

Paragon Exact Image

User Manual

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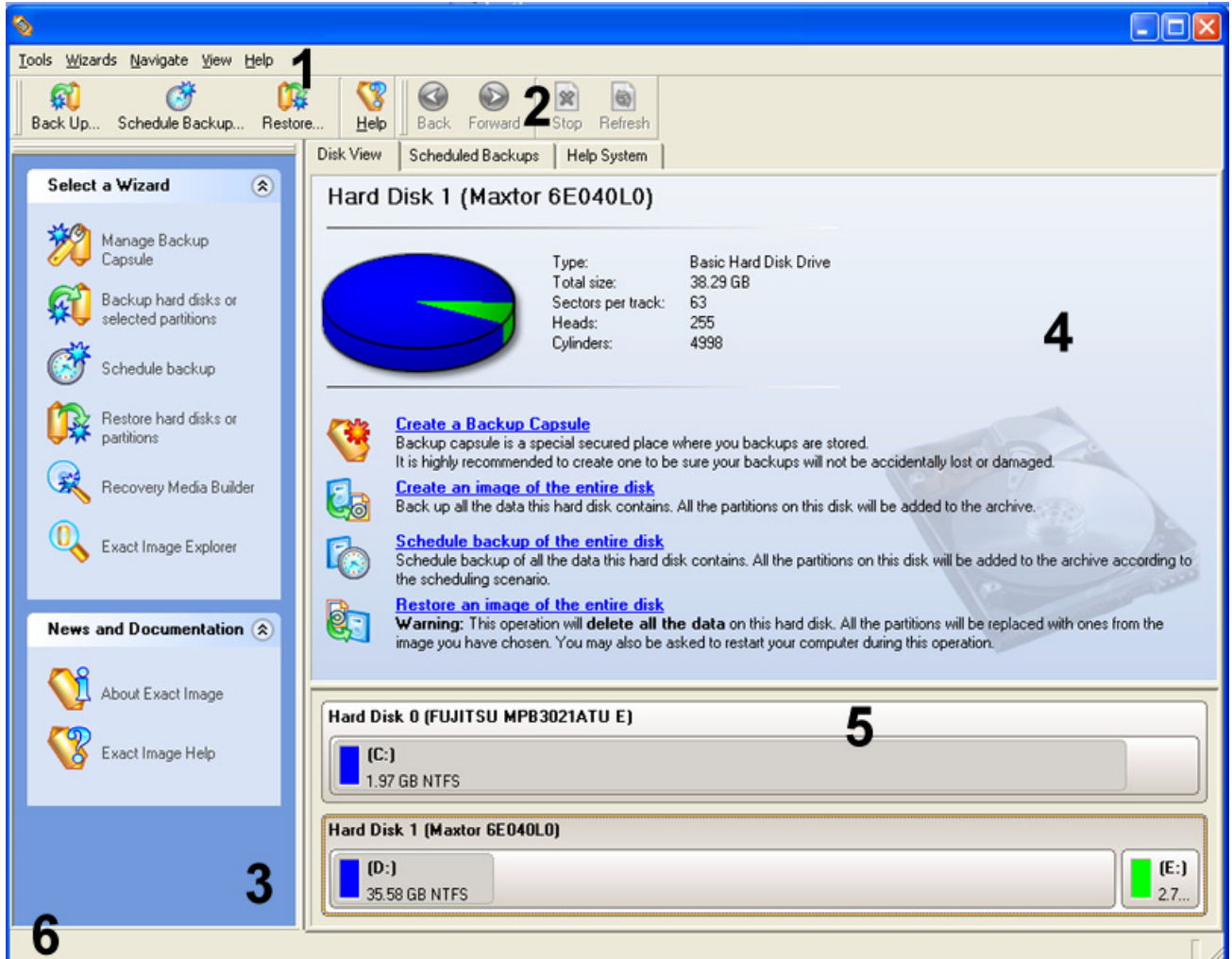
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Some of the panels have similar functionality with a synchronized layout. The program enables the user to conceal some of the panels to simplify the interface management.

All panels are separated by vertical and horizontal expandable sliders, allowing the user to customize the screen layout.









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Main Menu

Tool Bar

The Toolbar provides fast access to the most frequently used operations:

BUTTON FUNCTIONALITY

-  Create a new backup archive
-  Schedule a backup operation
-  Restore a disk from the backup image
-  Open the Help system
-  Return to the previously browsed page
-  Open the next browsed page
-  Stop loading the current page
-  Refresh the contents of the current page

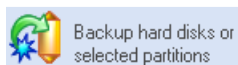
[[c o n t e n t s](#)]

Common Tasks Bar

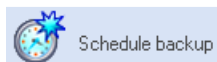
The Common Tasks Bar is located on the left side of the main window. It is intended for easy access to the program's wizards that provide all the functionality needed to manage backup archives.

The bar contains two tabs named *Select a Wizard* and *News and Documentation*. Each of these contains a separate button bar which can be folded by clicking it.

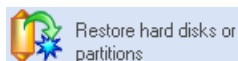
Select a Wizard



Starting the Backup Wizard. The Backup Wizard assists the user with the backup of the hard disk's data.

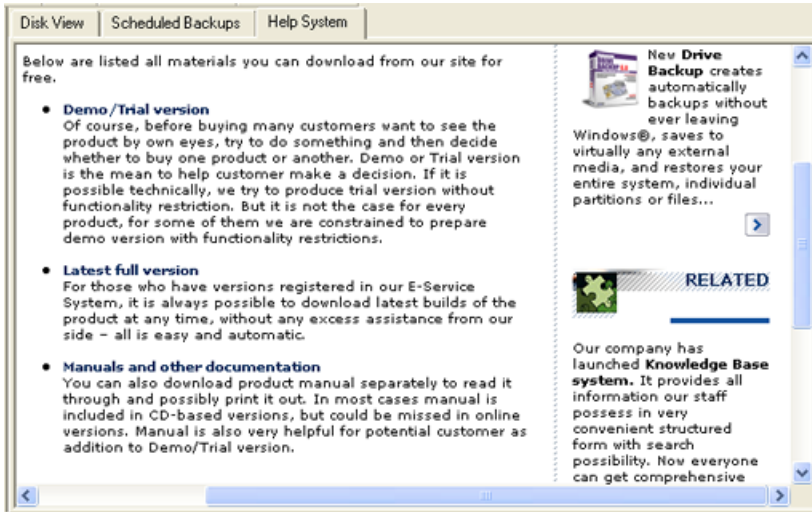


Starting the Backup Wizard with the preset scheduling option.



Starting the Restore Wizard. The Restore Wizard helps to restore data from a previously made

the program is HTML-oriented. The user can read the user manual and follow external links from to get additional information.



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Status Bar

This is the bottom part of the main window. The status bar displays menu hints, for each item the cursor points to.

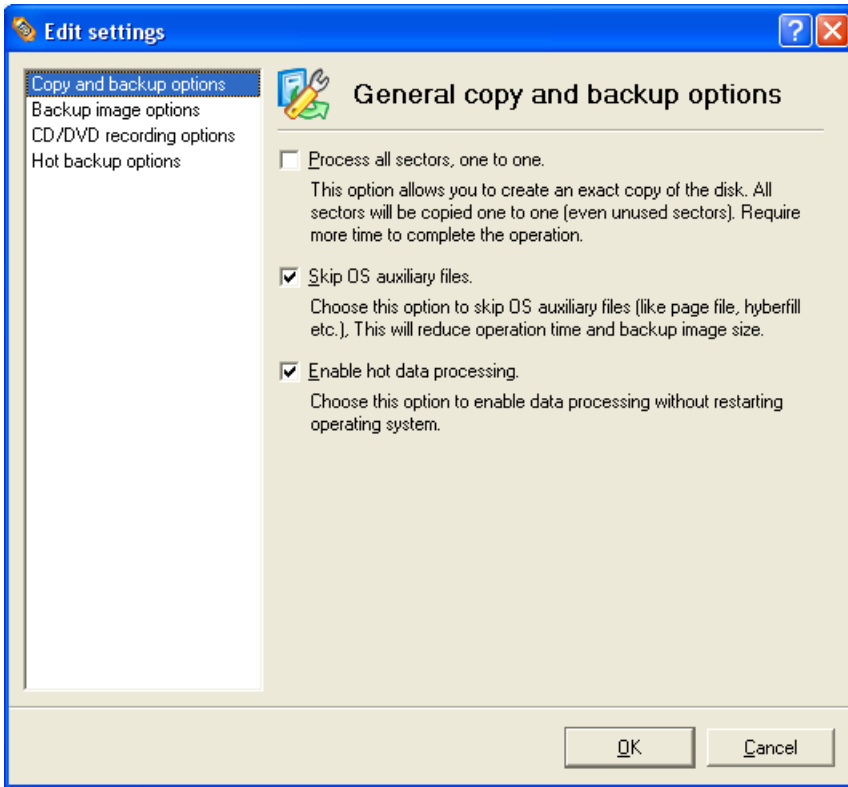
The user can hide (or show) the bar with the appropriate main menu item: *View > Status bar*.

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Settings Overview

The Settings dialog is available from the Main menu: *Tools > Settings*. All the settings are grouped into several sections of which the functions are described in the following paragraphs. The list of sections is placed on the left side of the dialog. By selecting a section from the list, the user opens a set of options.

General Copy and Backup Options



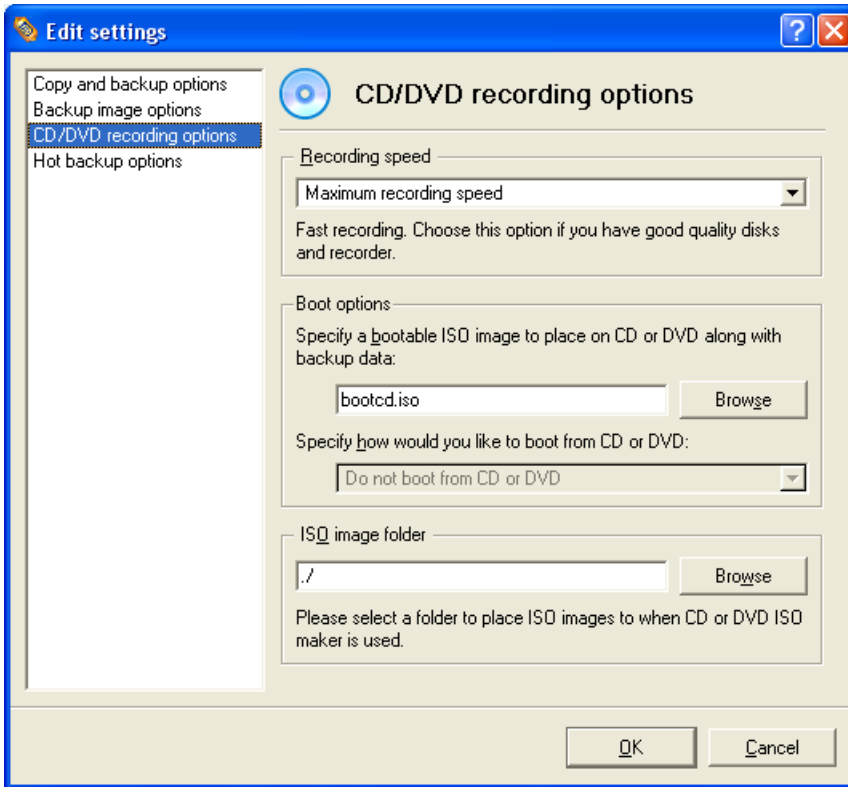
This section contains a set of options that will be taken into account during copy and backup operations. The user can switch between the following modes:

- o Copying all sectors of the disk.
- o Skipping OS auxiliary files during backup operation.
- o Processing data without restarting the system.

In order to activate an option the user should mark the appropriate checkbox.

[[c o n t e n t s](#)]|||||

Backup Image Options

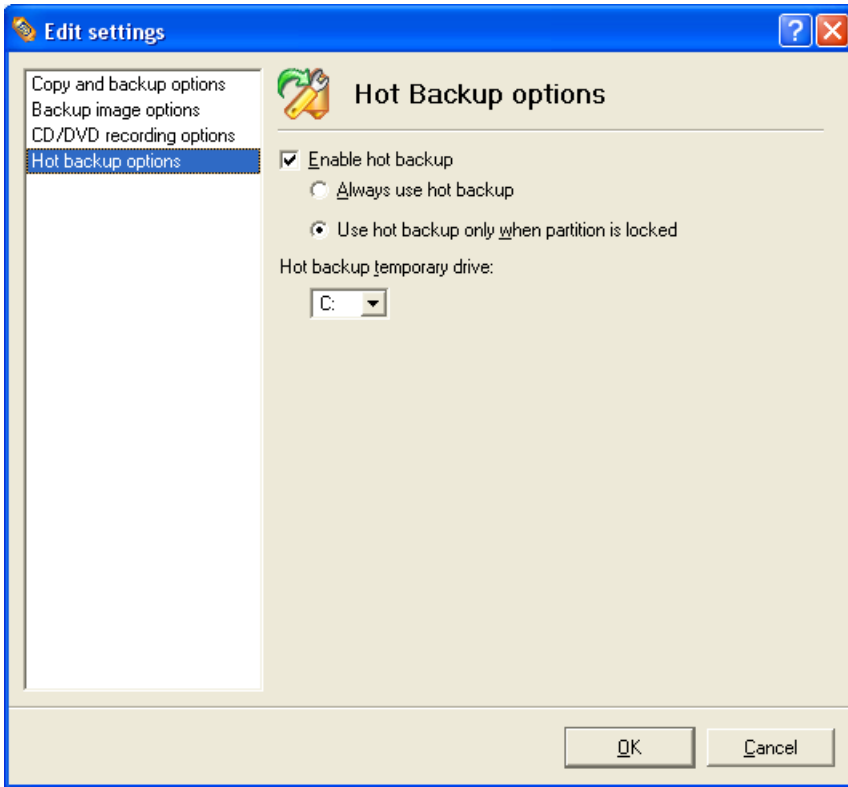


This section contains a set of options that will be taken into account during the CD/DVD burning operation. The user can define:

- o Recording speed
- o Folder where the ISO image is to be placed.

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Hot Backup Options



This section contains a set of options that will be taken into account in case the *Hot Backup* mode is enabled. The Hot Backup mode is a part of the backup operation that allows the program to process a disk without restarting the computer. The program forces the system to restart to obtain exclusive access to the processing data. The Hot Backup mode may be used to process locked partitions or any backup operation. The user defines the method in this section.

The user can also set a *Temporary drive*. This option defines a partition (by default – C:) for the Hot Backup temporary file. The temporary file will be deleted when the hot backup is performed which may require a large amount of disk space. Should there not be enough space on drive C:, then another drive needs to be selected.

[[c o n t e n t s](#)]

How to Protect Data

This chapter lists various scenarios of data protection which may be accomplished by the program. This has already been reviewed in the [Basic concepts chapter](#). Here the user will find more useful recommendations and descriptions of operations.

Getting Information about Disks and their Images

To begin with, let us examine the current situation of the available disk space. We look at the properties of our disks or peculiarities of existing backup images. The program provides some helpful tools for this purpose.

Viewing Disk Properties

The user is able to view in-depth information on the properties of hard disks. The main tool to extract this information is the Disk Map. It represents the actual state of the computer's hard disks. [The Disk Map chapter](#) is a detailed description on this topic.

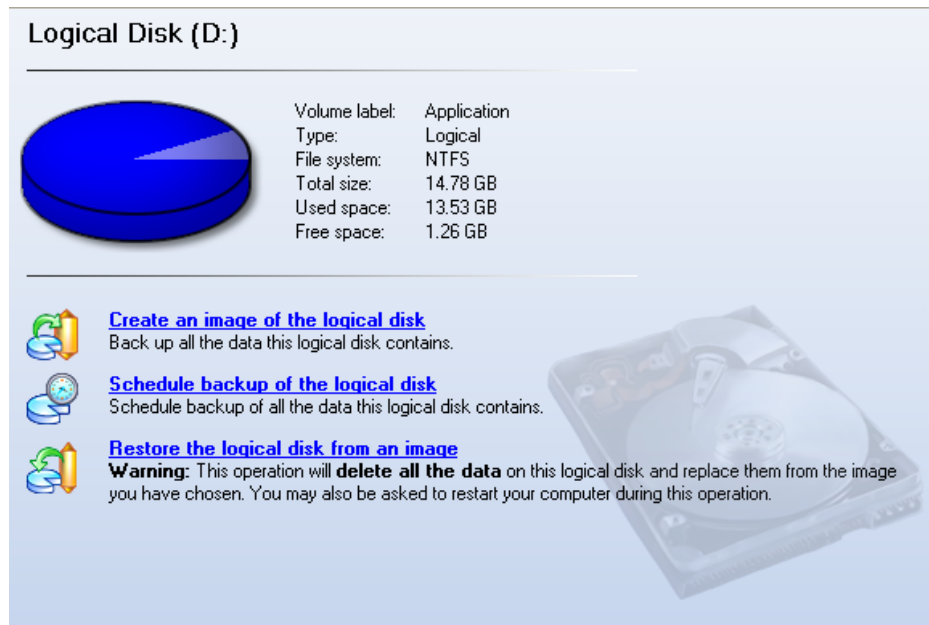
Generally the hard disks are represented on the map by rectangular bars, which also contain small-sized bars. The small-sized bars represent logical disks (partitions). When the user selects a large-sized bar, the [Explorer bar](#) displays information about the disk in a bright, graphical form.

The model and serial number of the disk serve as the title of the browsed page. The disk layout is shown in form of a circular graph, where the color of a sector corresponds to a file system of an appropriate partition. On the right the user may see a table, which contains the following information:

- o Type of hard disk (basic or dynamic),
- o Total size (in GB),
- o Information on geometry of the disk (amount of sectors per track, heads and cylinders).

Below there is a list of wizards available for the user. If the user clicks a corresponding record the appropriate wizard will be started. All default values for the operation

parameters will correspond to the disk's settings. The list of wizards contains a detailed description of tasks that can be performed by the wizard. This nullifies the possibility of selecting the wrong wizard.



The screenshot shows the 'Logical Disk (D:)' window in Windows Explorer. On the left, there is a blue pie chart representing the disk's usage. To its right, a table lists the following information:

Volume label:	Application
Type:	Logical
File system:	NTFS
Total size:	14.78 GB
Used space:	13.53 GB
Free space:	1.26 GB

Below the table, there are three wizard options, each with a small icon:

- Create an image of the logical disk**: Back up all the data this logical disk contains.
- Schedule backup of the logical disk**: Schedule backup of all the data this logical disk contains.
- Restore the logical disk from an image**: **Warning:** This operation will delete all the data on this logical disk and replace them from the image you have chosen. You may also be asked to restart your computer during this operation.

In the background, a faint image of a hard drive is visible.

When the user selects a small-sized bar (i.e. corresponding to a logical disk), the Explorer bar will display information on it as well. The page title will contain a drive letter, which is assigned to the disk. The disk layout graph will be colored in accordance with the volume ratio of the used space to the free space (the light colored sector). The table on the right will contain the following information:

- o Volume label (if available),
- o Type of the logical disk,
- o File system (represented by the color of the graph and the selected bar),
- o Total size, used space and free space (in GB or MB).

Below there is a list of wizards, which may be called for this disk. All default values of parameters will correspond to the disk settings.

[[c o n t e n t s](#)]

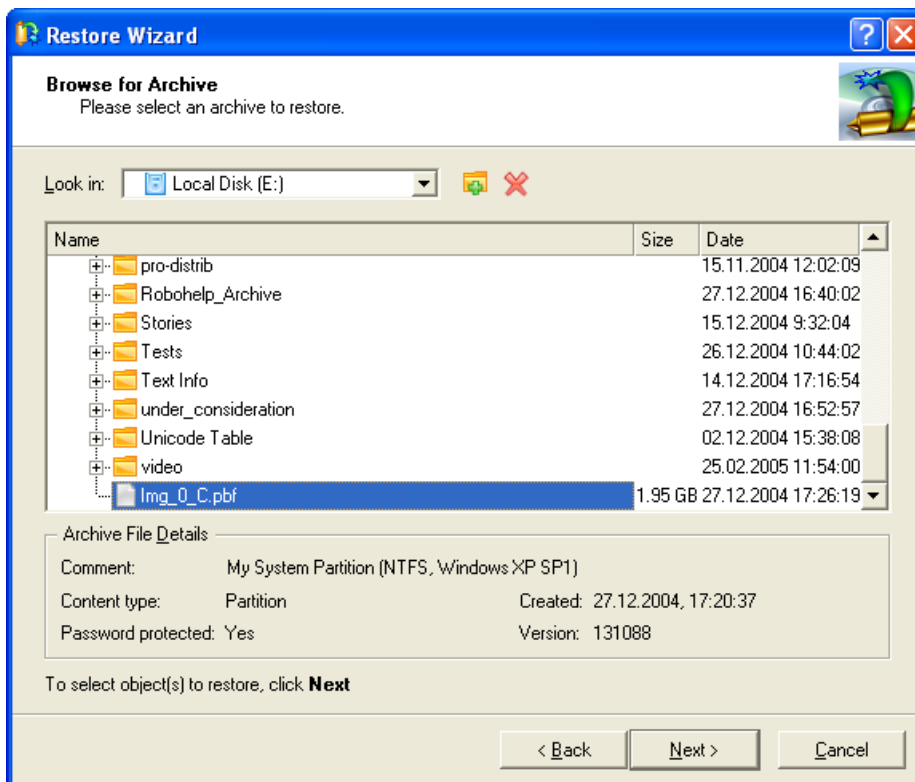
Viewing Image Properties

Before restoring a disk from an image it is necessary to be sure that it is the image you need. To obtain general information about an image you can use the [Restore wizard](#). It is very convenient to use because it provides the possibility to cancel the operation at any step.

There are several ways to launch the Restore Wizard:

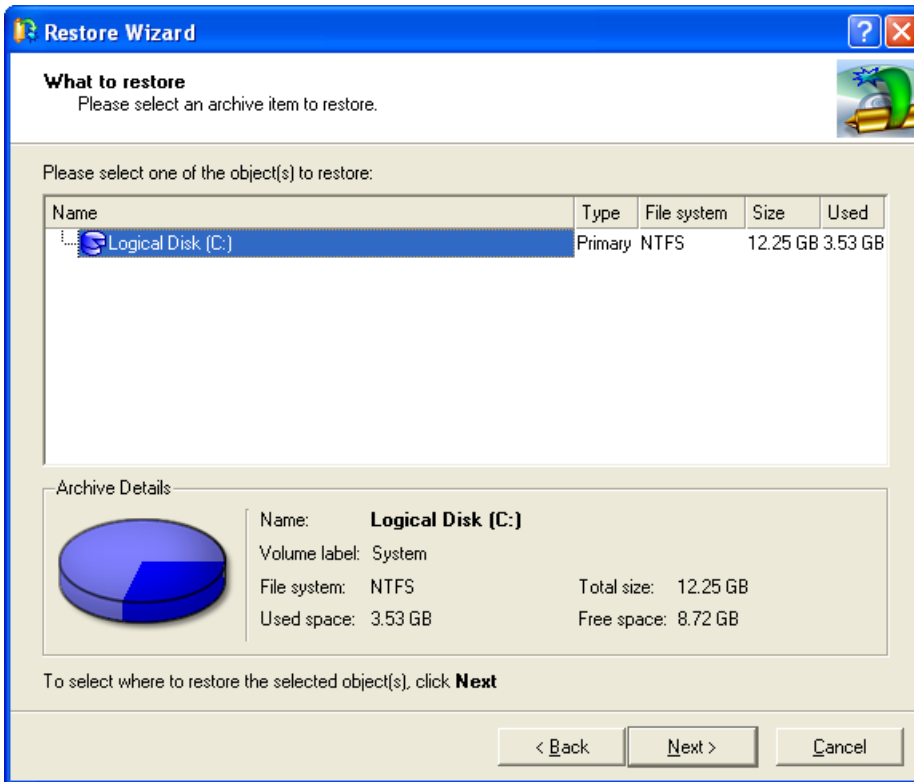
- o In the Main menu: select *Wizards > Restore from Exact Image*
- o In Common Tasks bar: click the *Restore from Exact Image* item of the Wizards menu
- o Select a logical disk and then click the *Restore the disk from an image* link on the Explorer bar page.

At first, the wizard displays the Welcome page – simply click the *Next* button at the foot of the dialog window.



The next page refers to *Browse for Archive*. Here you can select an image on your disk in the browser-like window. The section below (i.e. *Archive File Details*) displays a short description of the selected image, including:

- o information on a type of the archive contents (whether it contains the entire disk or just a partition),
- o whether the archive is compressed or not,
- o whether the archive is password protected or not,
- o the date, when the archive was created.



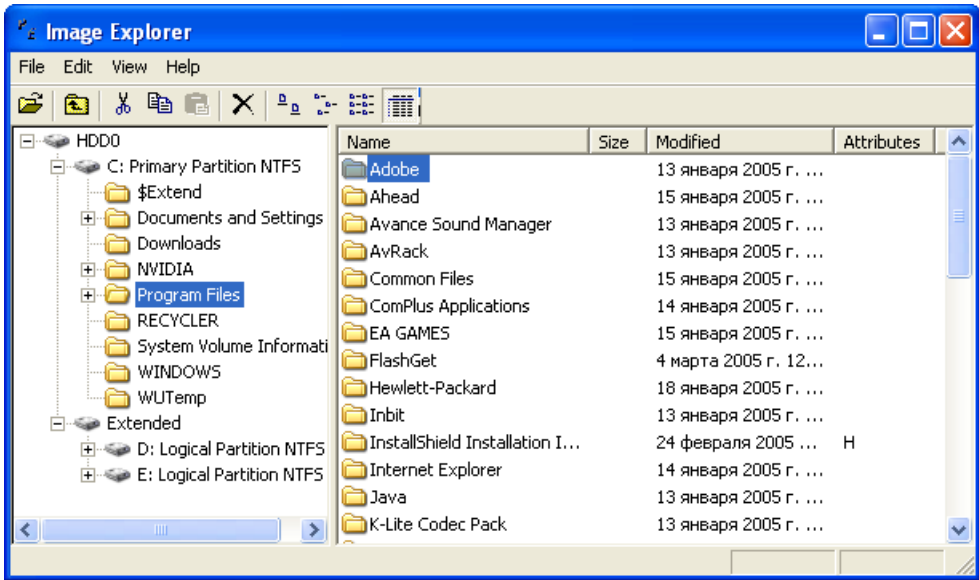
The next page (i.e. *What to restore*) displays detailed information about the contents of the archive. It includes a full description of properties about the archived disks or partitions.

If you want to restore the contents of the image click the *Next* button. In order to cancel, click the *Cancel* button.

[[c o n t e n t s](#)]

Viewing Image Contents

The user may browse the contents of the archives with a special utility called *Exact Image Explorer*. To start the utility, one should click several times on the *Exact Image Explorer* button in the Common Task bar.



The utility displays the list of archives in the left panel. The right panel of the program displays contents of an archive selected in the left panel. In case the user selects an archive, the browser panel displays the files contained in that archive. If an archive includes several backup archives, the utility will display them as top-level expandable nodes.

In order to browse an archive, it should be added to the list of the left panel. In order to do so, the user can choose one of the following options:

- o Select an archive in the right panel, call the context menu and then select the *Browse archive* item,
- o Select in the Main menu of the utility: *File > Load archive*.

The selected archive will be added to the list and will be available for browsing.

Image Explorer also provides the possibility to [extract separate files and folders from archives](#) without restoring the whole archive.

Image Explorer can work with any kinds of archives created by the program. For example, it can browse the Backup Capsule which is hidden from any standard Windows program.

[[c o n t e n t s](#)]

Backup a Disk

In the [Basic concepts](#) chapter we mentioned that the most prevalent way to protect valuable data is to create backup copies (*backup images* in terms of the program) of it.

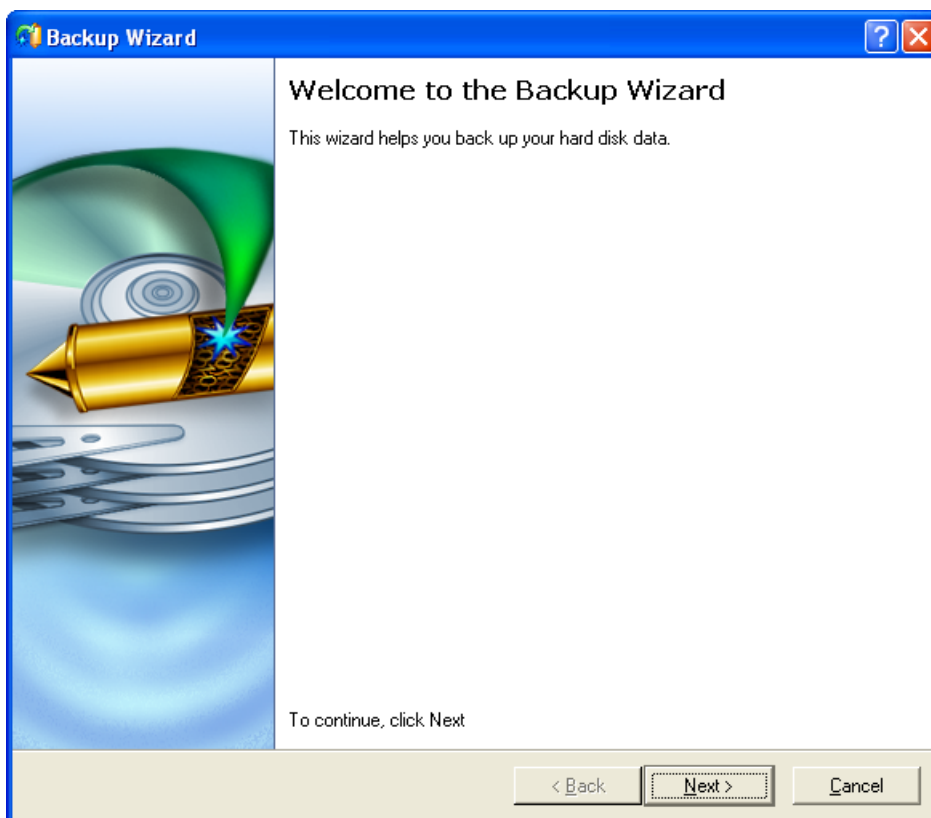
This operation can be accomplished with the *Backup Wizard*. The wizard is so well designed that the user simply needs to follow its easy instructions to make an exact image of the disk.

Starting

There are several ways to start the *Backup Wizard*:

- o In the Main menu: select *Wizards > Back Up to Exact Image*
- o On the Common Tasks bar: click the *Backup to Exact Image* item of the Wizards menu.
- o In the Toolbar: click the *Back Up* button.
- o Select a disk on the Disk map and click the *Create the image of the logical disk* item on the page that appears in the Explorer bar (when the user selects an entire hard disk on the Disk map the item is named *Create the image of the entire disk*).

After following one of the above mentioned actions, the Welcome page of the wizard is displayed.



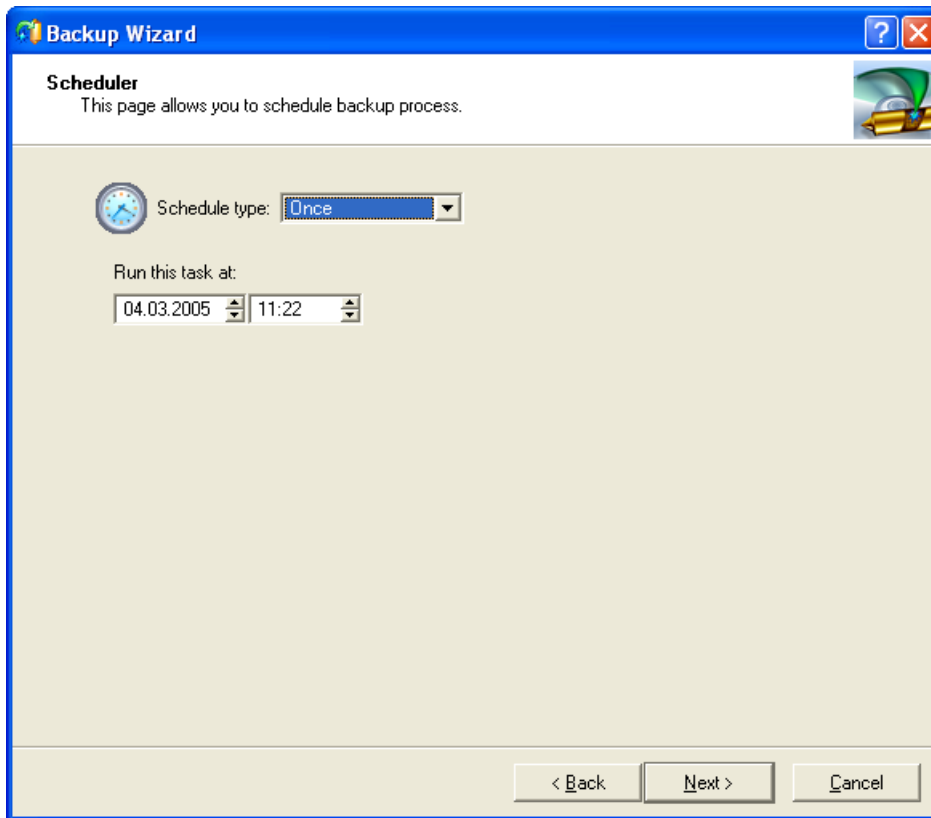
Settings

The Backup Wizard allows the user to configure the settings and then start the operation in accordance with the entered parameters. Here the user sets the parameters of the backup operation defining:

- o **The disk to archive.** The user can backup either an entire disk or separate partitions of the disk (primary, extended or logical). In case of backing up an entire disk, the user has the possibility to include into the image such disk elements as the Master Boot Record (MBR) and the first track of the hard disk. This can be very helpful for serious disk recovery procedures.
- o **The destination where the future backup image will be stored.** The Backup Wizard allows saving backup archives to local or network drives, to physical partitions (without drive letters assigned), or burning them to CD/DVDs. It is also possible to place the archives in the Backup Capsule. The user needs to select a destination, taking the estimated archive size and available space on the backup destination into account.
- o **The method of the operation performance.** By default the program suggests the user to start the operation immediately.

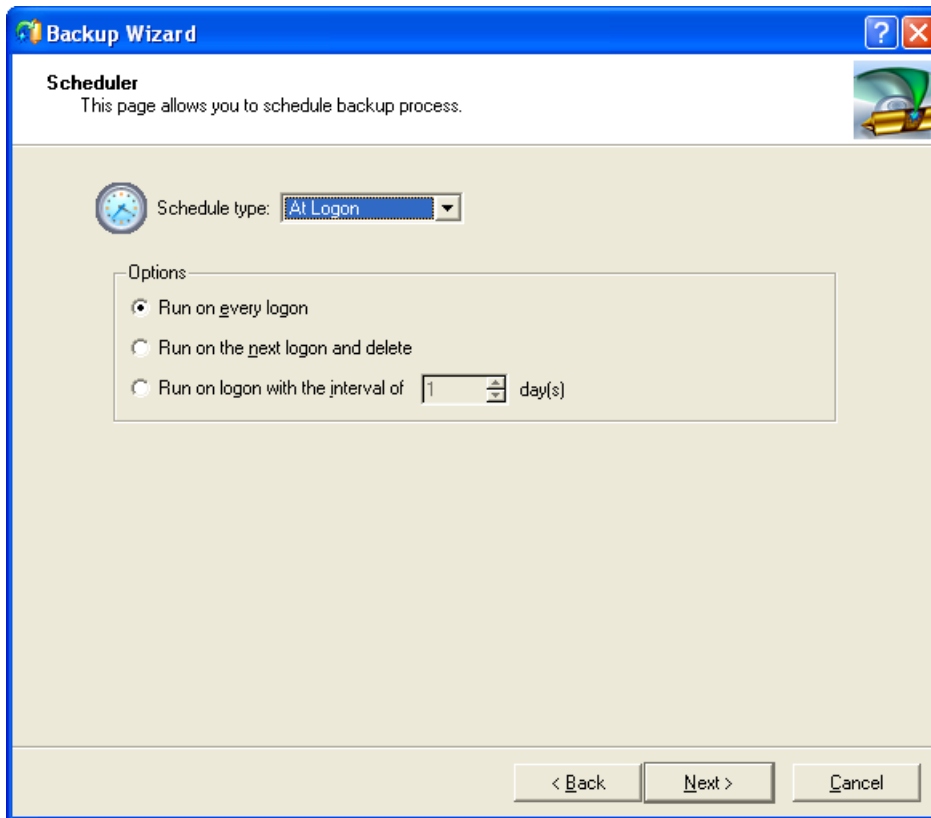
In addition, there is the possibility to make further detailed settings (although the default values will do in most cases). To activate the advance mode, the user needs to mark the appropriate option on the second page of the wizard (i.e. the **What to back up** page). The checkbox is to be found at the foot of the page. When it is marked, the next page allows the user to define:

- o Whether the selected disk (or the selected partition) will be copied in the **sector-to-sector mode** (including unused sectors as well).
- o Whether the **OS auxiliary files** (pagefile.sys, hyberfil.sys) will be included in the backup image.
- o Whether the operation will be performed **without rebooting the system**. The program needs to reboot the system in order to have exclusive access to processing data. In a Windows environment this is difficult to achieve because even when all the other applications are closed, the system service programs are still running. However, there is a way to avoid rebooting. The mode of processing the backup operation without rebooting is named **Hot Backup**. The user is also able to define specific parameters for the Hot Backup mode.
- o Whether the **archive integrity** will be controlled.
- o **Compression level** for the backup image (including the *No compression* variant)
- o Whether the archive will be **protected by password**.
- o Whether the archive will be **split** (if this is the case the user can set the maximum size for the archive files).
- o **Recording speed** when the user wants to burn the backup image onto CD/DVDs.



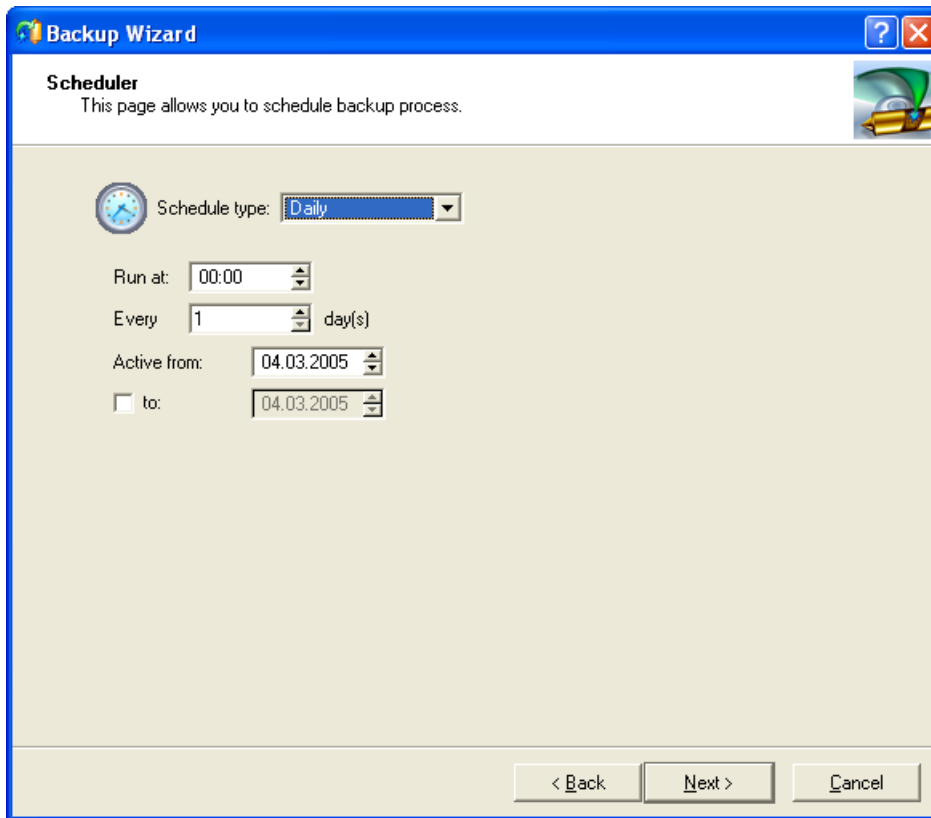
When making serious system changes, the start of the backup operation can be connected with the user's logon or with the system start up. It optimally corresponds to the **At Logon** or the **At System Startup** items of the menu. The lower section of the dialog window will display fields that help you specify conditions for starting the operation:

- o The operation begins automatically with every logon
- o The operation is started on the next logon after which the task will be deleted from the scheduler. In this case the backup operation will be performed only once.
- o The operation is started on the next logon and is then repeated at every logon. The length of the interval between operations can be configured here.



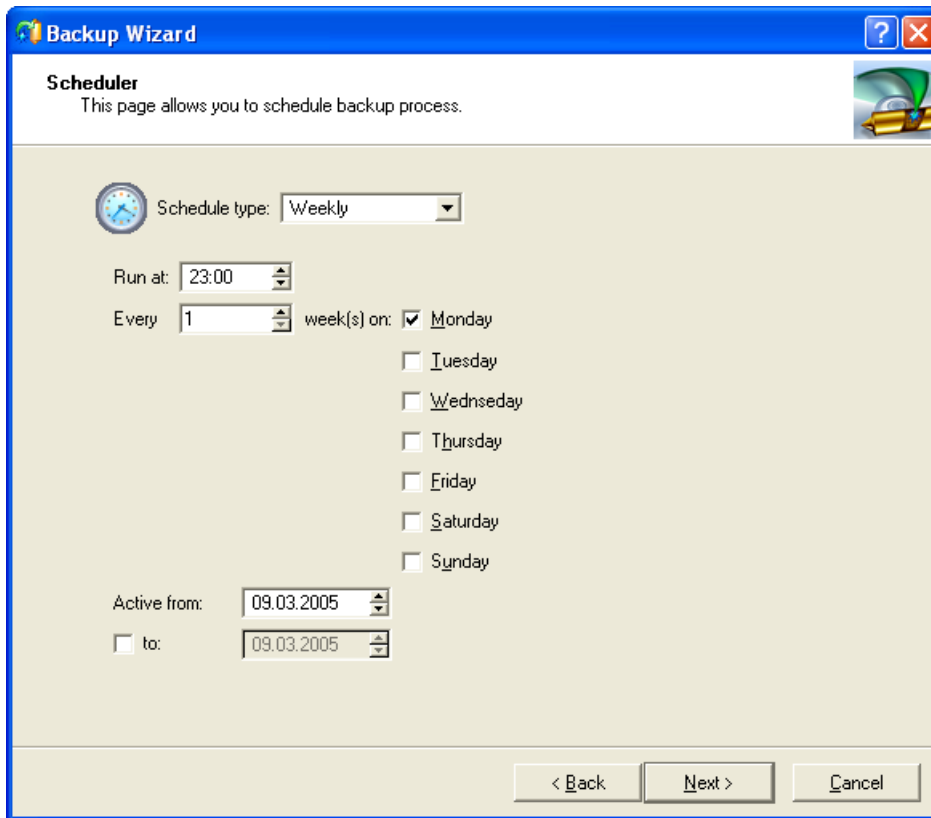
As described earlier on where the user needs to backup data every evening, in this case the **Daily** menu item in the Scheduler's window needs to be selected. After selecting the option, the lower section of the window will allow the user to define the following parameters of the operation initiation:

- o The time when the backup operation starts
- o A period during which the backup operation will be performed (in days)
- o The date when the backup operation will be started first and the date after which the task will be deleted from the scheduler's waiting list



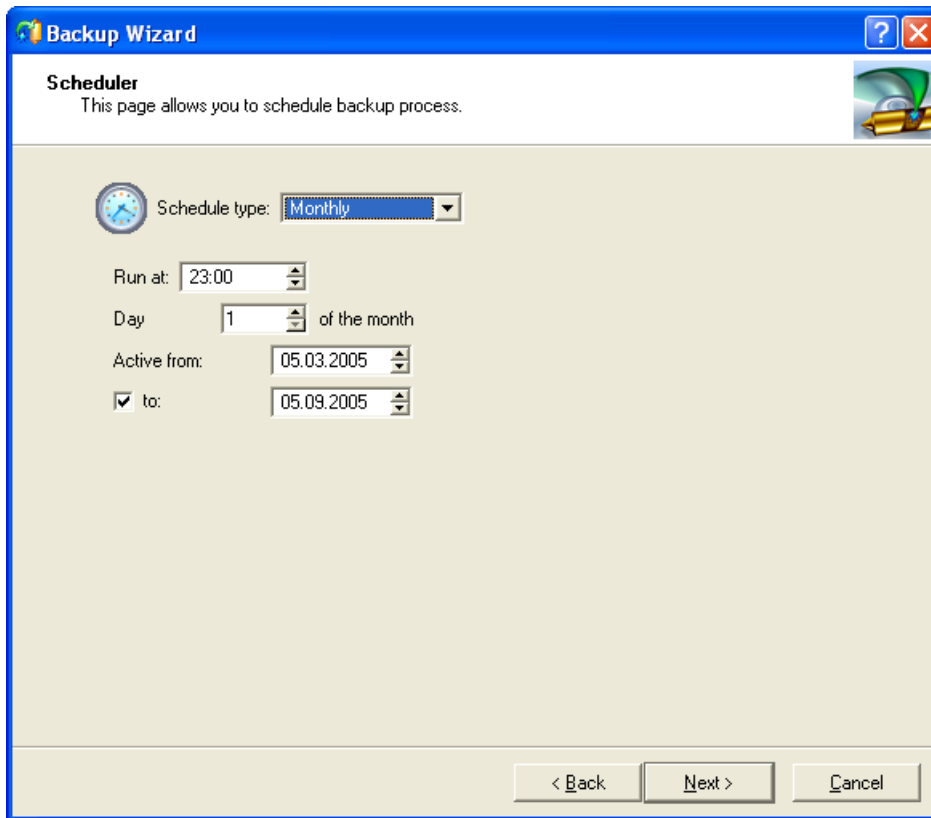
Moreover, the user can make an additional backup copy onto external media (e.g. burning a disk image onto CD/DVD) on a weekly basis. This provides your data with further protection. In order to schedule the period of the operation performance, it is necessary to select the **Weekly** item of the *Schedule type* menu. The lower section of the window will allow the user to define the following parameters of the start of the operation:

- o The time when the backup operation starts
- o A period during which the backup operation will be performed (in weeks)
- o Days of the week, when the operation will be started
- o The date when the backup operation will be started for the first time and the date when the operation will cease to run.



Finally, backing up data onto external media can be accomplished on a monthly basis. To set the times, the user needs to select the **Monthly** item of the *Schedule type* menu and then define the following additional parameters:

- o The time when the backup starts
- o A day of a month when the backup will start
- o The date when the backup operation will be started for the first time and the date when the operation will cease to run.

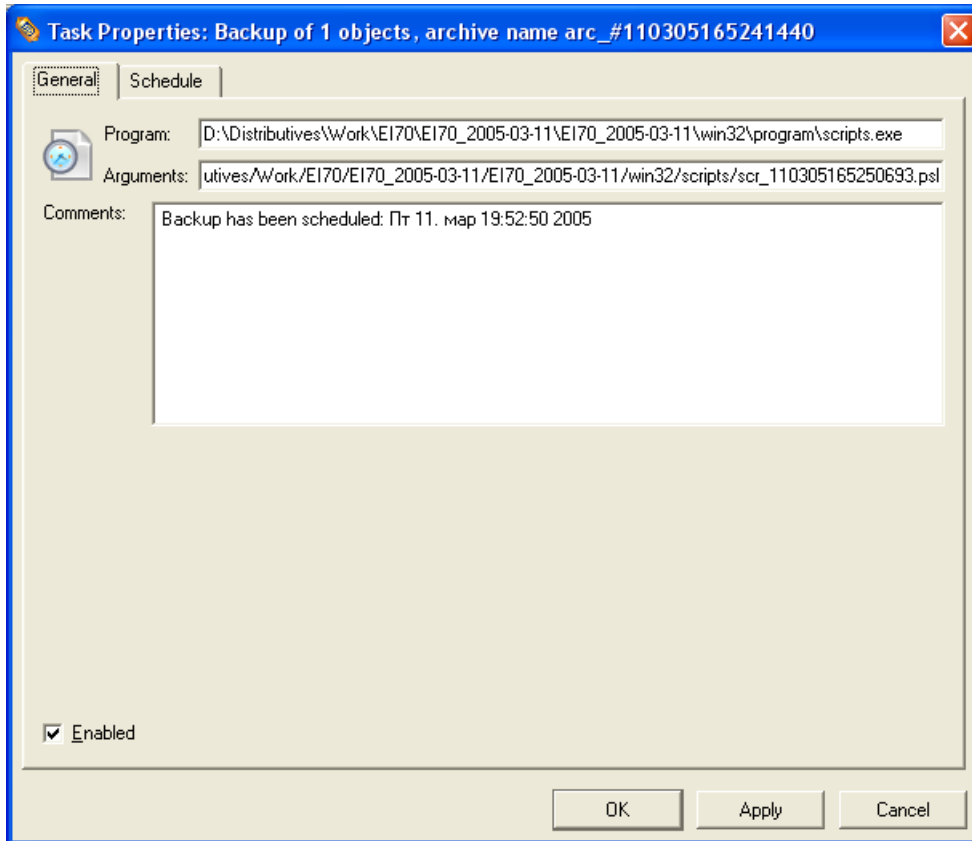


After completing the schedule please check the settings on the last page of the Backup Wizard (the *Backup schedule* section).

All scheduled tasks are placed in a separate list, which can be retrieved by clicking the **Scheduled Backups** tab in the *Explorer bar*. When the *Scheduled Backups* list contains too many backups, the user can arrange the scheduled tasks in the correct order with the Task Editor. The Editor allows the user to change the date and time, and delete scheduled jobs.

In order to call the Task Editor, the user can either:

- o Double-click on the appropriate task in the Scheduled Backups list
- o Select the *Properties* of the context menu, which can be called by a right-click on the appropriate task.



The dialog window has two tabs - *General* and *Schedule*. The *General* tab contains:

- o The full path to the program-interpreter of the macro-commands which describes the scheduled task
- o The line of parameters for starting the interpreter (i.e. the task described in macro-language)
- o Comments referring to the task
- o The **option of enabling/disabling the task**.

The *Schedule* tab contains the timetable of the task, which the user can modify. In order to apply the changes, the user needs to click the *Apply* button at the foot of the dialog.

The user can also delete the scheduled task by calling the context menu of the task and selecting the *Delete* item.

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Storing Backup Images onto External Media

To store backup images on CD/DVD with the Backup Wizard, simply do the following:

1. Click the **Back Up** button in the Tool bar (any of the ways described earlier can also be used here to call the Backup Wizard).
2. On the Backup Wizard's Welcome page, click the *Next* button.
3. On the **What to back up** page, mark the appropriate option opposite a hard disk's name or a partition's name depending on the chosen task. Click the *Next* button.
4. On the **Backup Destination** page, select the *Burn the data on CD / DVD* option. Click the *Next* button.
5. Select a **recordable device** on the list and edit the archive name, if necessary. Click the *Next* button.
6. *Add comments* to the backup describing its contents.
7. Select **how to perform the operation**:
 - o immediately (the *Back up now* option)
 - o *schedule the operation*

Click the *Next* button.

[[c o n t e n t s](#)]

Storing Backup Images on a Network Drive

To save a backup archive on a network drive with the Backup Wizard, simply do the following:

1. Click the *Back Up* button in the Toolbar (any of the ways described earlier can also be used here to call the Backup Wizard).
2. On the Backup Wizard's Welcome page, click the *Next* button.
3. On the **What to back up** page, mark the appropriate option opposite a hard disk's name or a partition's name depending on the chosen task. Click the *Next* button.
4. On the **Backup Destination** page, select the *Save data to local/network drives* option. Click the *Next* button.
5. Select a **network disk** (it must be mounted and be available in the system by a drive letter). Please take into account values of the parameters

Estimated archive size and *Space available on backup destination* - if the archive size exceeds the available space, another network drive needs to be selected.

6. **Edit the archive name** if necessary and click the *Next* button.

7. *Add comments* to your backup describing its contents.

8. Select **how to perform the operation**:

- o immediately (the *Back up now* option)
- o *schedule the operation*

Click the *Next* button.

[[c o n t e n t s](#)] |||||

Using the Backup Capsule

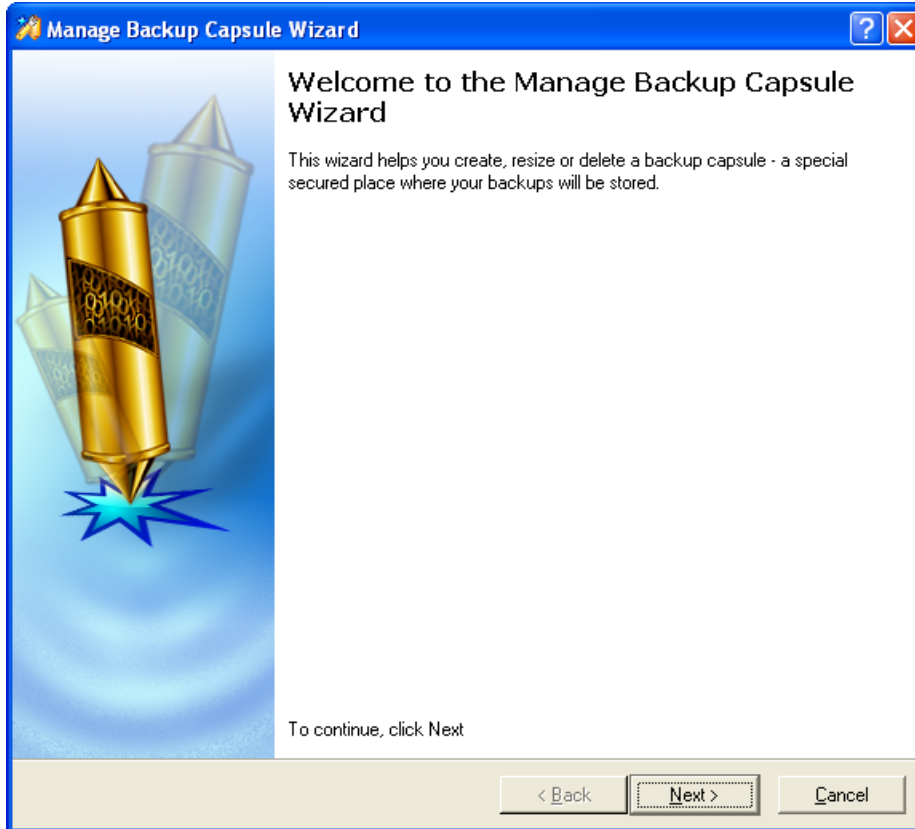
When the user starts the program, it checks whether the *Backup Capsule* exists in the system or not. If it has not been found, the user is offered to create a Capsule automatically. All operations related to the Backup Capsule, including its creating and managing, are performed with the *Manage Backup Capsule Wizard*.

Starting

There are several ways to start the *Manage Backup Capsule Wizard*:

- o In the Main menu: select *Wizards > Manage Backup Capsule*
- o On the Common Tasks bar: click the *Manage Backup Capsule* item of the Wizards menu.
- o Select a bar corresponding to the hard disk on the Disk map and click the *Create a Backup Capsule* item on the page that appeared in the Explorer bar.

After any of the mentioned actions the Welcome page of the wizard will be displayed.



Settings

The Manage Backup Capsule Wizard allows the user to configure the settings and then start the operation in accordance with the entered parameters. In our case we set the following parameters of the backup capsule:

- o **The place where the backup capsule will be created.** The user should select a hard disk (if the computer has several hard disks) and then select position for the future backup capsule on the disk.
- o **The size of the backup capsule.** It will be created at the expense of free space of the selected disk.

Results

Depending on the user's choice the Manage Backup Capsule Wizard:

- o Starts the operation
- o Allows the user to return and correct the parameters mentioned above.

After the wizard has completed, the user will have created a secured place, i.e. the backup capsule, in which new backup archives can be stored.

The Backup Capsule can be created as a primary partition or as a logical drive within an extended partition. The Backup Capsule can be inserted into any place on the hard disk: at the end (preferable), at the beginning or somewhere in the middle between other partitions. There is no restriction on the size of the Backup Capsule, merely depending on the available space of the hard disk and the capacity needed for the backup.

If the Manage Backup Capsule Wizard cannot find enough free space in one block, the wizard will redistribute free space, joining all free space blocks together into one united block and moving partitions when necessary. If the total amount of free space is still not enough, it is possible to split a fragment of space from one of the existing partitions, thus resizing it.

If the partition is locked and cannot be resized, the Manage Backup Capsule Wizard makes the system reboot to create the Backup Capsule and automatically boots the system again. (The rebooting mechanism is different for different versions of Windows.)

Managing the Backup Capsule

All operations of the Backup Capsule management are performed with the Manage Backup Capsule Wizard mentioned above. The user can:

- o Change the backup capsule size, if necessary
- o Store multiple backup images
- o View and control stored images

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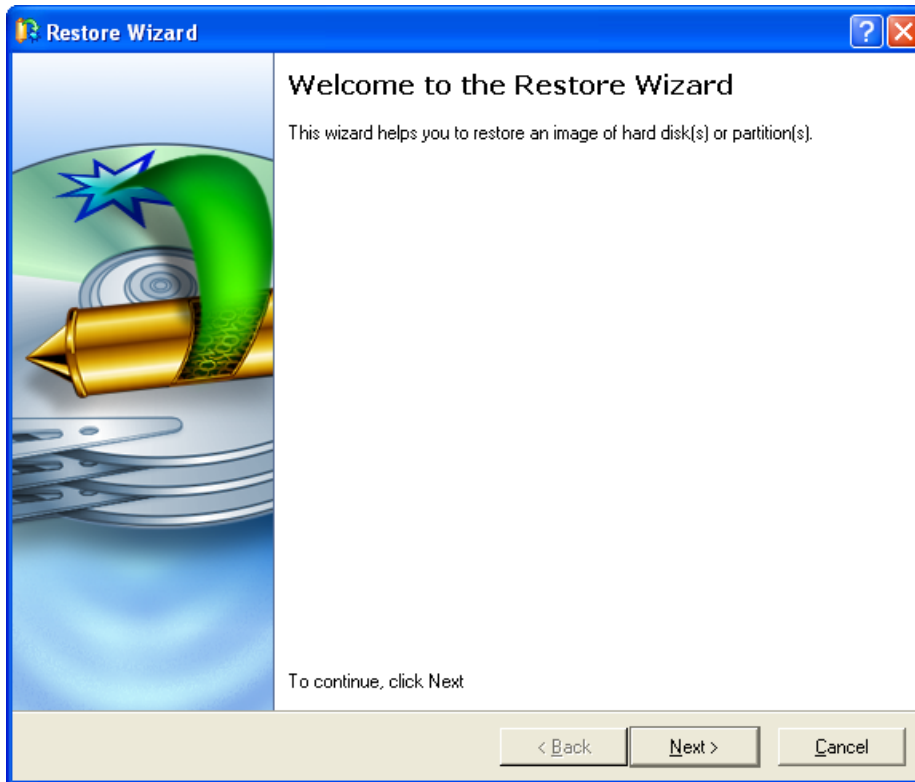
Backup Capsule on a Disk with only one Partition

Suppose that the user has only one hard disk with only one partition (the only partition is always system). Suppose that there is enough free space on the hard disk to create the backup capsule as well. It can be created with the Manage Backup Capsule Wizard:

1. On the Common Tasks bar, click the **Manage Backup Capsule** button.
2. On the Backup Wizard's Welcome page, click the *Next* button.
3. Select **a place on the disk** where the backup capsule will be created (see the illustration below). Click the *Next* button.
4. **Set the size** for the backup capsule. Click the *Next* button

image of the logical disk from an image item in the partition case) on the page that appeared in the Explorer bar.

After any of the mentioned actions the Welcome page of the wizard will be displayed.



Settings

The Restore Wizard allows the user to configure the settings and start the operation in accordance with the entered parameters. In our case we set the following parameters of the restore operation:

- o **A backup image to be restored.** The user can browse disks for an appropriate backup image. The *Browse for archive* page will display information on every image selected in the browser window.
- o **An item of the selected archive to be restored.** The program allows the user to restore not only an entire archive, but also separate items of the archive. It's very convenient in case of restoring separate partitions from the entire disk archive.
- o **A place to restore the archive to.** Selecting the destination, please note - all contents on the disk selected for restoring purposes will be deleted during the operation. The program allows inspecting the resulted disk layout.
- o **Size of the restored volume** (in case of the partition restoring). The program allows inspecting the resulted disk layout.

- o **Size of the free space before and after the restored partition** on the disk.

Results

Depending on the user's choice the Restore Wizard:

- o Starts the restore operation,
- o Allows the user to return and correct the parameters mentioned above.

The wizard will restore a disk (or partition) that has been archived, and make it available to use in the operating system.

[[c o n t e n t s](#)]

Using the Simple Restore Wizard

It can happen that the user cannot initiate the restoring process under Windows because the operating system is damaged in some way. In this case the *Simple Restore Wizard* is to be used.

Starting

In order to start the Simple Restore Wizard the user needs to boot from Recovery Media and then launch the wizard. Moreover, if the user should [create bootable archives](#), the Simple Restore Wizard will run automatically when the user boots from the first CD/DVD of a backup archive.



Next button.

7. **Set the size of the system partition.** The user can compress or expand it at the expense of available unused space. Click the *Next* button.

8. Click the *Finish* button to initiate the restoring process.

9. After completing the operation **eject the Recovery CD/DVD and reboot the computer.**

Now the restored file system is operable once again.

[[c o n t e n t s](#)]|||||

Restoring Separate Files and Folders from an Image

To restore separate files and folders from backup images with the [Image Explorer](#) follow the steps below:

1. On the Common Task bar, click the *Exact Image Explorer* button.
2. Select an archive in the Image Explorer's right panel.
3. Select a file (or a folder) in the left panel.
4. Call the context menu.
5. Select the **Export** item.
6. Select a place on the disk where the file (or the folder) will be extracted to.

[[c o n t e n t s](#)]|||||

Build Recovery Media

In addition to the backup tools described above, the program provides the possibility to prepare a set of recovery tools on external media (CD, DVD or floppy disks). The tool set can be of assistance in case of operating system corruption, which means that the user is able to boot the computer even when the operating system is not able to do so. Creation of such recovery tools is performed with the *Recovery Media Wizard*.

Starting

To start the *Recovery Media Wizard* the user needs to select the *Recovery Media Builder* item of the Wizards menu on the Common Tasks bar. Then the Welcome page of the wizard is displayed.



Settings

The Recovery Media Wizard allows the user to configure the settings and start the operation in accordance with the entered parameters. In our case we set the parameters of the future recovery tool by defining:

- o **Type of the recovery media the user is creating.** The recovery tools can be placed either on a CD/DVD disc or on a floppy disk.
- o **Contents of the recovery set.** The recovery tools can include the standard Recovery Media image (included in the installation package) or software defined by the user. In the last case the user can record a prepared image by setting the path to the image file on the disk.
- o **A recording device.** The appropriate external media (CD/DVD or a floppy disk) needs to be inserted into the selected device.
- o **CD/DVD writing parameters** (in case the user selects this kind of media). Writing parameters include writing speed (maximum or minimum) and the ability of ejecting the recorded disc after completing the operation.

The program supports CD-R, CD-RW, DVD-R, DVD+R, DVD-RW and DVD+RW discs. If the inserted disc is not empty, the Wizard suggests the user erasing its contents. When the user confirms the operation, the program deletes the re-writable disc's contents and begins the recording process.

