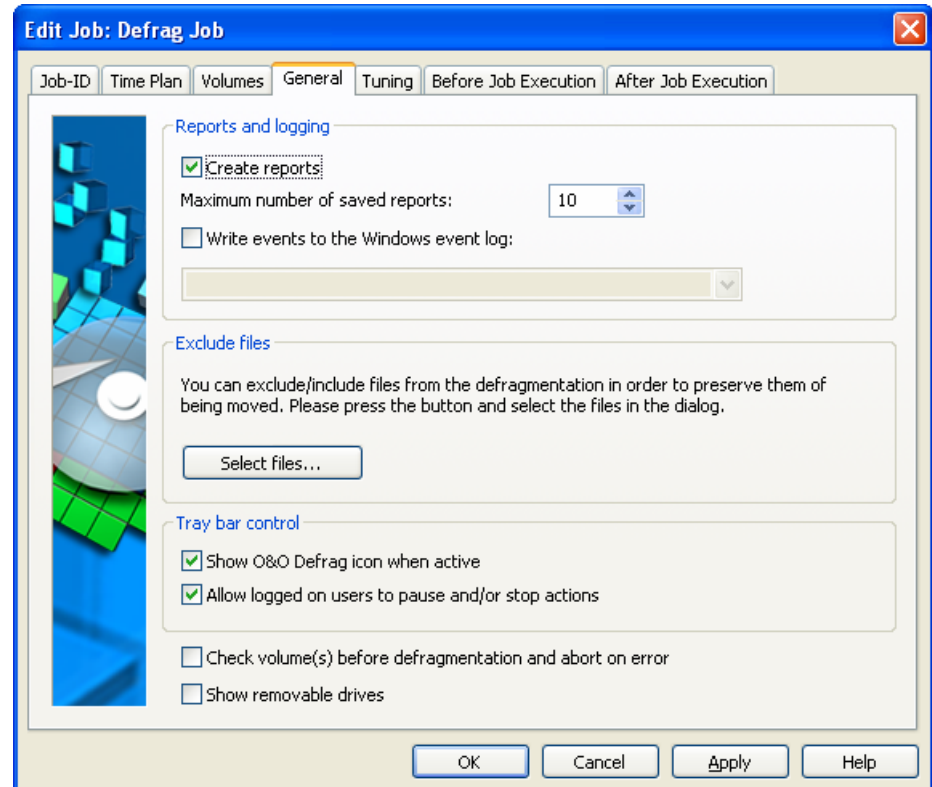
Tuning

O&O Defrag offers you many ways of making your defragmentation even more effective and efficient. The standard options are optimized for most systems, so you won't normally have to change these. However, you can adapt these configurations yourself.

O&O ActivityGuard Pro

This feature controls the burden on your system caused by the defragmentation, and automatically adapts it to the current situation. You can carry on working without interruptions whilst the defragmentation runs in the background. This is particularly useful if you don't know when a computer will be available for defragmenting. With O&O ActivityGuard Pro, you don't have to worry about this.

The O&O Auto Sense method automatically detects the resource usage at regular intervals. This is the recommended setting.

If you want to carry out your defragmentation at the highest possible speed, you can use all of the computer's power for this. Please note that this can influence other work on the computer.

You can also give in manually the percentage power O&O Defrag should use. O&O Defrag will only use this percentage, and the rest will be available for other applications.

Defragmentation Execution

You can defragment your volumes either parallel or in sequence. Defragmenting in sequence means that the volumes will be defragmented one after the other in alphabetical order.

If you choose parallel defragmentation or volumes that lie on physically separate drives (partitions) will be defragmented at the same time. This significantly speeds up the defragmentation. If you only have one physical hard drive on your system, the volumes will be defragmented in sequence.

Power Management

Power management is especially intended for notebooks. You can specify that defragmentation should not take place when the notebook is running on battery power. When the notebook is reconnected to the mains power, the defragmentation will automatically be resumed.

If your computer is switched off, it can be roused by O&O Defrag out of standby mode to carry out the defragmentation. You can thereby defragment at night or at the weekend without having to be physically present or leaving the computer on.
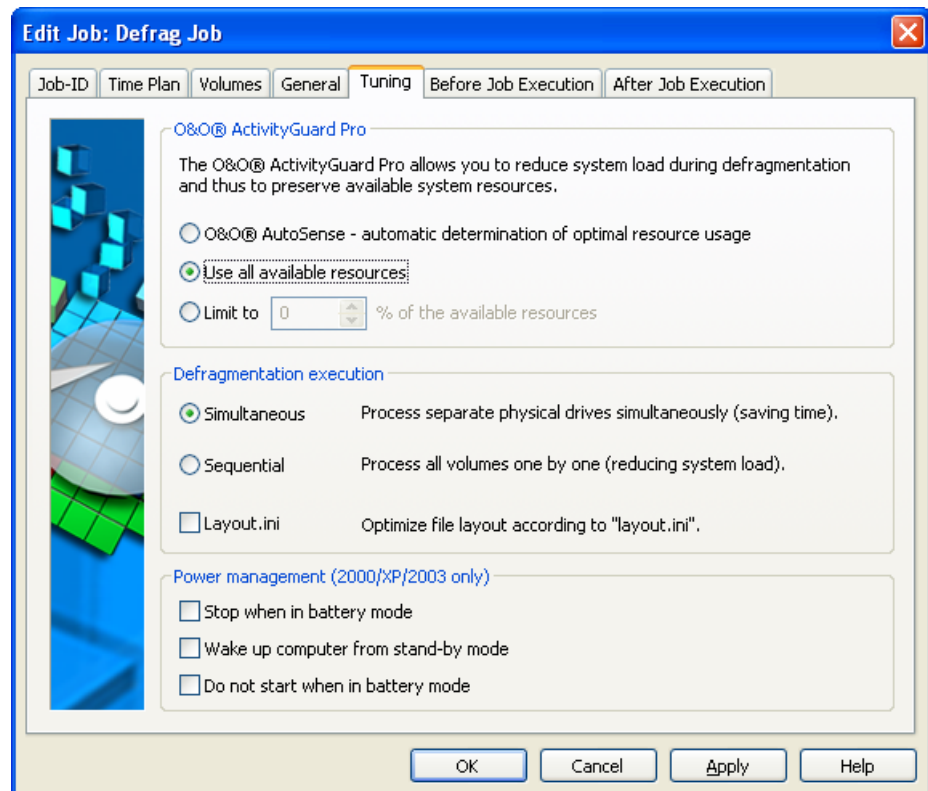
Screen Saver Mode

O&O Defrag can be instructed to always start when the screen saver is active. This will allow O&O Defrag to run only when your computer is idle. This option can be activated in the options dialogue.

Please note that O&O Defrag will only run when the screen saver is activated in Windows. More information on activating the screen saver can be found in the Windows help file.

As soon as the screen saver is ended (through user activity on the computer), O&O Defrag cease operation. When activated again, manually or automatically, O&O Defrag will continue from where it left off.

Batch Execution Before and After a Job

Executing batch commands before and after O&O Defrag enables you, for example, to pause certain Windows services before defragmenting a disk volume and then continuing them afterwards. Files that are normally in use by other applications can now be defragmented online without difficulty or risk to the system's stability. If you are using O&O Defrag on a Microsoft Exchange or SQL server, you can pause these services, run defrag, and then automatically restart them all in one command. Scripts are no longer needed. Everything can now be controlled from the user interface in O&O Defrag. Further information regarding the creation of batch files can be attained through our technical support department.

Executing a Batch Before a Job

When this option is activated, all of the commands entered into the text field will be executed before defragmentation is run. You can import an existing file and insert its contents into the text field. To do so, simply click on the Import button and select the desired file in the dialog box. (.BAT, .CMD, or .TXT). Confirm your selection by clicking OK.

Please note: All commands must both exist and be executable on the destination computer. All commands are run by the SYSTEM username and with its corresponding permissions. More information regarding the creation of Batch files may be acquired from our technical support department.

Executing a Batch after a Job

If this option is activated, the commands entered in the text field will be executed after defragmentation is run. The entry and execution of commands after a job are similar to those for jobs executed before a job.

Please note: All commands must both exist and be executable on the destination computer. All commands are run by the SYSTEM username and with its corresponding permissions. More information regarding the

creation of Batch files may be acquired from our technical support department.
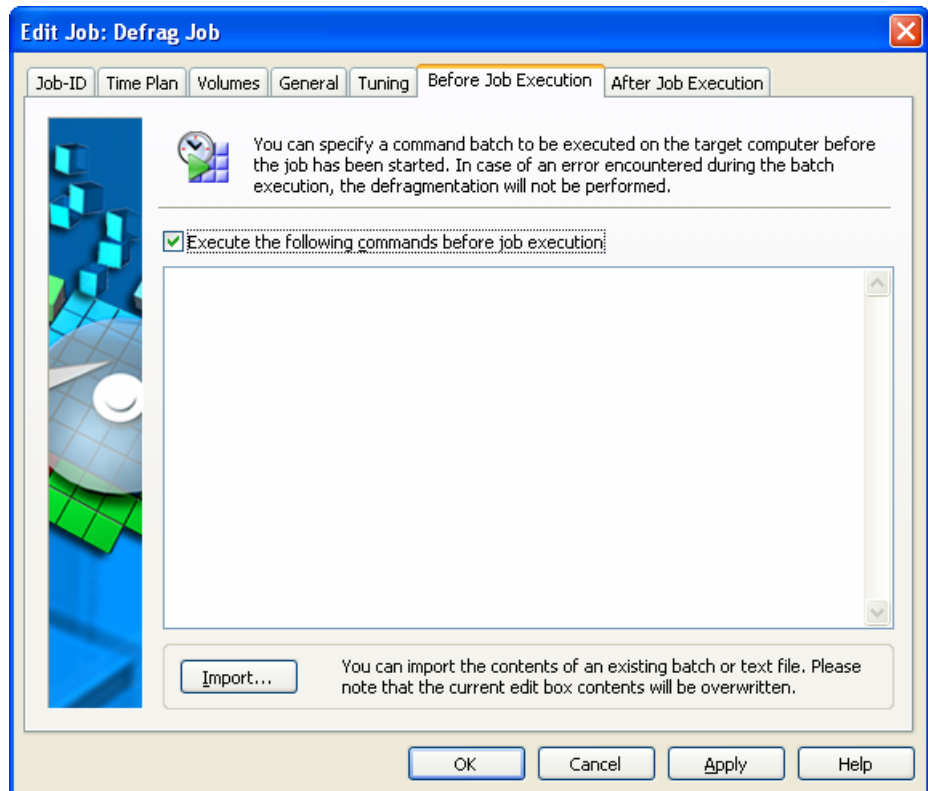
Changing a Job

You can change a job by selecting it in the job view and clicking on the "Change" button in the toolbar.

The O&O Defrag job dialog will appear with the options fort hat job. Change the options that you wish to and then confirm this by clicking "OK". If you don't want to apply the changes, simply click "cancel".

You can find more explanation about the job options in the section "Creating Jobs".

Deleting a Job

Choose a job from the job list and choose either "Delete job" from the menu or click on the button in the tool bar.

The job will then be removed from the computer. Any action currently taking place will be stopped.

Adding Computers to Jobs

To add a computer to an existing job, complete the following steps:

1. Select the site to which the relevant job applies.

1. Add the computer(s) to the site with drag-and-drop or the context menu.

2. Change to the job view and update the jobs list.

3. Send the job list to all computers. The computers you have added will automatically be included in the site.

Please make sure that the computers you have added are switched on when you add them to the jobs. You can update later, and as often as you like.

Updating Jobs on the Computer

To update the jobs on a computer, complete the following steps:

1. Select the site which contains the jobs to be updated.

4. Switch to the job view and update the job list.

5. Send the job list to all computers once more. The computers then automatically include all site jobs.

Please make sure that the computers you have added are switched on when you add them to the jobs. You can update later, and as often as you like.

Status Reports

Overview

Status reports give you information on the status of your computer or of the computers in your network. They sum up all of the relevant information about a volume such as its name, size, file system, level of fragmentation, recent actions, the time needed, etc.

The reports are HTML documents and can be read with any internet browser.

Status Reports Show Increases in Performance

Status reports all have a date and time of creation which allows you to compare them and see how performance has improved.

Site-Jobs Status Reports

O&O Defrag Server Edition also gives you, on top of the normal computer status reports, site status reports.

These reports list in an HTML document the actions of a site job for all the relevant computers and also contain statistics on the actions (analysis or defragmentation). These values are summed up again, so as to make the report readable for big sites.

The software also creates the normal status reports for each computer, allowing you to get more detailed status information whenever you need it.

Site status reports provide a great help to keep track of the performance changes of your network computers. They allow you to always keep an eye on the actual numbers and recent developments.

Creating Status Reports

Status reports are made after each analysis and each defragmentation if you've activated the creation of status reports. This can be done in the

options dialog. You can keep a maximum, of 999 reports for one computer, after which the oldest reports will be replaced by newer ones.

- In the volume list, click on the volume for which you wish to create a status report.

- Create the status report with the command in the Task pane ("Create Status report").

- The volume will be analyzed, as you can see from the volume icon and the view of the progress.

- Once the analysis is finished, the status report is automatically saved and opens up.

Tip: You can also create a status reports for several volumes at the same time. To do so, hold the Ctrl key down and click on the volumes.

Evaluating Status Reports

O&O Defrag V6 status reports allow you to keep track of the fragmentation and defragmentation of a system. It contains all important information regarding your hard disk volumes.

The level of fragmentation is particularly important as it represents a fragmentation value which allows the comparison of volumes of different sizes and with different systems. This value ranges from 0 (completely defragmented) to 100% (completely fragmented). It is best to have a value below 10%. You can also use this value in jobs to define a threshold for an automatic defragmentation.

Deleting Status Reports

Click on the report you wish to erase in the list of reports and launch the command from the context menu, the task assistant or the symbol buttons. The report will be removed from your system.

Technical Information

Installation on Network Computers with the O&O ComponentInstaller

The O&O ComponentInstaller is responsible for the installation and uninstallation of the O&O Defrag agent on the target computers. If a particular computer is to be equipped with a component for O&O Defrag Server Edition, but the relevant agent is not available on this computer, the O&O ComponentInstaller will automatically be activated to complete this task.

The O&O ComponentInstaller Agent is installed as a service on the target computer. This agent works independently of the user who is logged in. It doesn't make a difference if a user is logged on at the time of installation or which access privileges he has over the target computer.

Installation takes place in the background, that is, the user who is logged on won't know about the process. During the installation process, a compressed installation package with all the necessary files is sent by the network to the ComponentInstaller on the target computer. The agent extracts the contents of the package and carries out the installation in the background. The logged-on user's work is not affected by this is any way, and the user does not have to intervene manually at any point (indeed, he cannot do this).

Activating the O&O ComponentInstaller

You can call up the O&O ComponentInstaller over the context menu of a computer in a site. You can thereby install, remove and configure the O&O ComponentInstaller on any given computer.

Usually there is no need to carry out a manual installation, as the O&O ComponentInstaller Agent will be installed automatically.

Working with the O&O ComponentInstaller

The O&O ComponentInstaller Agent dialog contains two tab cards:

General

You can gain the following information from the general tab card:

- **Version** of the agent

- **Name and operating system** for the target computer

- **Protocol level** for the agent

Every action that is carried out will be registered in the event log by the ComponentInstaller agent and in the computer's own event log.

There are five levels for the degree of detail in the recorded information:

Level	Description	Explanation
0	**off**	No logging
1	**Critical error**	Logging of critical errors
2	**Error**	Logging of every error
3	**Warning**	Additional logging of every warning
4	**Information**	Logging of all information

Level 3 is recommended and is therefore set as the default. The log file oocinst.log will be saved to the SYSTEM 32 directory on the target computer. The complete path is:

<Windows-Pfad>\system32\oocinst\oocinst.log

Installation Tab Card

In the installation tab card, you can carry out the following actions:

- **Install** O&O ComponentInstaller on a target computer

- **Uninstall** O&O ComponentInstaller from a target computer

- **Update** O&O ComponentInstaller (button is only active when there is a newer version installed on your computer)

Automatically Installing an O&O Defrag Agent

As soon as you try to use O&O Defrag on a network computer when the relevant agent is not installed, you will be invited to install it.

If the O&O ComponentInstaller isn't available on the target computer, you will also be invited to install this. Otherwise, you won't be able to automatically install O&O Defrag.

During the installation, the following dialog will be displayed:

- **"Close this dialog after successful installation"** closes the dialog automatically when installation is completed.

- **Cancel** ends the installation process.

Automatically Uninstalling an O&O Defrag Agent

As soon as you delete a computer from a site, you will be able to uninstall the O&O Defrag-Agent from the target computer (after a quick message to check that this is what you wish to do).

You will have three choices when this message is received:

- Yes starts the uninstalling of the agent from the target computer.

- No leaves the agent on the target computer, and only the plug-in will be deleted.

- Cancel **stops the whole process, i.e. no uninstall will take place and the plug-in will be left on the O&O EMC.**

If you have chosen to uninstall the agent, the uninstall dialog will open and the uninstallation will take place on the target computer.

Close the dialog when the process has finished with the **Close** button. You can cancel the uninstall process at any time using the **Cancel button.**

Known Restrictions

- The target computer must be switched on.

- The target computer must be connected to the network.

- The user who wishes to carry out the installation must be a member of the local administrator group.

TCP Ports Used

O&O Defrag uses sockets for network communication. The communication takes place via the administrator console (O&O Defrag Server Edition) and the agent on the target computer. The following TCP ports are used for this:

- Port 50100,

- Ports 50200-50209 and

- Ports 50300-50309

Please make sure that these ports are open for communication. This is generally the case, as these ports tend not to be used.

If you use firewalls in your company, you can of course block these ports for external communication (e.g. for connection to the internet. The ports only have to be available on your local network. Please make sure this is the case if you have local firewalls on your computers.)

Using the Command Line Version

You can also control the defragmentation by means of the command line version of O&O Defrag. In this way, you can also integrate O&O Defrag into scripts that you run at startup or log-in.

When you start the program from the command line, the main interface window will not appear. A mini O&O Defrag icon will appear in the tasktray, and you can follow the progress of the actions in your DOS prompt.

O&O Defrag runs independently of the main user interface and the DOS prompt in the background. If you close the DOS prompt or cancel the command line tool with Ctrl+Break/Ctrl+C, you can choose whether to end the program or have it run on in the background. You can also cancel the processes later with the STOP command,

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Tip: If you start O&O Defrag from the command line, you can also start the main user interface later. This will show you the status as usual, and you won't be interrupting or stopping the running processes.

Starting O&O Defrag

The following list shows you the possible parameters for the command line version.

OODCMD {C:[,] | ... | Z:} | {/{<COMMAND>}{C[,] | ... | Z | ALL}} [/MAXUSAGE:AUTO|0..100|MAX] [/OUTPUTFILE:<File name>] [/SILENT] [/NOHEADER] [/NOWAIT] [/WAITKEY]

<COMMAND> must be one of the following volume commands:

ANALYSIS, COMPNAME, COMPACC, COMPMOD, FRAGFILES, SPACE, STEALTH

Parameter

Syntax	Description
/ANALYSIS:{C[,]	...	Z	ALL}	Analyses the given volume. The result will be shown in one of the display possibilities (generally the DOS prompt), or written into the output file.
/COMPACC:{C[,]	...	Z	ALL}	Starts the COMPLETE/Access defragmentation on all the given volumes, or on all volumes on the system (ALL).
/COMPMOD:{C[,]	...	Z	ALL}	Starts the COMPLETE/Date defragmentation on all the given volumes, or on all volumes on the system (ALL).
/COMPNAME:{C[,]	...	Z	ALL}	Starts the COMPLETE/Name defragmentation on all the given volumes or on all the volumes on the system (ALL).
/FRAGFILES:{C[,]	...	Z	ALL}	Analyses the given volume and lists the fragmented files. The result will be shown in one of the display possibilities (generally the DOS prompt), or written into the output file.
/INFO:{C[,]	...	Z	ALL}	Shows the volume information for all the given volumes, or for all volumes on the system (ALL).
/MAXUSAGE:AUTO|0..100|MAX	Activates the O&O ActivityGuard Pro and configures the resource usage. This value has priority over that given in the options dialog.
/NOHEADER	Stops the display of the program information when the program is started from the DOS

	prompt.
/NOWAIT	Starts the given operation and starts the command line program immediately. The operation runs in the background. This is useful if you want to start an operation with a multiple file, but don't wish to wait until this process has finished.
/OUTPUTFILE:<File name>	All output values will be saved to a file with the given path and name.
/SILENT	There are no output values.
/SPACE:{C[,] | ... | Z | ALL}	Starts the SPACE defragmentation on all given volumes, or on all the volumes on the system (ALL).
/STEALTH:{C[,] | ... | Z | ALL}	Starts the STEALTH defragmentation on all given volumes, or on all the volumes on the system (ALL).
/STOP:{C[,] | ... | Z | ALL}	Stops all processes (analysis, defragmentation etc) on the given volumes, or on all volumes on the system (ALL).
/WAITKEY	Waits for a keystroke before ending the command line program (once the operation has ended).

Status Reports and Program Output

Event Logging of Online Defragmentation

O&O Defrag logs the events in the system application log (Event viewer) according to the option you have chosen.

How to start the event viewer when running Windows NT4:

• Click on Start, then on Programs, then on Administration, then on the event view.

How to start the event viewer when running Windows 2000:

• To open the event view, click Start, the Settings, then on the control panel. Double-click on Administration, then Event Viewer.

How to start the event view when running Windows XP/2003:

• Click on Start, then Control Panel, then on Administrative Tools, then double-click on Event Viewer.

Outputs from Offline Defragmentation

The following table contains a list of all possible outputs from the offline defragmentation, along with an explanation.

Ouput	Type	Explanation
OK	STATUS	The given file was successfully defragmented.
Already defragmented	STATUS	The given file has already been defragmented.

Volume xyz could not be opened	ERROR	The given volume could not be found by the system, or the file system is not supported.
Could not open volume	ERROR	An internal error has occurred, suggesting a lack of free space or wrong registry entries for the boot time defragmentation.
Could not open file	ERROR	The given file could not be found, is encrypted or has been exclusively locked by the system.
Not enough space to move	ERROR	Contiguous free space is required to move a file somewhere else on the disk, and this amount of space must be at least as large as the file. The defragmentation cannot take place as there is not enough free space.
Could not be moved	ERROR	The defragmentation failed because of problems with the file system. The file is still fragmented.
MFT could not be defragmented	ERROR	The defragmentation of the MFT failed because of problems with the file system It is still fragmented.
Not enough space to move the MFT	ERROR	In order to defragment the MFT contiguous free space at least as large as the MFT must be available. The defragmentation cannot be carried out, as not enough free space is available.
Could not write to partition	ERROR	A file system error has occurred during the MFT defragmentation. This means that the program could not write on the disk. The MFT has not been changed and is still fragmented. The volume should be checked for errors.
Attribute error in the MFT. Please start chdsk.	ERROR	Erroneous entries in the MFT were found during the defragmentation. The volume should be checked for errors.

Data Security and Integrity

O&O Defrag guarantees you complete data integrity and security. The only functions that are used for the defragmentation are already integrated into Windows XP/2003, Windows 2000 and Windows NT 4. No other functions or Workarounds are used.

File attributes (Date, Time, System, Archive etc.) and the security settings for NTFS volumes will not be changed, and nor are access rights. Also, only one file per volume will be processed at any one time. This ensures that even in the worst case scenario, only one file can be lost (e.g. if there is a power cut). If you have any further questions about data security, or if you need more information, please don't hesitate to contact us.

Supported Hardware

O&O Defrag supports all hardware components that are also supported by Windows XP/2003, Windows 2000 and Windows NT 4. Please bear in mind the software demands of the relevant manufacturer.

As a rule: If you can access your hardware with Windows just as you could a normal Windows partition, then this hardware can be defragmented. Exceptions are drives such as CD-RWs, or streamers – in any case it makes little sense to defragment such drives.

RAID

O&O Defrag V8 supports all known RAID systems. According to many hardware manufacturers, defragmenting RAID systems is especially important – since the files are spread over several hard disks, they are particularly likely to fragment to a large extent.

Supported File Systems

O&O Defrag supports all file systems from Windows XP/2003, Windows 2000 and Windows NT 4, though certain conditions must be respected to allow O&O to work without any problem. The following paragraphs will tell you more about each of these file systems.

FAT

FAT is the oldest data system, the roots of which go back to MS DOS. It is supported by Windows XP/2003, Windows 2000 and Windows NT 4. O&O Defrag can be used without any problem on FAT drives.

FAT32

FAT32 is the native file system of Windows 95b/98/Me. Compared to the old FAT, it offers certain advantages but is not supported by Windows NT 4. Windows XP/2003 and Windows 2000 offer an integrated support of FAT32, which allows O&O Defrag to function perfectly.

NTFS

The NT File System is the continuation of FAT for Windows XP/2003, Windows 2000 and Windows NT 4. It allows security restrictions for the access of data and offers a higher security regarding file errors and fast access to data.

It is the native file system of both Windows XP/2003, Windows 2000 and Windows NT 4 and therefore allows O&O Defrag to access these drives.

NTFS5

The release of Windows 2000 introduced the new generation of NTFS. This allows an easy access to NTFS5 drives under Windows XP/2003 and Windows 2000.

If however you wish to access an NTFS5 drive under Windows NT 4, you need to install Service Pack 4, which contains drivers for NTFS5. These guarantee compatibility in case of dual installations with Windows XP/2003/2000.

NTFS5 has specific file system properties, some of which already existed on the older NTFS. The following list shows which O&O Defrag properties are supported:

- Reparse Points

- Folders can be defragmented online with Windows XP/2003 and Windows 2000

- Multiple Streams

Volume-, Stripe-, Mirror-Sets and Hardware RAID

O&O Defrag entirely supports Volume-, Stripe- and Mirror-Sets. This is also valid for Hardware RAID systems.

EFS (Windows XP/2003 and Windows 2000 only)

A new file system based on NTFS and with a higher data security against unauthorized access was introduced together with Windows 2000. The Encrypted File System (EFS) leaves files unreadable for non authorized users. O&O Defrag supports EFS hard drives and neither changes nor disturbs the integrity and security of files.

Free Space Needed for Defragmentation

The following limitations are valid for O&O Defrag and are caused by Windows XP/2003, Windows 2000 or Windows NT 4. They cannot be worked around without endangering the integrity of your files.

Size of the Allocation Units

The size of the allocation units on NTFS drives on Windows NT and Windows 2000 has to be equal to or smaller than 4096 Bytes. Bigger NTFS drives cannot be defragmented. The size of the allocation unit cannot be changed after Windows has been formatted. You will however find third party tools which give you this possibility.

Note: These limitations were removed under Windows XP and Windows 2003 so that all drives, regardless of the size of their allocation unit, can be defragmented.

Size of Hard Drive

All hard drive sizes supported by Windows XP/2003, Windows 2000 and Windows NT 4 are supported.

O&O Defrag Version 8 was developed to be used on servers with a storage capacity of more than 1 terabyte. To learn more about this, please read about our new STEALTH technology.

Folders

Any number of folders can be defragmented. O&O Defrag administrates memory optimally, so as to record all file and folder information. To learn more about this, please read about our new STEALTH technology.

Free Hard Disk Space

Disks without any free space cannot be defragmented. For the best possible results, at least 5% of the whole hard disk capacity should be free. Files with a size larger than the free space available could otherwise not be defragmented.

To speed up the defragmentation process, we recommend you keep about 10 to 15% of free space on your hard drive, though the bigger the hard drive, the smaller this percentage. What really matters is the size of the biggest file that needs to be defragmented or moved around- for this one, you must have enough contiguous free space.

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O&O Defrag V8 Professional and Server Edition

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If you have any questions regarding the licensing of O&O software or you wish to contact O&O, please get in touch with us as follows:

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