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Acronis®

Seagate® DiscWizard™

User's Guide

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Technologies, used in this product, are covered by the following U.S. Patents: U.S. U.S. Patent #7,047,380, U.S. U.S. Patent #7,275,139, U.S. Patent #7318135, U.S. Patent #7,366,859, U.S. Patent #7,462,11, U.S. Patent #7,603,533, U.S. Patent #7,650,473, U.S. Patent #7,831,789, U.S. Patent #7,895,403, U.S. Patent #7,934,064, U.S. Patent #7,953,948, U.S. Patent #8,005,797, U.S. Patent #8,069,320, U.S. Patent #8,074,035.

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1 Getting started

1.1 Introduction

In this section

1.1.1 What is Seagate DiscWizard?

Seagate DiscWizard is an integrated software suite that ensures the security of all of the information on your PC. It can back up the operating system, applications, settings and all of your data, while also securely destroying any confidential data you no longer need. With this software, you can back up the entire disk drive or selected partitions.

Seagate DiscWizard provides you with all the essential tools to recover your computer system should a disaster occur, such as losing data, accidentally deleting critical files or folders, or suffering a complete hard disk crash.

You can store backups on almost any PC storage device.

Windows-style interface and wizards will make your work easier. Just perform a few simple steps and let Seagate DiscWizard take care of everything else! When a system problem occurs, the software will get you up and running in no time.

1.1.2 Seagate DiscWizard basic concepts

This section provides general information about basic concepts which could be useful for understanding how the program works.

Backup and recovery

Backup refers to the making copies of data so that these additional copies may be used to **recover** the original after a data loss event.

Backups are useful primarily for two purposes. The first is to restore a state following a disaster (called disaster recovery). The second is to recover small numbers of files after they have been accidentally deleted or corrupted.

Backup versions

Backup versions are the file or files created during each backup operation. The amount of versions created is always equal to the amount of times the backup is executed or to the amount of stored points in time.

So, a version represents a point in time to which the system or data can be restored.

The backup versions are similar to file versions. The file versions concept is familiar to those who use a Windows Vista and Windows 7 feature called "Previous versions of files". This feature allows you to restore a file as it existed on a particular date and time. A backup version allows you to recover your data in a similar way.

This could be useful when trying to find damaged or deleted files. Simply browse through the backup versions in the Acronis Backup Explorer until you find the backup version containing the required files. Additionally, you can recover different saved versions of the found files.

Disk cloning

This operation migrates or copies the entire contents of one disk drive to another disk drive. This may be necessary, for example, when installing a larger capacity disk. The result is two identical drives with the same file structure. The "Disk Clone" tool effectively copies all of the contents of one hard disk drive onto another hard disk drive. The operation allows you to transfer all the information (including the operating system and installed programs) from one hard disk drive to another without having to reinstall and reconfigure all of your software.

Seagate DiscWizard does not provide for cloning a single partition. You can only clone the entire drive.

You can also transfer all the information from your hard disk drive to another one by backing up the entire old hard disk and then recovering the backup to the new disk.

Backup file format

Seagate DiscWizard usually saves backup data in the proprietary tib format using compression. This reduces the amount of needed storage space.

When creating a tib file, the program calculates checksum values for data blocks and adds these values to the data being backed up. These checksum values allow for the verification of data integrity.

The data from tib file backups can be recovered only through Seagate products. This may be done in Windows or in the recovery environment.

Backup validation

The backup validation feature allows you to confirm that your data can be recovered. As mentioned above, the program adds checksum values to the data blocks being backed up. During backup validation, Seagate DiscWizard opens the backup file, recalculates the checksum values and compares those values with the stored ones. If all compared values match, the backup file is not corrupted and there is a high probability that the backup can be successfully used for data recovery.

Disaster recovery

Recovering from a disaster usually requires a rescue media and a backup of the system partition.

Seagate DiscWizard provides for recovery from a disaster caused by system data corruption, viruses, malware, or other causes.

If the operating system fails to boot, Seagate DiscWizard will recover the system partition. You can create a rescue media by using the Media Builder tool.

Scheduling

For your backups to be really helpful, they must be as "up-to-date" as possible. This means that you should run backups on a regular basis. Although creating a backup is quite easy, on occasion, you may forget to do a backup.

With the scheduler, you do not have to remember. You can schedule automatic backups ahead of time. Your data will be backed up as long as there is sufficient storage space.

Understanding these terms and concepts will be helpful when using the program's features.

1.1.3   New in Seagate DiscWizard

- **Windows 8 support** - Seagate DiscWizard supports the next version of the operating system released by Microsoft, namely Windows 8. You can safely buy and install Windows 8 without worrying whether you will be able to restore your system if need arises.

- **Secure Boot support** - Secure Boot is a feature developed by Microsoft for the Windows 8 operating system. This feature blocks unauthorized software from running during a computer boot. Seagate DiscWizard now supports Secure Boot. This means that if your operating system becomes corrupt, you can easily boot your Windows 8 computers using two tools: bootable rescue media and Acronis Startup Recovery Manager.

- **New backup naming rules** - The new automatic backup naming is more flexible and convenient. By default, Seagate DiscWizard creates for each backup task a folder with a backup task name and keeps in this folder all related backups. A backup filename always contains a task name, a backup method, a backup number, and a sequential file number (if the backup is split into several files, the suffixes will be v1, v2, etc.). Optionally you may add to the name date, time, etc. by adding the appropriate macros.

1.1.4   System requirements and supported media

1.1.4.1   Minimum system requirements

Seagate DiscWizard has minimum hardware requirements corresponding to that of the operating system installed on the computer to be used for running Seagate DiscWizard. In addition Seagate DiscWizard requires the following hardware:

- Seagate, Maxtor or Samsung drive
- CD-RW/DVD-RW drive for bootable media creation
- Mouse or other pointing device (recommended)

Seagate DiscWizard rescue media has the following hardware requirements:

- 512 MB RAM
- Processor Pentium 1 GHz or faster

The recommended screen resolution is 1280 x 1024.

The minimum screen resolution is 1024 x 768.

1.1.4.2   Supported operating systems

Seagate DiscWizard has been tested on the following operating systems:

- Windows XP SP3

- Windows XP Professional x64 Edition SP2
- Windows Vista SP2 (all editions)
- Windows 7 SP1 (all editions)
- Windows 8 (all editions)

Seagate DiscWizard also lets you create a bootable CD-R/DVD-R that can back up and recover a disk/partition on a computer running any Intel- or AMD- based PC operating system, including Linux®. (Note that the Intel-based Apple Macintosh is not supported.)

1.1.4.3 Supported file systems

- FAT16/32
- NTFS
- Ext2/Ext3/Ext4 *
- ReiserFS *
- Linux SWAP *

If a file system is not supported or is corrupted, Seagate DiscWizard can copy data using a sector-by-sector approach.

The Ext2/Ext3/Ext4, ReiserFS, and Linux SWAP file systems are supported only for disk or partition backup/recovery operations. You cannot use Seagate DiscWizard for file-level operations with these file systems (file backup, recovery, search, as well as image mounting and file recovering from images). You also cannot perform backups to disks or partitions with these file systems.

1.1.4.4 Supported storage media

- Hard disk drives*
- Solid State Drives (SSD)
- Networked storage devices
- CD-R/RW, DVD-R/RW, DVD+R (including double-layer DVD+R), DVD+RW, DVD-RAM, BD-R, BD-RE**
- USB 1.1 / 2.0 / 3.0, FireWire (IEEE-1394) and PC card storage devices
- REV® and other removable media

* Seagate DiscWizard does not support dynamic disks and volumes.

Seagate DiscWizard supports large hard disk drives with a capacity of more than 2TB. This support is provided even if the operating system does not have support for such hardware. For more information see Seagate Extended Capacity Manager (p. 103).

** Burned rewritable discs cannot be read in Linux without a kernel patch.

1.1.4.5 SSD support

The recommended offset for Solid State Drives (SSD) is a multiple of 64 KB (most commonly, 1024KB or 2048 sectors).

Seagate DiscWizard provides full support of SSDs. It keeps the proper offset of SSD during such operations as image recovery and cloning. Specifically, full support means that:

- If you recover a disk backup to an SSD or clone a disk to an SSD, the offset will be automatically set to the default 1024 KB (2048 sectors).
- If you recover a partition backup to a target empty non-partitioned (unallocated) SSD, the offset will be automatically set to the default 1024 KB (2048 sectors).
- If you recover a partition backup to a target empty partitioned SSD, the target SSD will keep its original offset.

1.1.5   Technical Support

Support for Seagate DiscWizard users is provided by Seagate. Please visit Support Page at www.seagate.com/support http://www.seagate.com/support/.

1.2   Installation and upgrade

In this section

1.2.1   Installing Seagate DiscWizard

Installing Seagate DiscWizard

To install Seagate DiscWizard:

1. Run the setup file.
2. In the install menu, click **Install** to start the installation procedure.
3. Read and accept the terms of the license agreement in the **License Agreement** window.
4. In the **Setup options** window, change the installation folder, if necessary.
5. Click **Proceed** to begin installation. To make changes in the setup, use the **Back** and **Next** buttons.

Recovering from a Seagate DiscWizard error

If Seagate DiscWizard ceased running or produced errors, its files might be corrupted. To repair this problem, you first have to recover the program. To do this, run Seagate DiscWizard installer again. It will detect Seagate DiscWizard on your computer and will ask you if you want to repair or remove it.

Removing Seagate DiscWizard

To remove Seagate DiscWizard components:

1. Open the list of installed programs and applications.
   - In Windows XP, open **Start** -> **Control panel** -> **Add or remove programs**.
   - In Windows Vista and Windows 7, open **Start** -> **Control panel** -> **Programs and Features**.
   - In Windows 8, click the Settings icon, then select **Control Panel** -> **Uninstall a program**.
2. Select the component to be removed:
   - **Seagate DiscWizard**
3. Click **Remove** (Windows XP and Windows Vista) or **Uninstall** (Windows 7 and Windows 8).
4. Follow the instructions on the screen.

You may have to reboot your computer afterwards to complete the task.

*If you used Seagate Extended Capacity Manager, select in the window that appears what to do with extended capacity disks. Then click **Next** to proceed with the uninstallation procedure.*

Upgrading from a previous versions of Seagate DiscWizard

If you already have Seagate DiscWizard installed, the new version will simply update it; there is no need to remove the old version and reinstall the software.

Please keep in mind that the backups created by the later program version may be incompatible with the previous program versions. Therefore if you roll back Seagate DiscWizard to an older version, you likely will have to re-create the backups using the older version. We strongly recommend that you create new bootable media after each Seagate DiscWizard upgrade.

1.2.2 Upgrading Seagate DiscWizard

Seagate DiscWizard has limited functionality compared to True Image 2013 by Acronis. In the software interface, the locked features and functionalities are either grayed out or marked with the 🔒 sign. You can get all these features by upgrading Seagate DiscWizard to True Image 2013 at a special upgrade price which is lower than the regular retail price.

To upgrade Seagate DiscWizard:

1. Click **Get full version** on the information box.

   You will see an information window with the list of features that you will get after the upgrade.
2. Click **Buy Online** at the bottom of the information window.

   You will be redirected to the Acronis website where you will be able to buy True Image 2013 at a special upgrade price.
3. Purchase True Image 2013 by Acronis and download the distribution package to your computer.
4. Install True Image 2013 by Acronis on top of Seagate DiscWizard.

   This will safely replace Seagate DiscWizard and keep your backup archives and settings in place.

1.3 Program workspace

In this section

1.3.1 Backup and recovery tab

The Backup and recovery tab provides quick access to all of the program functionality related to data backup and recovery.

If you have not created any backups yet, the program will offer to create a new backup or add an existing backup. If you have at least one backup, the screen will display the list of your backups.
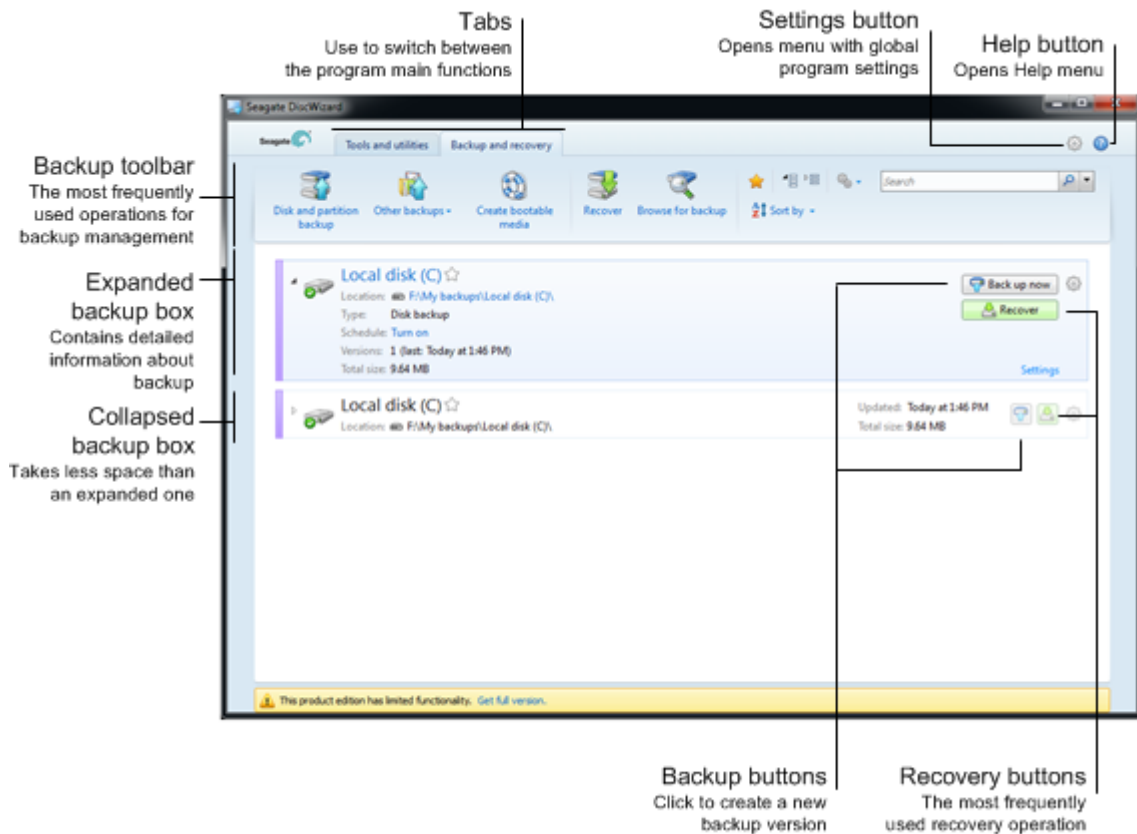
The toolbar

See the toolbar commands description in Backup toolbar (p. 14).

The backups area

The area shows the backups you already have. It provides access to all operations with the existing backups and allows you to start recovery of your data.

- **Back up now** - adds a new backup version to the existing backup or replaces the existing backup version, depending on the backup scheme being used.
- **Recover** - click to recover data.

When a backup box is collapsed, the backup and recovery operations can be started by clicking the appropriate icons. These icons, along with the Operations menu icon (a gear), appear when you move the pointer over a box area.

You can collapse and expand the backup box by clicking the triangle near a backup name.

Operations menu
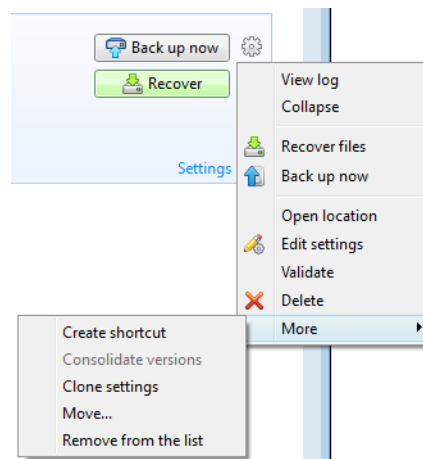
Clicking the gear icon in the box of a selected backup or right-clicking in the free area of the box opens an Operations menu containing the following items:

- **View log** - click to open the log for the current backup.

- **Expand** - expands the selected backup box (available for collapsed boxes).

- **Collapse** - collapses the selected backup box into a narrow stripe (available for expanded boxes).

- **Recover files** - opens the **Backup Explorer** window, where you can select any version of the backup.

- **Open location** - opens the folder containing the backup files.

- **Edit settings** - allows editing of the current backup settings.

- **Recreate backup settings** (available only for backups manually added to the backup list) - allows configuring the settings for image and file backups created by a previous Seagate DiscWizard version. This item may also appear for backups created on another computer and added to the backup list without importing their settings.

  Without backup settings, you will be unable to perform certain operations. Specifically, you cannot refresh the backup by clicking **Back up now**. Also, you cannot edit and clone the backup settings and schedule.

- **Validate** - starts backup validation.

- Delete - deletes all backup versions of the current backup at their location. Be careful, because the deletion cannot be undone.

- **Create shortcut** - creates a shortcut on the Desktop. With the shortcut you can run a backup without starting Seagate DiscWizard.

- **More** - opens the following additional items:

  - **Clone settings** - clones the current backup settings when you need to create several similar backups. Clone the backup settings and then introduce the required changes.

  - **Move...** - click to move all the backup files to another location. The subsequent backup versions will be saved to the new location.

    If you change the backup destination by editing the backup settings, only new backup versions will be saved to the new location. The earlier backup versions will remain in the old location.

  - **Remove from the list** - removes the current backup from the backup list shown in the My backups area. This operation also turns off the scheduling of the removed backup (if a schedule was set), but it does not delete the backup files.

The Operations menu of backups created on another computer and added to the backup list without importing the backup settings will have less items.

1.3.1.1   Backup and recovery toolbar

Features marked with the 🔵 sign are available in the full version of the software only. To access these features, please upgrade to full version.

The toolbar at the top of the **Backup and recovery** tab contains the most frequently used commands for creating new backups, managing the backup list, validating backups, etc.

Command		Description
Disk and partition backup		This feature allows you to protect your computer by creating backups of your partitions (including the system one) and whole disks.
Other backups	**File backup**	This feature allows you to back up your files and folders.
	E-mail backup	This feature allows you to back up your e-mail messages and settings.
	Nonstop Backup	This feature continuously protects your partitions and files.
Create bootable media		If your computer cannot start, use bootable rescue media to run the standalone version of Seagate DiscWizard, and recover your system from a previously created system partition backup.
Browse for backup		Click this item to browse for backups on your computer and add them to the backup list. This may be useful when you have backups created by a previous Seagate DiscWizard version which are not shown in the backup list.
Recover		Click this item to recover data from your backups and then select the backup that contains the required data.
Show only my favorite backups ⭐		This icon filters the backups which you have marked as favorite.
Expand all backup boxes ▤		This icon expands all collapsed backup boxes.
Collapse all backup boxes ▤		This icon collapses all expanded backup boxes into narrow stripes.
	Type	This command sorts all backups by types. The order is as follows: disk backups - file backups - nonstop backup - application settings backups - system state backups - Windows backups.

Sort by	**Name**		This command sorts all backups in alphabetical order.
	Date created		This command sorts all backups starting from the newest down to the oldest.
	Date updated		This command sorts all backups by date of the last version. The newer the last backup version, the higher the backup will be placed in the list.
	Total size		This command sorts all backups by size, starting from the biggest down to the smallest.
	Scheduling type		This command sorts all backups into two groups - backups with a schedule and backups without a schedule, which can be started only manually.
More features	**Explore all backups**		This command allows you to explore all your backups in the Acronis Backup Explorer using the time line.
	Validate all backups		This command checks the integrity of all your backups.
	Update backup list		Click to search for lost backups.
	Remove from the list	**All backups**	This command removes all backup boxes from the backup list. The removed backups can be returned to the list by using the **Browse for backup** tool.
		Not-backed-up-yet boxes	This command removes all "empty" backup boxes from the backup list. Be careful because, after removal, such backup boxes cannot be returned to the list.

Search

To search for a backed up file you need to recover, type the filename or part of its name in the search field on the main menu bar. If the search is successful, the program will open Acronis Backup Explorer and show the found file and backup(s) containing the file.

1.3.2 Tools and utilities tab

This tab allows you to select the tools and utilities provided by Seagate DiscWizard. Launch the required tool or utility by clicking the appropriate link. For more information see Tools and utilities (p. 83).
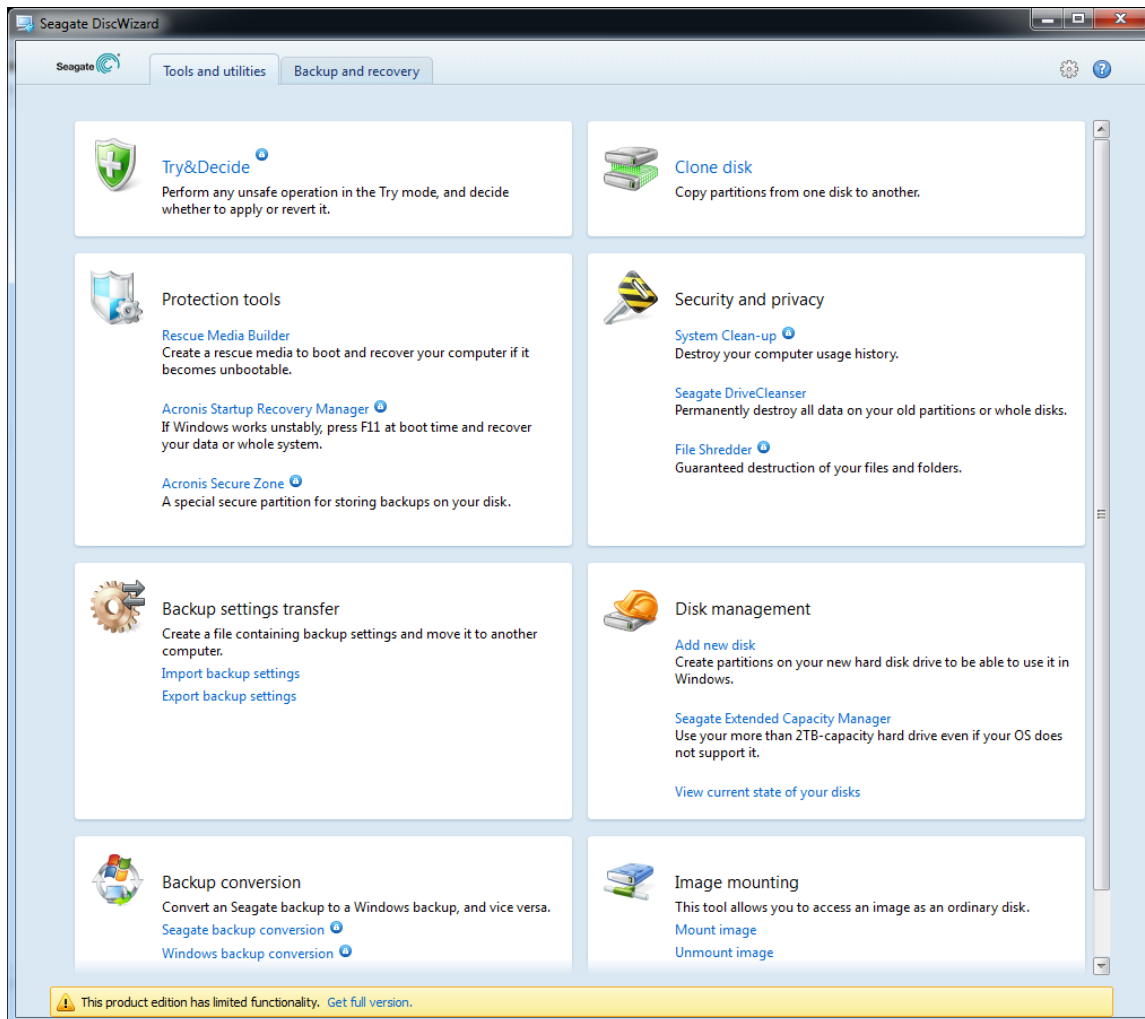
Figure 2: REMOVE AFTER TRANSLATION

1.3.3 Wizards

When you use the available Seagate DiscWizard tools and utilities, the program will in many cases employ wizards to guide you through the operations.

Wizards have a sidebar listing all the steps (both required and optional) needed for completing the operation. For example, see the Mount wizard screen shot below.
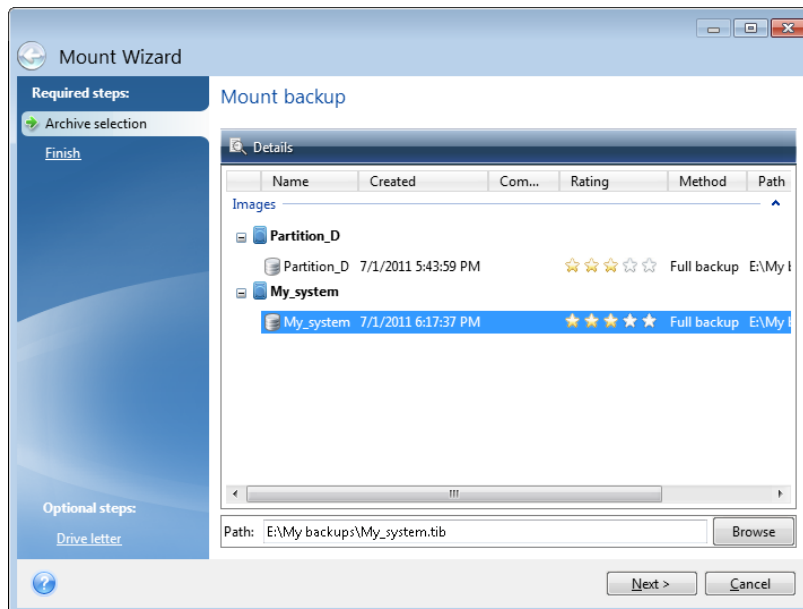
The completed steps are marked with green checkmarks. The green arrow shows the current step. After you complete all the required steps and come to the **Finish** step, the program displays the Summary screen. Check the summary of the operation to be performed and then click **Proceed** to start the operation.

1.3.4   Acronis Backup Explorer

The Acronis Backup Explorer provides you with a wealth of information on your backups: backup types, backup versions number, dates, contents, backup results, etc. In addition, the Backup Explorer allows you to explore and recover backed up data (both partitions and individual files and even file versions). It also allows for operations with backups - you can validate them, mount images as disks, and delete backup versions you no longer need.

Let's have a closer look on the Acronis Backup Explorer. It has two tabs for viewing backups and their content: **Disks and partitions** (available for disk backups only) and **Files and folders**.

1.3.4.1   Disks and partitions tab

The **Disks and partitions** tab shows the backed up disks and partitions that the selected backup version contains.

The tab shows the disks and partitions state of when the current backup version was created.

You can switch between the backup versions by using the time line at the bottom of the screen. For more information see Time line (p. 20).

To recover disks and/or partitions:

1. On the time line, select the backup version from which you want to recover your disks/partitions.

    The version's exact date and time will be displayed near the backup name. Your data will be recovered to the state it was at that point in time.

2. Select the corresponding check boxes of the disks or partitions you want to recover.

3. Click the **Recover** button.

To recover specific files and folders from the disk/partition backups:

1. Click the **Files and folders** tab.

2. Select files and folders you want to recover.

3. Click the **Recover** button.

For more information on recovering files and folders see Files and folders tab (p. 19).
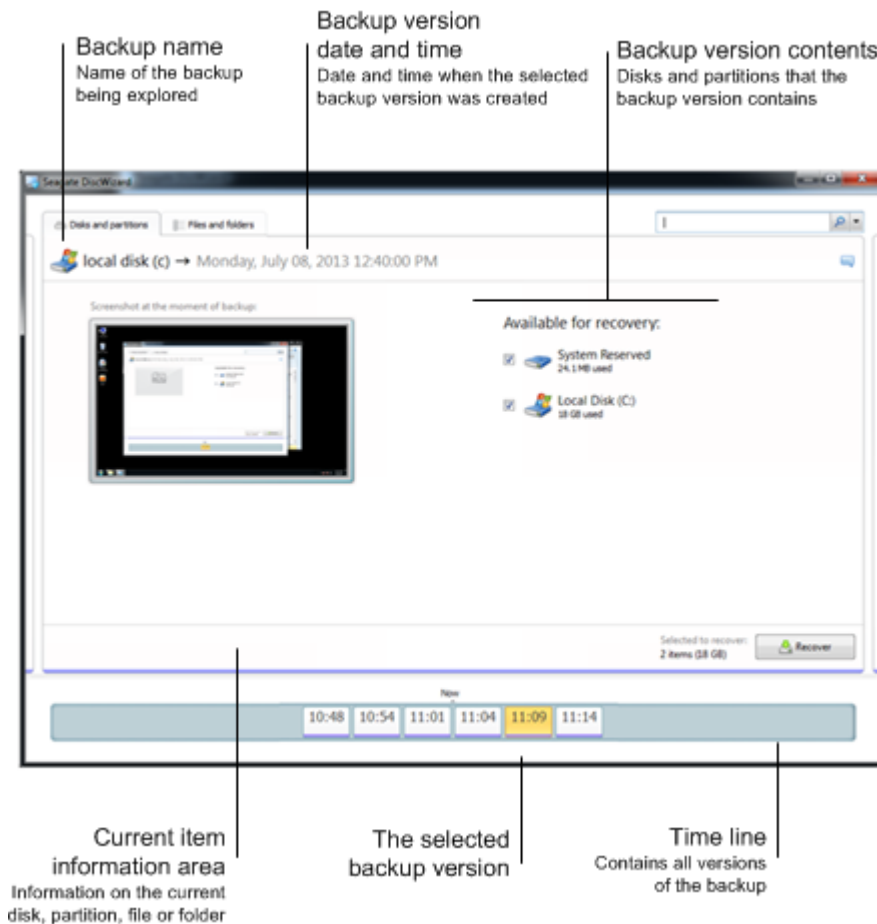
Figure 3: REMOVE AFTER TRANSLATION

Right-clicking on a backup version opens the shortcut menu with other available operations:

- **Recover** - select to recover the current backup version.
- **Validate** - select to check the integrity of the backup version data.
- **Mount** (for image backups) - select to mount the backup version as a disk.
- **Delete version** - select to delete the backup version (the backup chain will not be corrupted).
- **View** - select to set up the time line to show some additional information.

To find a file or folder you need to recover, type the file or folder name in the search field.

Both tabs also show backup comments and allow for adding, editing and deleting comments to the selected backup version. If a backup version does not have comments, click the **Add comment** icon,

then type your comments in the comments area and click the **Save** icon. If there is already a comment, you can edit it for the current version only. To do this, click **Edit comment for current version**, type a new comment and click the **Save** icon to save the changed comment or the **Cancel** icon to cancel the changes.

1.3.4.2   Files and folders tab

The **Files and folders** tab shows the backed up files and folders contained in the selected backup version. The left-hand area of the tab shows a directory tree and the right-hand area - the contents of a selected directory tree item.

The tab shows the files and folders states of when the current backup version was created. You can switch between the backup versions by using the time line at the bottom of the screen. For more information on using the time line see Time line.

To recover files and/or folders:

1. On the time line, select the backup version, from which you want to recover your files/folders.

   The version's exact date and time will be displayed near the backup name. Your data will be recovered to the state it was at this point in time.

2. Select the corresponding check boxes of the files and folders you want to recover (see selection rules below). Short information about the selected items (their number and total size) will be displayed near the **Recover** button.

3. Click the **Recover** button.

You can also recover files and folders by dragging them to your Desktop or into a selected folder in Windows Explorer.

You cannot recover files by dragging them to an FTP, recordable CD/DVD or other optical media, as well as mounted ISO files.

Selection rules

Check boxes that correspond to the items may be in the following states:

- **Selected** (check mark in square) - this state indicates that the item is selected for recovery. A selected folder means that all items in the folder are selected.
- **Cleared** (clear square) - this state indicates that the item is not selected.
- **Mixed** (filled square) - this state is available for folders only and indicates that some items in the folder are selected and the others are not. Note that you cannot set the state by clicking the check box, but you can change it to a cleared or selected state.

Selecting a disk, partition, file or folder to make it the current item in a list does not mean selecting it for recovery!
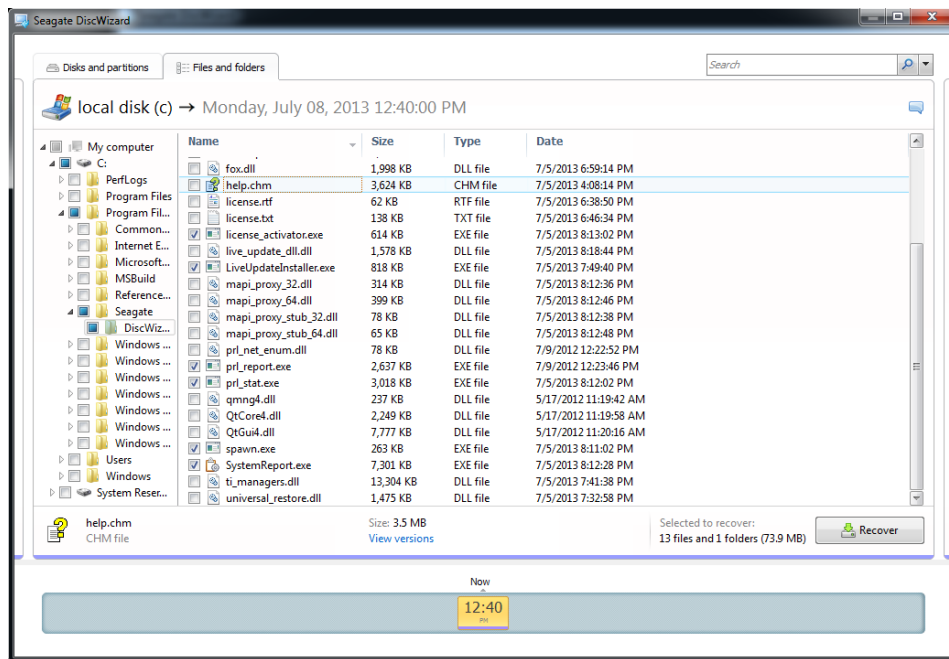
The majority of user interface elements located on this tab are described in the Disks and partitions tab section. Here we describe the items specific for the tab.

When you click an item, short information on this item is displayed under the browser area. The set of displayed parameters depends on the item's type. Clicking the **View versions** link opens the View Versions window with a list of all versions of the file in the backup. You can recover a desired version by its backup time.

By double-clicking on a file in the right-hand area, you will recover the file to a temporary folder. Then   Seagate DiscWizard will open the file using the associated application.

1.3.4.3   Time line

Note! Nonstop Backup is not available in this product edition. To access this feature, please upgrade to full version.

Usually the time line at the bottom of Acronis Backup Explorer screen shows information on the backup versions stored in the selected backup. The time line provides easy navigation through backup versions and allows you to recover your data to the state it was in at a certain date and time.

The squares that represent backup versions have colored stripes at the bottom. The color of the stripes depends on the backup types (violet for disk backups, turquoise for file backups, green for Nonstop Backup, and brown for other backups, e.g. created by a previous Seagate DiscWizard version).

The picture below shows various states of a time line. The states vary depending on the number of backups and the time interval through which you are navigating.
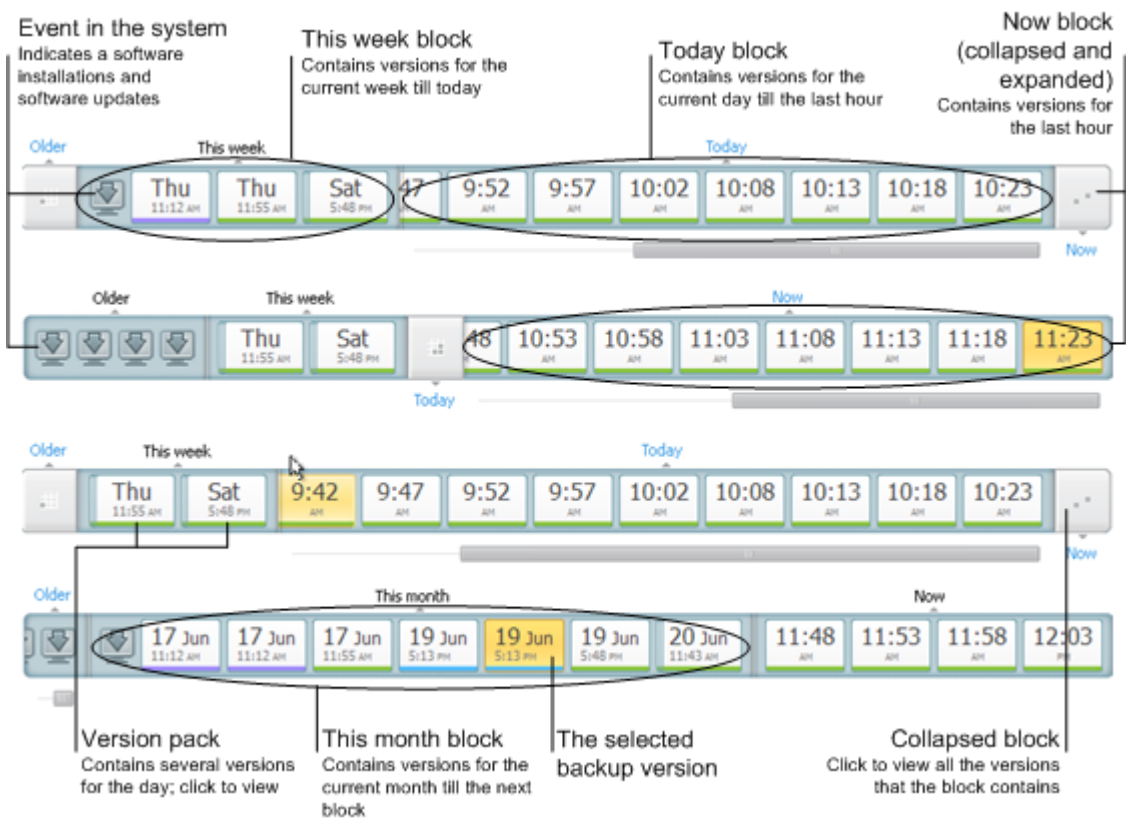
The "Now" interval shows backup versions created during the last hour. When using Nonstop Backup, backup versions may be created as often as every five minutes

The "Today" interval shows backup versions created from the beginning of the current day to the last hour.

The "week" interval can be named either "Week ago" or "This week".

When today is Monday, Tuesday or Wednesday, the "week" interval is named "Week ago". In such cases, the time line shows backup versions created during the previous week and from the beginning of the current week to the beginning of today.

When today is Thursday, Friday, Saturday or Sunday, the "week" interval is named "This week". In such cases the time line shows backup versions created from the beginning of the current week to the beginning of today.

The "month" interval can be named either "Month ago" or "This month".

When today is any date from the 1st to 15th day of the month, the "month" interval is named "Month ago". In that case the time line shows backup versions created during the previous month and from the beginning of the current month to the "week" interval.

When today is any date from the 16th to 31st day of the month, the "month" interval is named "This month". In that case the time line shows backup versions created from the beginning of the current month to the "week" interval.

The "This year" interval shows backup versions created from the beginning of the current year to the "month" interval.

The "Older" interval shows backup versions created from earlier than the beginning of the current year.

Working with time intervals and backup versions

Time intervals may be expanded (when the number of backup versions fits onto the time line) or folded into a square "block". When a time interval is expanded, the squares representing backup versions may contain a "warning" or "error" icon. Such an icon indicates that warning(s) or error(s) have been written into the Log during version creation.

If more than one backup version has been created during a day within "week", "month", "year", or "older" time interval, such a date is shown on the time line using a special "version pack" icon.

If you hover over a folded block for more than half a second, a balloon will show the information about the time interval start, its end, and the number of backup versions it contains.

If you hover over a backup version within an expanded time interval, a balloon will show more detailed information about the backup version.

Clicking on a folded block or its name above or below the time line expands the corresponding time interval. If the number of backup versions within the time interval is too big to fit onto the time line, the horizontal scroll line allows you to navigate through the backup versions within the time interval.

If you select another folded block and there is no room for displaying all backup versions of the newly expanded block, then the current expanded block will collapse.

By clicking on a backup version, you select it in the Backup Explorer.

Shortcut menus

Right-clicking on the time line opens the shortcut menu. The menu contents will change depending on the selected item.
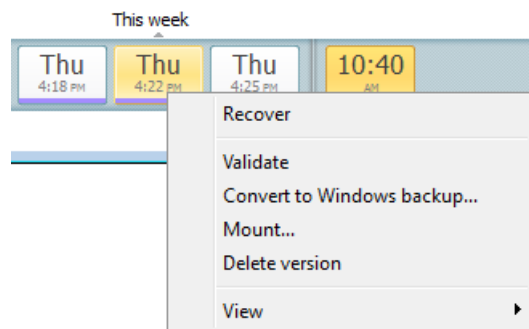
Disk backup version:

- Recover
- Validate
- Mount...
- Delete version

File backup version:

- Validate
- Delete version

Backup version packs and time blocks:

Right-clicking on a folded version pack or time interval's block opens the shortcut menu with a single item:

- Expand

Viewing additional information on the time line

You can also set up the time line to show additional information. The appropriate commands are available in the **View** submenu. The **View** submenu is opened by right-clicking on a backup version or by right-clicking on time line's free space.
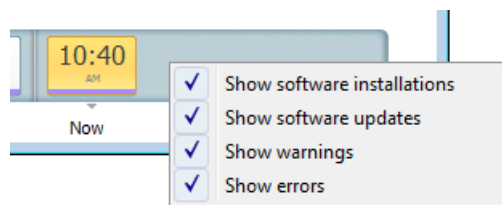
- **Show software installations** - if this item is selected, the time line shows icons that indicate moments when new programs have been installed on your computer.
- **Show software updates** - if this item is selected, the time line shows icons that indicate updates of Windows and programs installed on your computer.
- **Show warnings** - if this item is selected, the time line shows all the backup versions that have been suspended or completed with warning messages (selected by default).
- **Show errors** - if this item is selected, the time line shows failed backup versions and backup versions that have completed with errors.

1.3.5   Settings menu

With the Settings menu you can make or change some settings of Seagate DiscWizard. To open the menu, click the gear icon at the upper-right corner of the program screen. The Settings menu contains the following items:

- **View log** - opens the log of Seagate DiscWizard operations.
- **Integrate Seagate DiscWizard into Windows...** - allows selecting the Seagate components to be integrated into Windows.
- **Timeout settings** - allows you to specify the time interval the program should wait for your response. For more information see Timeout settings (p. 82).

1.3.6   Help menu

The Help menu allows you to open the program's Help, perform certain operations, view product's build number, etc. To open the menu, click the question mark icon at the upper-right corner of the program screen. The Help menu contains the following items:

- **Help** - opens the program's Help.
- **Generate system report** - click to generate an Seagate system report for sending to the product's support team.

- **Seagate Web site** - takes you to the Seagate Web site.
- **About Seagate DiscWizard** - shows information about Seagate DiscWizard including the product's build number.

2 How to

Due to the size of this User's Guide, it is sometimes not so easy to find how to perform a particular task.

This section lists some frequently used tasks and provides links to the appropriate parts of the User's Guide.

Click the corresponding page number (or the link, if you are viewing the Help), if you need information on how to:

- protect your entire system from a disaster (p. 62)
- recover your system when your computer refuses to boot (p. 41)
- recover your photos, finance documents, music, etc. (p. 56)
- clone your disk drive (p. 89)
- automatically refresh your backups: Backup schemes (p. 32) or Scheduling (p. 75)
- create a bootable rescue media (p. 84)
- create a bootable USB flash drive (p. 88)
- make sure that your rescue media can be used when needed (p. 65)
- add and partition a new hard disk (p. 98)
- find a backup that contains the file you need to recover (p. 76)

3 Backing up data

Seagate DiscWizard includes a wealth of sophisticated backup capabilities that would please even an IT professional. They allow you to back up your disks and partitions. You can choose a backup feature that suits you most or use them all. The sections below describe the backup features in more detail.

In this section

3.1 The difference between file backups and disk/partition images

When you back up files and folders, only the files and folder tree are compressed and stored.

Disk/partition backups are different from file and folder backups.   Seagate DiscWizard stores a sector-by-sector snapshot of the disk or partition. This includes the operating system, registry, drivers, software applications, data files, and system areas hidden from the user. This procedure is called "creating a disk image," and the resulting backup is often called a disk/partition image.

By default   Seagate DiscWizard stores only the hard disk sectors that contain data.

Furthermore,   Seagate DiscWizard does not back up pagefile.sys under Windows XP and later and hiberfil.sys (a file that keeps RAM contents when the computer goes into hibernation). This reduces image size and speeds up image creation and recovery.

A partition image includes all files and folders (including hidden and system files), boot record, and FAT (file allocation table). It also includes files in the root directory and the zero track of the hard disk with the master boot record (MBR).

A disk image includes images of all disk partitions and the zero track with the MBR.

3.2 Full, incremental and differential backups

Note: Incremental and differential backups are not available in this product edition. To access this feature, please upgrade to full version.

Seagate DiscWizard offers you three backup methods:

1) **Full**: contains all of the data at the moment of the backup creation. It forms a base for further incremental or differential backups. It can also be used as a standalone backup.

2) **Incremental**: Only those files will be included which have been changed since the LAST backup.

3) **Differential**: Only those files will be included which have been changed since the last FULL backup.

We suggest you to choose one of the following three approaches of using the backup methods:

"**Full**" - A standalone full backup might be an optimal solution if you often roll back the system to its initial state or if you do not like to manage multiple files.

"**Incremental**" - These are most useful when you need frequent backups and the ability to roll back to a specific point in time. Having created a full backup once, if you then create an incremental backup each day of a month, you will get the same result as if you created full backups every day of the month. As a rule, incremental backups are considerably smaller than full or differential backups.

> Such a backup scenario may consist of a weekly full system backup with intermediate, daily backups that cover data that was changed since the LAST backup.

> This scenario, while requiring less storage space and time for the daily backups, will require more work for the program to provide recovery after a system crash. In the event of a Thursday crash, the program would have to recover the Wednesday, Tuesday, and Monday incremental backups and the last FULL backup.

"**Differential**" – is an intermediate between the first two approaches. Each differential backup includes all the files changed since the last full backup. It takes less time and space than "Full", but more than "Incremental". The good thing is that recovering is simpler than for (2) - the program will have to recover the last differential backup and the last full backup.

To choose a desired backup method, you usually need to configure a custom backup scheme. For more information see Custom schemes (p. 32).

An incremental or differential backup created after a disk is defragmented might be considerably larger than usual. This is because the defragmentation program changes file locations on the disk and the backups reflect these changes. Therefore, it is recommended that you re-create a full backup after disk defragmentation.

If you lose an incremental backup or it becomes corrupted, all later incremental backups will be unusable.

3.3   Backing up partitions and disks

To back up partitions or disks, click **Disk and partition backup** on the **Backup and recovery** tab. This opens the **Disk Backup** window.
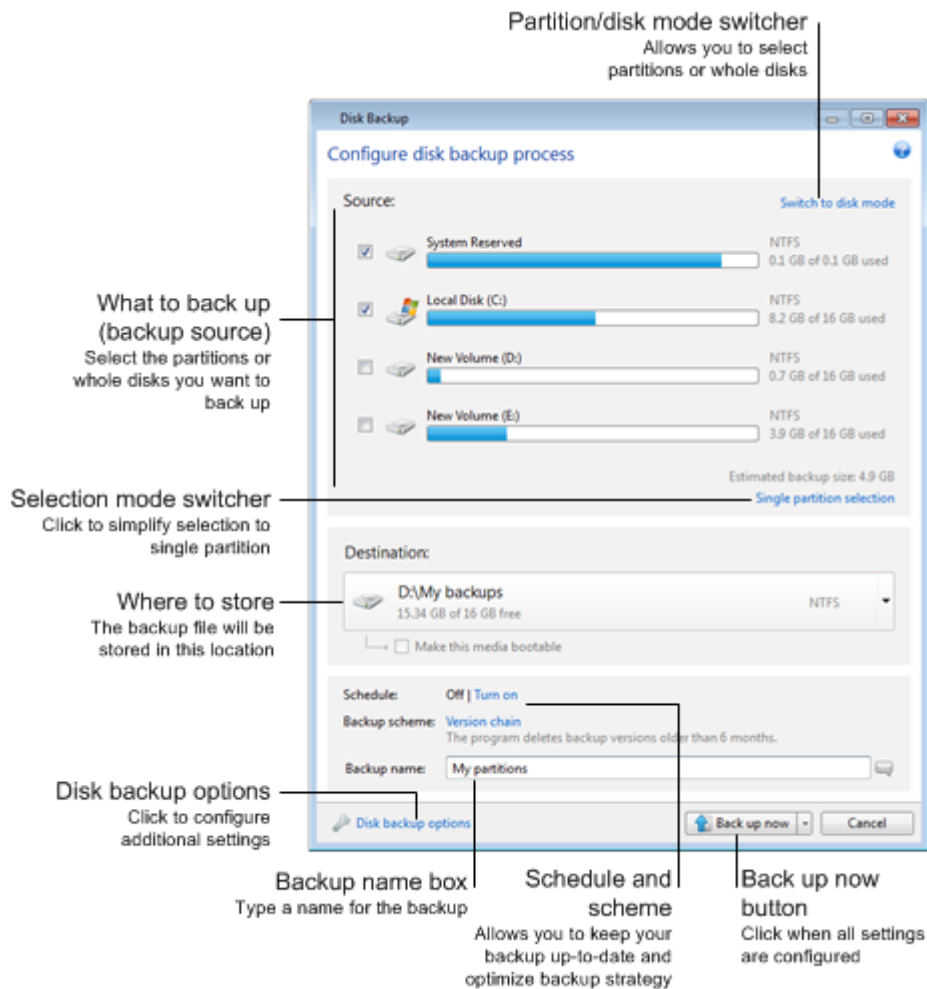
The steps below describe how to configure a backup using most of the available image backup settings.

1. Select a partition to back up by selecting the corresponding check box. If you want to back up more than one partition, click **Multiple partition selection**. If the disk has several partitions and you want to back up the whole disk, click **Switch to disk mode** in the upper-right corner and then select the disk's check box. To return to the partition selection, click **Switch to partition mode**.

    You can only use the partition mode to back up dynamic disks.

2. Select a destination for backup (you can leave the default destination when it suits you or browse for a destination after clicking the down arrow to the right of the current destination and selecting **Browse...**).

When the backup destination is any removable media (USB stick, BD, DVD...), the **Make this media bootable** check box becomes selectable. Selecting the check box results in creating a bootable recovery environment on the removable media and adding a standalone Seagate DiscWizard version. You will be able to run Seagate DiscWizard from the removable media on a bare-metal system or the crashed computer that cannot boot.

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If possible, avoid storing your system partition backups on dynamic disks, because the system partition is recovered in the Linux environment. Linux and Windows work with dynamic disks differently. This may result in problems during recovery.

1. If you need the backup to run on a schedule, click the link to the right of **Schedule**, turn on scheduling and set the required schedule. For more information see Scheduling (p. 75).

2. You can also change the default backup scheme by clicking on the appropriate link. For more information see Backup schemes (p. 32).

3. If you would like to assign a specific name to the backup, type the name in the **Backup name** field instead of the default one.

   You can also add useful information to the backup name. To do so, click the down arrow to the right of the destination and click **Browse...**. Select the items you want to add in the right field of the File name line:

   - add date - the backup creation date will be added
   - add time - the backup creation time will be added
   - add user name - the current user name will be added
   - add machine name - the computer name will be added
   - add task name - the name of the task that includes the backup will be added
   - add task run number - the sequence number of the task run will be added

4. Click **Disk backup options** to set the options for the backup being configured. For example, when your data disk contains sensitive information, you may want to protect the information by encryption. You can also choose to validate the backup immediately after its creation, though it can be done later. For more information see Backup options (p. 30).

5. When you set up the backup as needed, you can run it immediately by clicking the **Back up now** button. If you want to run the backup later or on a schedule, click the down arrow to the right of the **Back up now** button and select **Later** in the drop down list to save the settings you have made.

3.4   Adding an existing backup to the list

If you have backups that are not shown in the backups list on the **Backup and recovery** tab (for example, backups created by a previous Seagate DiscWizard version), you can add them to the list. Click **Browse for backup** on the **Backup and recovery** tab. This opens a window where you can browse for backups on your computer.

To add an existing backup to the backup list, select the backup and click the **Add to backup list** button.

3.5   Making reserve copies of your backups

You can create reserve copies of your backups and save them on the file system or a network drive. A reserve copy may help you if the main backup becomes corrupted or if the storage of the main backup fails.

A reserve copy always contains all the files selected for backup, that is, when creating a reserve copy the program always makes a full backup of the source data.

Also remember that the operation will take more time, because normal backup and reserve copying are performed one after another and not simultaneously. Furthermore, you will need more storage space or an additional storage device.

3.6   Deleting backups and backup versions

You may want to delete backups and backup versions you no longer need.   Seagate DiscWizard stores information on the backups in a metadata information database.

Therefore, deleting unneeded backup files in Windows Explorer will not delete information about these backups from the database, and Seagate DiscWizard will consider that they still exist.

This will result in errors when the program tries to perform operations on the backups that no longer exist. So you must only remove obsolete backups and backup versions by using the tools provided by Seagate DiscWizard.

To delete an entire backup:

Find the corresponding backup box on the **Backup and recovery** tab of   Seagate DiscWizard. Click the gear icon to open the Operations menu and then click **Delete**.

When you delete an entire backup, all its versions will be deleted as well.

To delete a specific backup version:

1.   On the **Backup and recovery** tab, find the corresponding backup box, click **Explore and recover**.
2.   In Backup explorer, right-click on the time line the version you want to delete, and then click **Delete version**.

When you delete a backup version, please remember that this version may have dependent versions. In this case the dependent versions will be deleted as well, because data recovery from such versions becomes impossible.

- **If you delete a full backup version** - the program will also delete all subsequent incremental versions till the next full version.
- **If you delete an incremental backup version** - the program will also delete all subsequent incremental versions till the next full version.

3.7   Backup options

In the **Disk Backup Options** window you can configure options for a disk/partition backup process. To open the options window, click the appropriate link.

After you have installed the application, all options are set to the initial values. You can change them for your current backup operation only or for all backups that will be created in future. Select the **Save the settings as default** check box to apply the modified settings to all further backup operations by default.
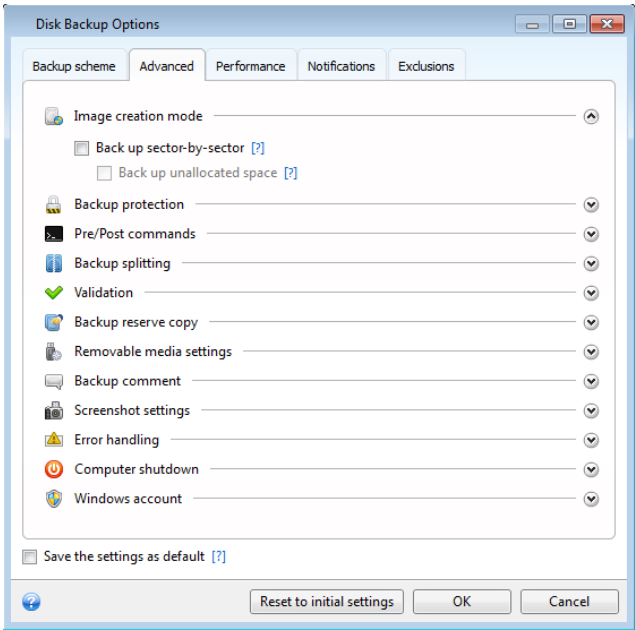
Note that options of each backup type are fully independent, and you should configure them separately.

If you want to reset all the modified options to the values that were set after the product installation initially, click the **Reset to initial settings** button.

In this section

3.7.1 Backup schemes

Backup schemes along with the scheduler help you to set up your backup strategy. The schemes allow you to optimize backup storage space usage, improve data storage reliability, and automatically delete the obsolete backup versions.

Backup scheme defines the following parameters:

- Backup methods that will be used to create backup versions
- Sequence of the backup versions created using different methods
- Version cleanup rules
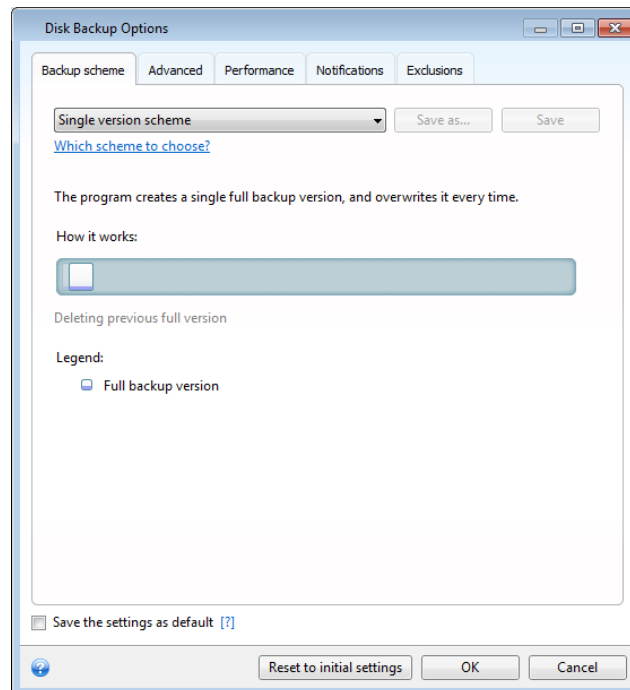
Seagate DiscWizard allows you to choose the following backup schemes:

- **Single version** (p. 32) - select this scheme if you want to use the smallest backup storage.
- **Custom** (p. 32) - select this item if you want to set up a backup scheme manually.

3.7.2 Single version scheme

The program creates a full backup version and overwrites it every time according to the specified schedule or when you run backup manually.

Backup scheduler setting for disk backup: weekly.

Result: you have a single up-to-date full backup version.

Required storage space: minimal.

3.7.3 Custom schemes

With Seagate DiscWizard you also can create your own backup schemes. Schemes can be based on the pre-defined backup schemes. You can make changes in a selected pre-defined scheme to suit your needs and then save the changed scheme as a new one.

So first of all select one of the backup methods in the appropriate box.

▪ Full (p. 26)

Select this method if you want to create only full backup versions.

Automatic cleanup rules

To delete obsolete backup versions automatically, you can set one of the following cleanup rules:

▪ **Delete versions older than [defined period]** (available for full method only) - Select this option to limit the age of backup versions. All versions that are older than the specified period will be automatically deleted.

▪ **Store no more than [n] recent versions** (available for full method only) - Select this option to limit the maximum number of backup versions. When the number of versions exceeds the specified value, the oldest backup version will be automatically deleted.

▪ **Keep size of the backup no more than [defined size]** - Select this option to limit maximum size of the backup. After creating a new backup version, the program checks whether the total backup size exceeds the specified value. If it's true, the oldest backup version will be deleted.

The first backup version option

Often the first version of any backup is one of the most valuable versions. This is true because it stores the initial data state (for example, your system partition with recently installed Windows) or some other stable data state (for example, data after a successful virus check).

Do not delete the first version of the backup - Select this check box to keep the initial data state. The program will create two initial full backup versions. The first version will be excluded from the automatic cleanup, and will be stored until you delete it manually.

Note that when the check box is selected, the **Store no more than [n] recent versions** check box will change to **Store no more than 1+[n] recent versions**.

3.7.3.1 Managing custom backup schemes

If you change anything in an existing backup scheme, you can save the changed scheme as a new one. In this case you need to specify a new name for that backup scheme.

▪ You can overwrite existing custom schemes.

▪ You cannot overwrite existing pre-defined backup schemes.

▪ In a scheme name, you can use any symbols allowed by OS for naming files. The maximum length of a backup scheme name is 255 symbols.

▪ You can create not more than 16 custom backup schemes.

After creating a custom backup scheme, you can use it as any other existing backup scheme while configuring a backup.

You can also use a custom backup scheme without saving it. In this case, it will be available only for the backup where it was created and you will be unable to use it for other backups.

If you do not need a custom backup scheme anymore, you can delete it. To delete the scheme, select it in the backup schemes list, click **Delete**, and then click **Delete scheme** in the confirmation window.

The pre-defined backup schemes cannot be deleted.

3.7.4   Image creation mode

You can use these parameters to create an exact copy of your whole partitions or hard disks, and not only the sectors that contain data. Note that the **Back up unallocated space** check box is available only when the **Back up sector-by-sector** check box is selected.

- To make a sector-by-sector backup, check the **Back up sector-by-sector** parameter. By default the program copies only the hard disk sectors that contain data. However, sometimes it might be useful to make a full sector-by-sector backup. For example, you have deleted some files by mistake and want to make a disk image before trying to undelete them, because sometimes undeleting may create problems in the file system. Please note that this mode increases processing time and usually results in a larger image file because it copies used and unused hard disk sectors.

- The **Back up unallocated space** option becomes available if you have selected the previous parameter, **Back up sector-by-sector**. By default, while performing sector-by-sector backup, unallocated space is not included into the backup file. Enabling this option will include all unallocated disk space into the backup.

3.7.5   Pre/Post commands for backup

You can specify commands (or even batch files) that will be automatically executed before and after the backup procedure.

For example, you may want to start/stop certain Windows processes, or check your data before starting backup.

To specify commands (batch files):

- Select a command to be executed before the backup process starts in the **Before backup process** field. To create a new command or select a new batch file, click the **Edit** button.

- Select a command to be executed after the backup process ends in the **After backup process** field. To create a new command or select a new batch file, click the **Edit** button.

Please do not try to execute interactive commands, i.e. commands that require user input (for example, "pause"). These are not supported.

3.7.5.1   Edit user command for backup

You can specify user commands to be executed before or after the backup procedure:

- In the **Command** field, type-in a command or select it from the list. Click **...** to select a batch file.

- In the **Working directory** field, type-in a path for command execution or select it from the list of previously entered paths.

- In the **Arguments** field enter or select command execution arguments from the list.

Disabling the **Do not perform operations until the command execution is complete** parameter (enabled for Pre commands by default), will permit the backup process to run concurrently with your command execution.

The **Abort the operation if the user command fails** (enabled by default) parameter will abort the operation if any errors occur in command execution.

You can test a command you entered by clicking the **Test command** button.

3.7.6 Backup splitting

Seagate DiscWizard cannot split already existing backups. Backups can be split only when being created.

Large backups can be split into several files that together make up the original backup. A backup can also be split for burning to removable media.

The default setting - **Automatic**. With this setting, Seagate DiscWizard will act as follows.

When backing up to a hard disk:

- If the selected disk has enough space and its file system allows the estimated file size, the program will create a single backup file.

- If the storage disk has enough space, but its file system does not allow the estimated file size, the program will automatically split the image into several files.

- If you do not have enough space to store the image on your hard disk, the program will warn you and wait for your decision as to how you plan to fix the problem. You can try to free some additional space and continue or select another disk.

When backing up to a CD-R/RW, DVD-R/RW, DVD+R/RW, BD-R/RE:

- Seagate DiscWizard will ask you to insert a new disk when the previous one is full.

Alternatively, you may select the desired file size from the drop-down list. The backup will then be split into multiple files of the specified size. This is useful when you store a backup to a hard disk in order to burn the backup to CD-R/RW, DVD-R/RW, DVD+R/RW or BD-R/RE later on.

Creating images directly on CD-R/RW, DVD-R/RW, DVD+R/RW, BD-R/RE might take considerably more time than it would on a hard disk.

3.7.7 Backup validation option

You can specify the additional validation setting: **Validate backup when it is created**.

When this option is enabled, the program will check the integrity of the recently created or supplemented backup version immediately after backup. When setting up a backup of critical data or a disk/partition backup, we strongly recommend that you enable this option in order to ensure that the backup can be used to recover the lost data.

Regular validation

You can also schedule validation of your backups to ensure that they remain "healthy". By default regular validation is turned on with the following settings:

- Frequency: once a week
- Day: the date when the backup was started
- Time: the moment of backup start plus 15 minutes
- Advanced settings: the **Run the validation only when the computer is idle** check box is selected

You can change the default settings and specify your own schedule. For more information see Scheduling (p. 75).

3.7.8 Backup reserve copy

You can create reserve copies of your backups and save them on the file system or a network drive.

To make a reserve copy:

- Select the **Create a reserve copy of my backups** check box
- Click **Set location...** and specify a location for the backup copies

All backup options (such as backup compression, backup splitting, etc.) will be inherited from the source backup.

A reserve copy always contains all the data selected for backup, that is, when creating a reserve copy the program always makes a full backup of the source data.

Also remember that you will pay for the enhanced convenience and increased security of your data by the time required for performing the backup because normal backup and reserve copying are performed one at a time and not simultaneously.

3.7.9 Removable media settings

The following settings are available:

- **Ask for first media while creating backups on removable media**

    You can choose whether to display the Insert First Media prompt when backing up to removable media. With the default setting, backing up to removable media may not be possible if the user is away, because the program will wait for someone to press OK in the prompt box. Therefore, you should disable the prompt when scheduling a backup to removable media. Then, if the removable media is available (for example, CD-R/RW inserted) the backup can run unattended.

If you have other Seagate products installed on your computer, the bootable versions of these programs' components will be offered as well.

3.7.10 Backup comment

This option allows you to add comments to the backup. Backup comments may help you to find the necessary backup later.

If a backup does not have comments, type your comment in the comments area and click **Save**. When a comment already exists, you can edit it after clicking **Edit**. Having finished editing, click **Save** to save the changed comment.

Note that by default the comment will be assigned to all versions of the backup. You can edit the comment of a specific backup version in Backup Explorer.

3.7.11 Error handling

When the program encountered an error while performing backup, it stops the backup process and displays a message, waiting for a response on how to handle the error. If you set an error handling policy, the program will not stop the backup process and warn you about an error with a message, but will simply handle the error according to the set rules and continue working.

You can set the following error handling policy:

- **Do not show messages and dialogs while processing (silent mode)** (the preset is disabled) - You can enable this setting to ignore errors during backup operations. This feature was mainly designed for unattended backups when you cannot control the backup process. In this mode no

notifications will be displayed to you if errors occur during backup. Instead you can view the detailed log of all operations after the backup process finishes.

- **Ignore bad sectors** (the preset is disabled) - This option is present only for disk and partition backups. It lets you run a backup even if there are bad sectors on the hard disk. Although most disks do not have bad sectors, the possibility that they might occur increases during the course of the hard disk's lifetime. If your hard drive has started making strange noises (for example, it starts making quite loud clicking or grinding noises during operation), such noises may mean that the hard drive is failing. When the hard drive completely fails, you can lose important data, so it is high time to back up the drive as soon as possible. There may be a problem though – the failing hard drive might already have bad sectors. If the **Ignore bad sectors** check box is left unselected, a backup is aborted in case of read and/or write errors that could occur on the bad sectors. Selecting this box lets you run a backup even if there are bad sectors on the hard disk ensuring that you save as much information from the hard drive as possible.

- **When not enough space in ASZ, delete the oldest backup** (the preset is enabled) - When this setting is disabled and there is not enough space in the Acronis Secure Zone for the backup file being created, the program will display a dialog warning you that the zone is full and will require your action. The backup is suspended until you take a desired action and this makes unattended backups impossible. The dialog opens even when the **Do not show messages and dialogs while processing (silent mode)** setting is enabled. So it is advisable to select the **When not enough space in ASZ, delete the oldest backup** check box when planning unattended scheduled backups to the Acronis Secure Zone.

- **Repeat attempt if a backup fails** - This option allows you to automatically repeat a backup attempt if the backup fails for some reason. You can configure this option by specifying two settings - number of attempts and time interval between attempts. According to these settings, Seagate DiscWizard will try to back up your data until the backup is successfully created. But if the error interrupting the backup persists, then the backup will not be created.

3.7.12   Computer shutdown

If you know that the backup process you are configuring may take a long time, you may select the **Shut down the computer after the backup is complete** check box. In this case, you will not have to wait until the operation completion. The program will perform the backup and turn off your computer automatically.

This option is also useful when you schedule your backups. For example, you may want to perform backups every weekday in the evening to save all your work. Schedule the backup and select the check box. After that you may leave your computer when you finish your work knowing that the critical data will be backed up and the computer will be turned off.

3.7.13   Performance of backup operation

On the **Performance** tab you can configure the following settings:

Compression level

You can choose the compression level for a backup:

- **None** - the data will be copied without any compression, which may significantly increase the backup file size.
- **Normal** - the recommended data compression level (set by default).
- **High** - higher backup file compression level, takes more time to create a backup.

- **Maximum** - maximum backup compression, but takes a long time to create a backup.

The optimal data compression level depends on the type of files stored in the backup. For example, even maximum compression will not significantly reduce the backup size, if the backup contains essentially compressed files, like .jpg, .pdf or .mp3.

Operation priority

Changing the priority of a backup or recovery process can make it run faster or slower (depending on whether you raise or lower the priority), but it can also adversely affect the performance of other running programs. The priority of any process running in a system, determines the amount of CPU usage and system resources allocated to that process. Decreasing the operation priority will free more resources for other CPU tasks. Increasing backup or recovery priority may speed up the process by taking resources from the other currently running processes. The effect will depend on total CPU usage and other factors.

You can set up the operation priority:

- **Low** (enabled by default) - the backup or recovery process will run slower, but the performance of other programs will be increased.
- **Normal** - the backup or recovery process will have the equal priority with other processes.
- **High** - the backup or recovery process will run faster, but the performance of other programs will be reduced. Be aware that selecting this option may result in 100% CPU usage by Seagate DiscWizard.

Network connection speed

If you frequently back up data to network drives or FTP, think of limiting the network bandwidth used by Seagate DiscWizard.

You can specify the network backup data transfer speed by choosing one of the following:

- **Transferring speed stated as a percent of the highest possible speed** - drag the slider to set the desired limit for transferring backup data.
- **Transferring speed stated in kilobytes per second** - enter the bandwidth limit for transferring backup data in kilobytes per second.

3.7.14   Notifications for backup operation

Free disk space threshold

You may want to be notified when the free space on the backup storage becomes less than the specified threshold value. If after starting a backup Seagate DiscWizard finds out that the free space in the selected backup location is already less than the specified value, the program will not begin the actual backup process and will immediately inform you by displaying an appropriate message. The message offers you three choices - to ignore it and proceed with the backup, to browse for another location for the backup or to cancel the backup.

If the free space becomes less than the specified value while the backup is being run, the program will display the same message and you will have to make the same decisions.

To set the free disk space threshold:

- Select the **Show notification message on insufficient free disk space** check box
- In the **Size** box, type or select a threshold value and select a unit of measure

Seagate DiscWizard can monitor free space on the following storage devices:

- Local hard drives
- USB cards and drives
- Network shares (SMB/NFS)

*The message will not be displayed if the **Do not show messages and dialogs while processing (silent mode)** check box is selected in the **Error handling** settings.*

This option cannot be enabled for FTP servers and CD/DVD drives.

3.7.15 Windows account

When you create a backup, you can specify a Windows account under which this backup should be performed. This may be useful if your computer is used not only by you, but also by your relatives. In such a case each user often has personal documents, e-mail accounts, settings, and other personal data. By default Seagate DiscWizard backs up data of the current user. We recommend that you change this setting if the Windows account under which you are currently working is not yours. The program will back up only the data related to the specified account. Data of all other accounts will not be backed up.

To change the current Windows account:

1. Select the **Run backup as different Windows account** check box.
2. Type the account name and password in the appropriate fields.

3.8 Validating backups

The validation procedure checks whether you will be able to recover data from a particular backup version.

To validate an entire backup:

1. Select the backup to validate, click the gear icon to open the Operations menu and select **Validate**. If the selected backup is password-protected, Seagate DiscWizard will ask for the password in a dialog box.
2. After you enter the correct password the program will start the validation procedure.
3. When the validation is complete, you will see the result in the line below the backup's box. You can cancel validation by clicking **Cancel**.

3.9 Cloning backup settings

When you already have a backup and you need to create a new backup of the same type, there is no need to configure the backup process from scratch. The program allows you to copy all settings from an existing backup. After that, you only have to slightly correct the copied settings for your new backup and click **Back up now**.

To create a new backup based on an existing backup:

1. On the **Backup and recovery** tab, find the corresponding backup box, click the gear icon to open the Operations menu, point to **More**, and then click **Clone settings**.

A new backup box named **Copy of [the initial backup name]** will be created. It will contain the same settings as the "parental" backup.

2. On the cloned backup box, click the gear icon to open the Operations menu, and then click **Edit settings**.

3. Change selection of items to back up. You may modify backup name, destination, and other settings if needed.

4. Click the **Save** button.

5. To create the first backup version, click **Back up now** on the backup box.

4 Recovering data

The purpose of data backup is to recover backed up data when the original is lost due to hardware failure, fire, theft or accidental deletion of files.

We hope that you backed up your system and data using the backup features provided by Seagate DiscWizard. If so, nothing will have been lost.

The following sections describe how to recover disks, partitions, files and folders. In most cases, you will use Acronis Backup Explorer to recover files and folders. For more information, see Acronis Backup Explorer (p. 17).

In this section

4.1 Recovering your system after a crash

When your computer fails to boot, it is advisable to at first try to find the cause using the suggestions given in Trying to determine the crash cause (p. 41). If the crash is caused by corruption of the operating system, use a backup to recover your system. Make the preparations described in Preparing for recovery (p. 42) and then proceed with recovering your system (p. 42).

4.1.1 Trying to determine the crash cause

A system crash can be due to two basic factors. One reason is that your computer will not boot due to a hardware failure. The second reason is that the operating system is corrupted and Windows will not start up.

In the first scenario, it is better to let your service center handle the repairs. However, you may want to perform some routine tests. Check the cables, connectors, power of external devices, etc. Then, restart the computer. The POST (power-on self test) that starts immediately after you turn on your computer, checks your system hardware. If the POST has found a failure, you will need to send the PC for repairs.

If the POST does not reveal a hardware failure, enter BIOS and check whether it recognizes your system hard disk drive. To enter BIOS, press the required key combination (**Del**, **F1**, **Ctrl+Alt+Esc**, **Ctrl+Esc**, or some other, depending on your BIOS) during the POST sequence. Usually the message with the required key combination is displayed during the startup test. Pressing this combination takes you to the setup menu. Go to the hard disk autodetection utility which usually comes under "Standard CMOS Setup" or "Advanced CMOS setup". If the utility does not detect the system drive, it has failed and you need to replace the drive.

If the utility correctly detects your system hard disk drive, then the cause of the crash is probably a virus, malware or corruption of a system file required for booting.

If the system drive is healthy, try to recover the system using a backup of your system disk or system partition. Because Windows does not boot, you will have to use Seagate bootable rescue media.

You will also need to use a system disk backup when recovering the system after replacing the damaged hard disk drive.

4.1.2 Preparing for recovery

a) Scan the computer for viruses if you suspect that the crash occurred due to a virus or malware attack.

b) Boot from the rescue media and validate the backup you want to use for recovery. This is necessary because, when a backup is validated in the recovery environment, the program sometimes declares it corrupted though it has been successfully validated in Windows. This may be due to the fact that Seagate DiscWizard uses different device drivers in Windows and in the recovery environment. If Seagate DiscWizard considers the backup corrupted, it will not proceed with recovery.

4.1.3 Recovering your system

After you have performed the steps described in Preparing for recovery (p. 42), begin the system recovery procedure. Here we will explain how to recover a corrupted system to the same hard disk. System recovery to a replaced hard disk drive will be similar with some minor differences. You do not need to format the new disk, as this will be done in the process of recovery.

Attach the external drive if it contains the backup to be used for recovery and make sure that the drive is powered on. This must be done before booting from Seagate rescue media.

1. Arrange the boot order in BIOS so as to make your rescue media device (CD, DVD or USB stick) the first boot device. See Arranging boot order in BIOS (p. 57).
2. Boot from the rescue media and select Seagate DiscWizard.
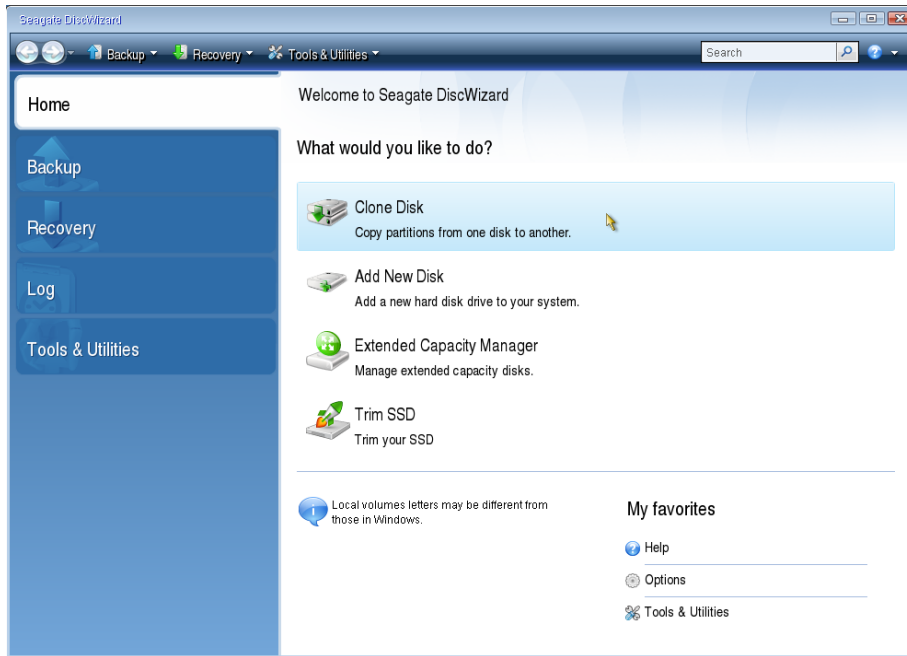
3. Select **Recovery**.

4. Select the system disk or partition backup to be used for recovery. Right-click on the backup and choose **Recover** in the shortcut menu.

Figure 5: REMOVE AFTER TRANSLATION

5. Select **Recover whole disks and partitions** at the Recovery method step.
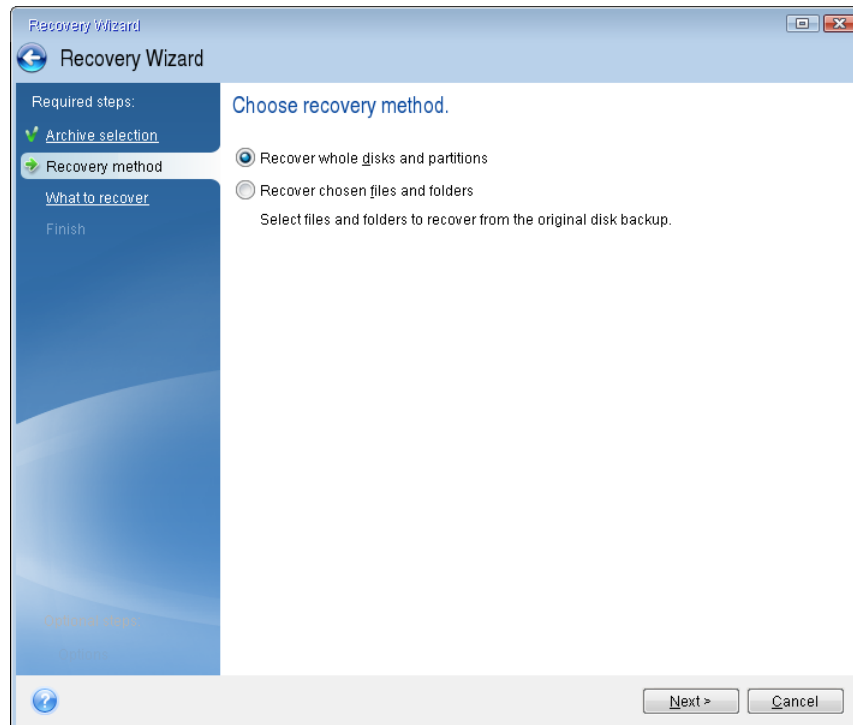
6. Select the system partition (usually C) on the **What to recover** screen. If the system partition has a different letter, select the partition using the **Flags** column. It must have the **Pri**, **Act** flags.

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*In case of Windows 7 the System Reserved partition will have the **Pri, Act** flags . You will need to select for recovery both the System Reserved partition and the System partition.*
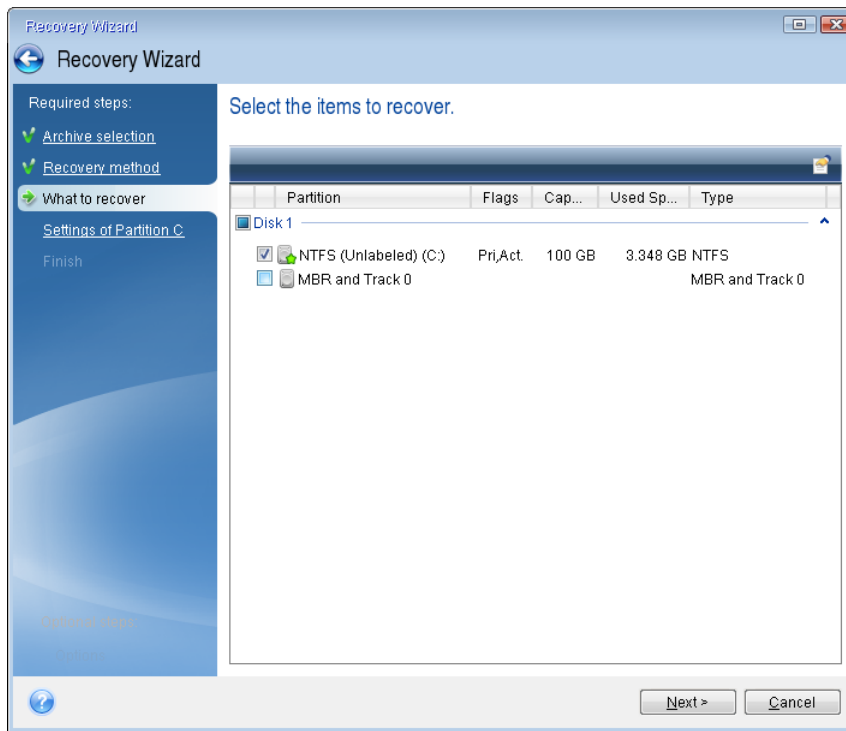
7. At the "Settings of partition C" (or the letter of the system partition, if it is different) step check the default settings and click **Next** if they are correct. Otherwise, change the settings as required before clicking **Next**. Changing the settings will be needed when recovering to the new hard disk of a different capacity.

8. Carefully read the summary of operations at the **Finish** step. If you have not resized the partition, the sizes in the **Deleting partition** and **Recovering partition** items must match. Having checked the summary click **Proceed**.
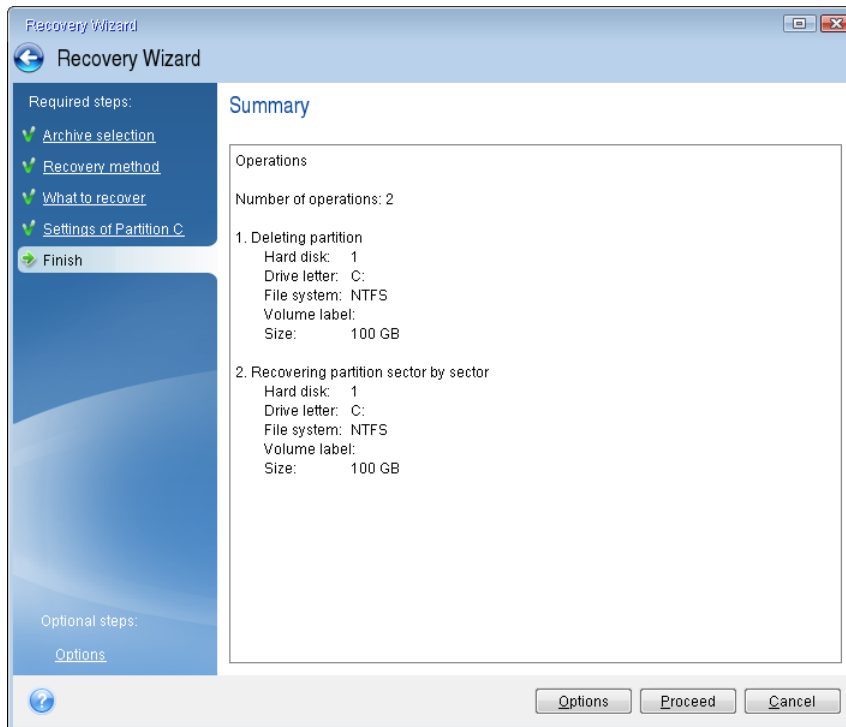
9. When the operation finishes, exit the standalone version of Seagate DiscWizard, remove the rescue media and boot from the recovered system partition. After making sure that you have recovered Windows to the state you need, restore the original boot order.

4.2 Recovering partitions and disks

You can start recovering a partition or disk from an image backup both on the **Backup and recovery** tab and in Acronis Backup Explorer. To start recovery from the **Backup and recovery** tab, select the box of a backup containing the partition image you need to recover. Click the **Recover** button (or the Recover icon if the backup box is collapsed). This opens the Disk Recovery window.

If you want to recover the partition to the state it was at an earlier date, click the gear icon to open the Operations menu and then click **Explore and recover**. This opens Acronis Backup Explorer and you can select the image backup version created on that date. Clicking **Recover** after selecting the required version opens the Disk Recovery window.
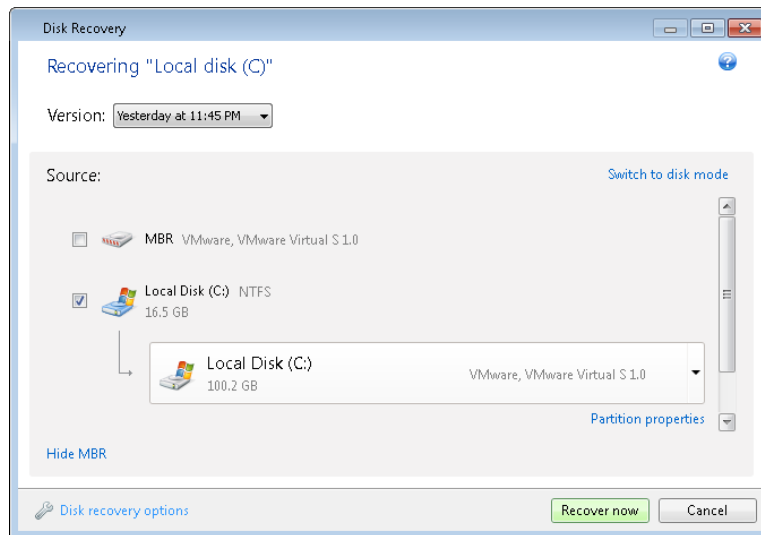
1. Select the corresponding check box of the partition to recover.

   *If you backed up an entire disk, you can choose to recover the entire disk at once by clicking **Switch to disk mode**. To be able to select partitions again, click **Switch to partition mode**.*

2. In the recovery destination field below the partition name, select the destination partition. Those partitions where the partition to be recovered can fit are marked by black lettering. Unsuitable partitions are marked by red lettering. Note that all data on the destination partition will be lost because it is replaced by the recovered data and file system.

   *To recover an image to the source partition without resizing, at least 5% of free space is required on the partition. Otherwise, the **Recover now** button will be unavailable.*

3. After you finish with your selections, click **Recover now** to start recovery.

Sometimes you need to recover the MBR (Master Boot Record). For instance, it may be necessary when Windows does not boot after recovery. To recover the MBR (either together with the partition or individually), click **Show MBR** and then select the MBR check box.

If you recover the entire disk, the **Recover disk signature** check box appears. Disk signature is a part of a hard disk MBR. It is used for uniquely identifying the disk media.

We recommend that you select the **Recover disk signature** check box due to the following reasons:

■ Seagate DiscWizard creates scheduled backups using the signature of the source hard disk. If you recover the same disk signature, you don't need to re-create or edit the backups created previously.

■ Some installed applications use a disk signature for licensing and other purposes.

We recommend that you clear the **Recover disk signature** check box when:

■ You use an image backup not for disaster recovery but for cloning your Windows hard drive to another one.

In this case, Seagate DiscWizard generates a new disk signature for the recovered hard drive, even if you recover to the same drive.

Disk recovery options - click to set up additional parameters for the disk recovery process.

4.3 How to recover more than one partition at once

Here we describe recovery of two partitions. If an image of a hard disk has more than two partitions, the procedure is similar.

1. Click **Recover** on the backup box of a disk containing several partitions. The **Disk Recovery** window appears.
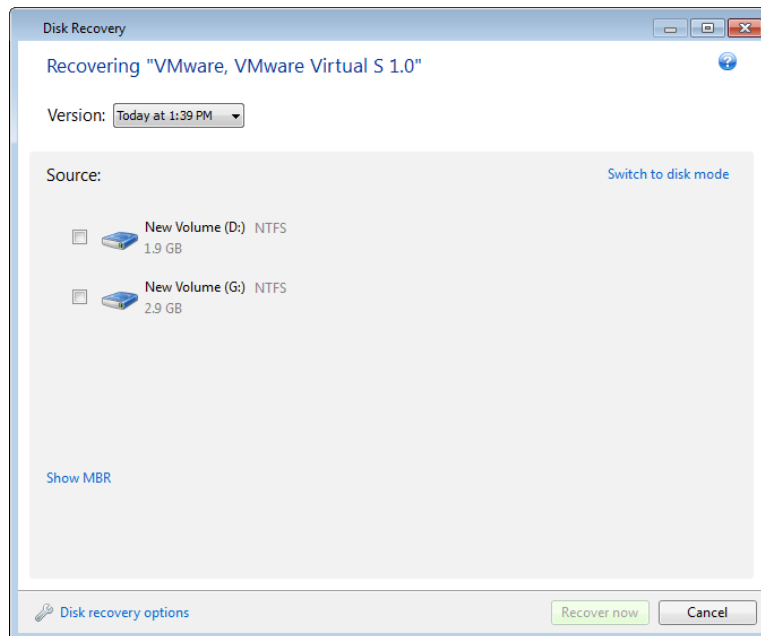
2. Click the down arrow next to **Version:** and then select the backup version you want to recover by its backup date and time.

3. Select a partition to recover. This opens the recovery destination field below the partition name (label).
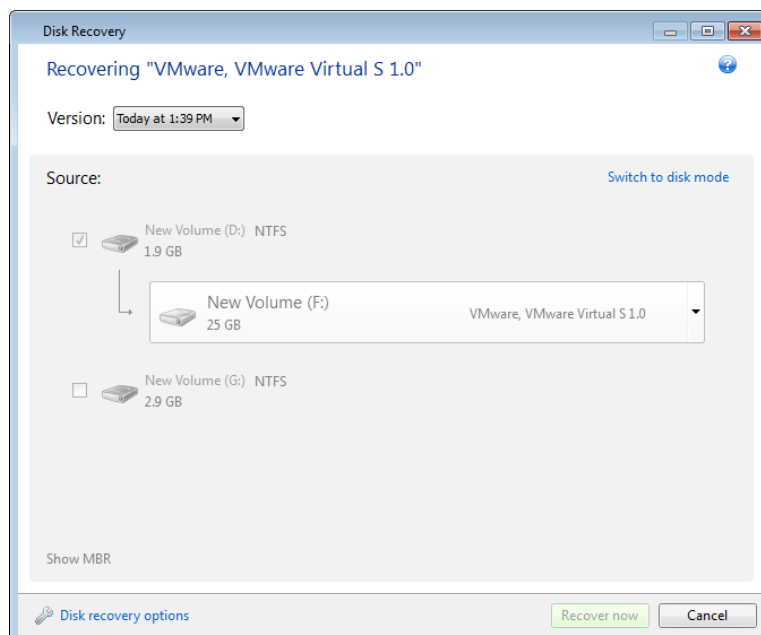
4. Click the down arrow to the right of the field and select the destination hard disk. The partition to be recovered is then placed on the selected hard disk. It occupies all the available disk space. To reduce the partition size so as to leave enough disk space for the remaining partition, click the **Partition properties** link below the recovery destination field. The **Partition Properties** window appears.
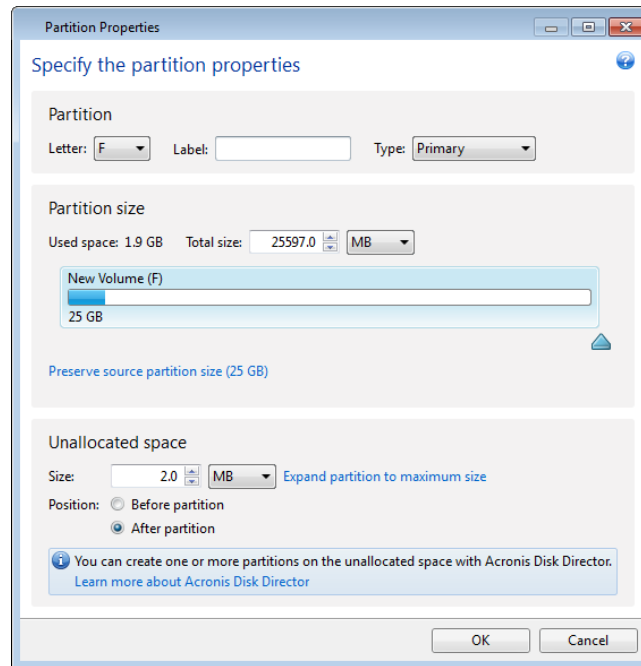
5. You can resize the partition by dragging its right border with a mouse on the horizontal bar on the screen.

*To assign the partition a specific size, enter the appropriate number into the **Total size** field.*

Remember that you need to leave as much unallocated (free) space after having resized the partition as will be needed for the remaining partition. Select a disk letter and partition type. When you finish the settings, click **OK** to confirm them and return to the main Disk Recovery window.
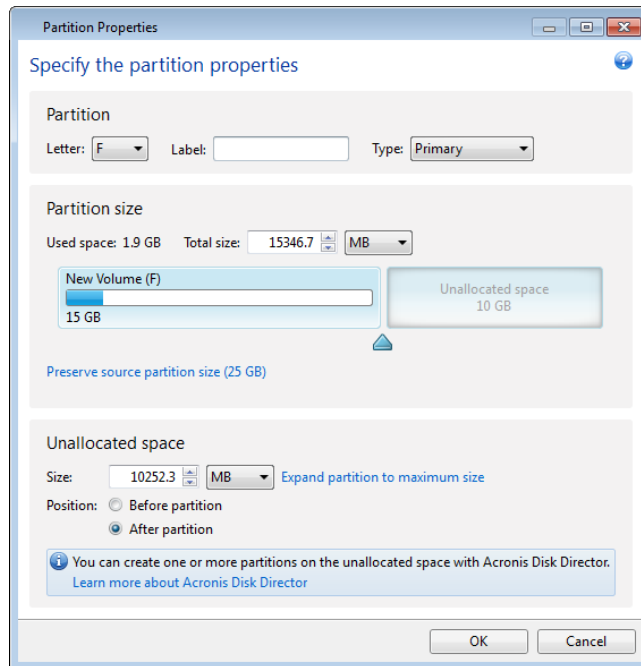
6. Select the next partition's check box.

7. Select the unallocated space on the destination hard disk. The program creates a partition occupying the entire unallocated space.
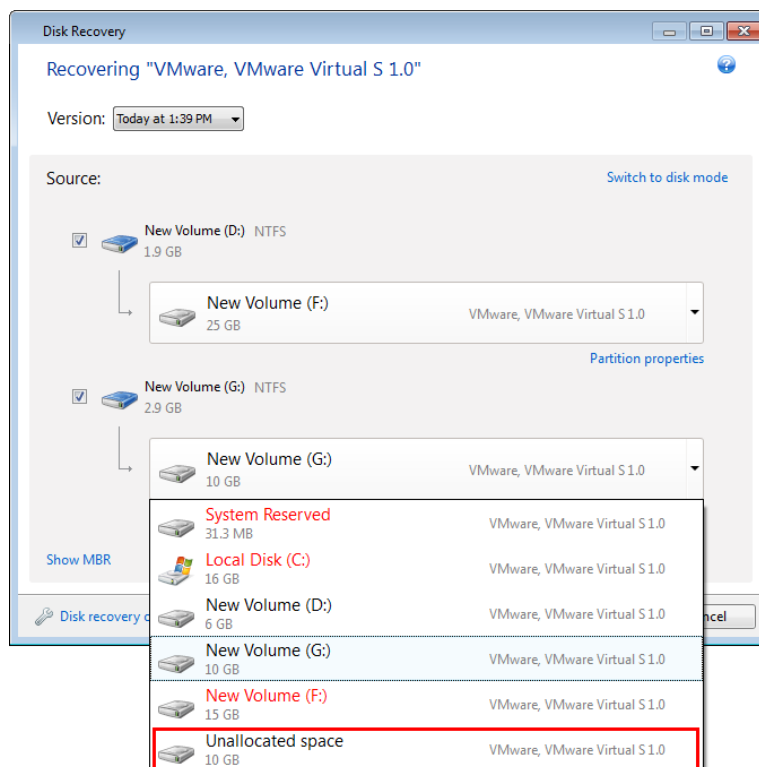
8. Click the **Partition properties** link and make the settings for the partition. Select a disk letter and partition type. When you finish the settings, click **OK** to confirm them and return to the main Disk Recovery window.
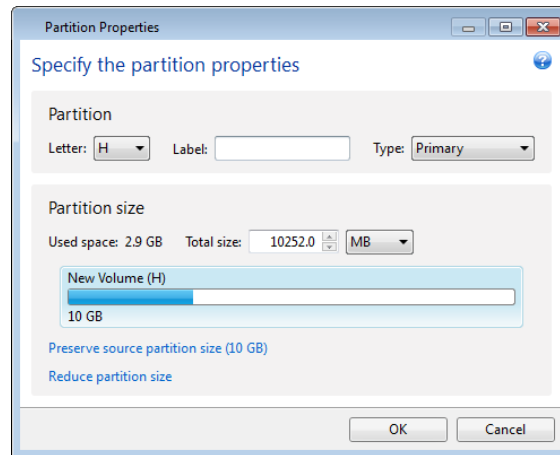
If the image contains more than two partitions, leave enough unallocated space for other partitions to be recovered and repeat steps 5-7 until you make the settings for all partitions.

9. Click **Recover now** to recover the partitions to the destination hard disk.
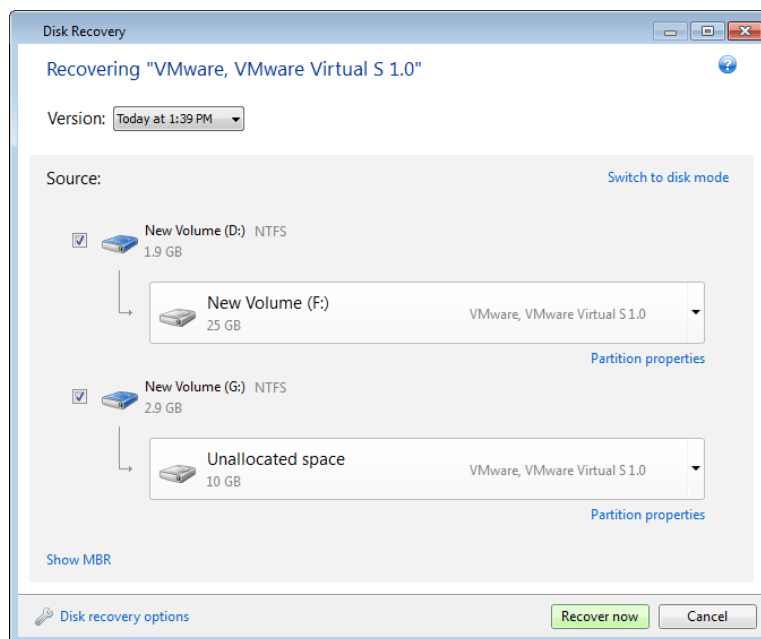
4.4 Recovering a disk backup to a different disk under rescue media

Recovery of a disk backup containing several partitions to a hard disk that has a different capacity is one of the most complicated operations. This is especially true when the original hard disk you have backed up has a hidden diagnostic or recovery partition.

Complete the preparations described in Preparing for recovery (p. 42).

If you have not already done so, assign unique names (labels) to the partitions of your computer's disks. This will allow for identification of the partitions by their names and not by the disk letters.

Disk letters may differ when booting from the rescue media. The names will help you find the drive containing your backups, as well as the target (new) drive.

Information on partition sizes, drive capacities, their manufacturers, and model numbers can also help to correctly identify the drives.

It is highly recommended to install the new hard drive to the same position in the computer and to use the same cable and connector that was used for the original drive. This is not always possible, e.g. the old drive may be an IDE and the new drive may be a SATA. In any case, install the new drive to where it will be used.

4.4.1   Recovering a disk with a hidden partition

A hidden partition may be created by the PC manufacturer for diagnostics or system recovery. Users of Windows 7 usually have the hidden System Reserved partition. Recovering a backup of a system disk with a hidden partition requires that you to take into account some additional factors. First of all, it is necessary for the new drive to keep the physical order of the partitions that existed on the old drive. In addition, you should place the hidden partition in the same location - usually at the start or the end of the disk space. To minimize the risk of possible problems, it is better to recover the hidden partition without resizing. Here we describe recovery of a system disk with Windows 7 and the hidden System Reserved partition.

Attach the external drive if it contains the backup to be used for recovery and make sure that the drive is powered on. This must be done before booting from Seagate rescue media.

1. Arrange the boot order in BIOS so as to make your rescue media device (CD, DVD or USB stick) the first boot device. See Arranging boot order in BIOS (p. 57).

2. Boot from the rescue media and select Seagate DiscWizard.

3. Select **Recovery** → **Disk and Partition Recovery** in the main menu. Choose the image backup of your system disk that you want to use for recovery.

    Before continuing with the recovery, you need to know the sizes and physical order of all existing partitions. To see this information, click **Details** on the wizard's toolbar. Seagate DiscWizard displays information about the backup. This includes a graphical view of all partitions the disk contains and their physical order on the disk.
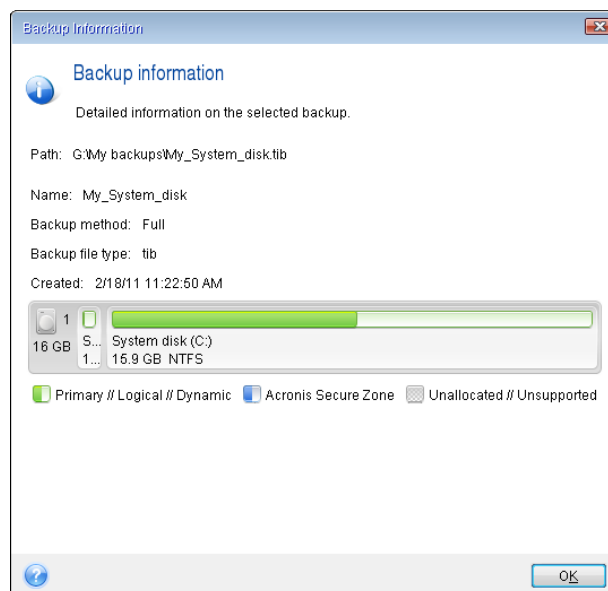
4. Select **Recover whole disks and partitions** at the Recovery method step.

5. At the **What to recover** step, select the boxes of the partitions to be recovered. Do not select the **MBR and Track 0** box, because this will result in selecting the entire disk for recovery. Recovering the entire disk does not allow you to resize partitions manually. You will be able to recover the MBR later. Select the partitions and click **Next**.
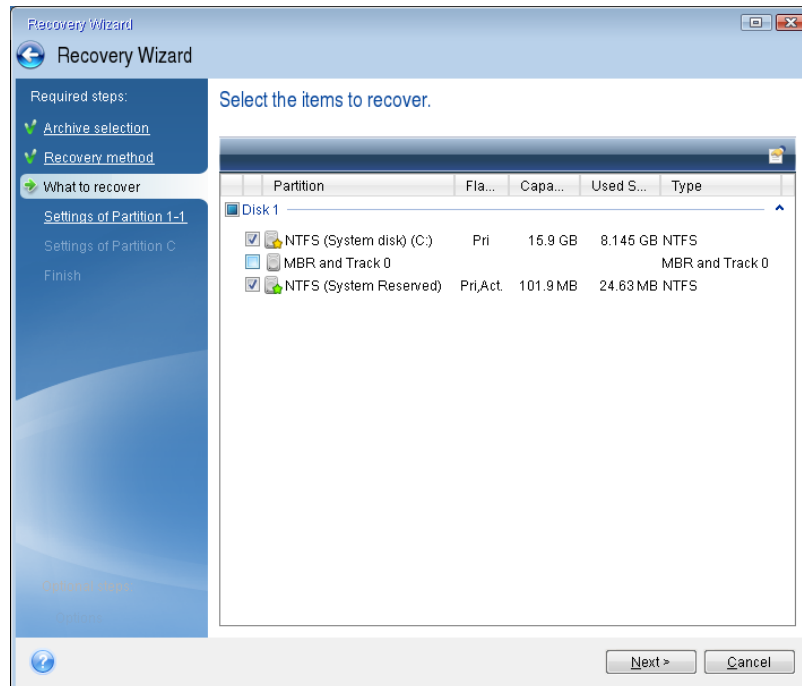
Selecting partitions leads to appearance of the relevant steps "Settings of partition ...". Note that these steps start with partitions which do not have an assigned disk letter (as usually is the case with hidden partitions). The partitions then take an ascending order of partition disk letters. This order cannot be changed. The order may differ from the physical order of the partitions on the hard disk.

6. You can specify the following partition settings: location, type, and size. You first need to specify the settings of the hidden partition (System Reserved partition in our case) as it usually does not have a disk letter. Because you are recovering to the new disk, click **New location**. Select the destination disk by either its assigned name or capacity.
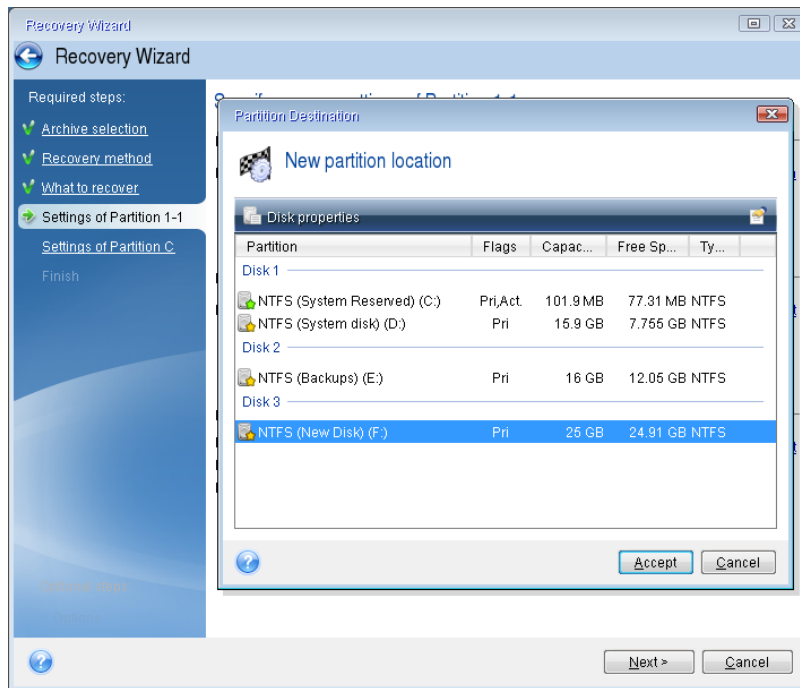
7. Clicking **Accept** returns you to the "Settings of partition 1-1" screen. Check the partition type and change it, if necessary. You should remember that the System Reserved partition must be primary and marked as active.

8. Proceed to specifying the partition size by clicking **Change default** in the Partition size area. By default the partition occupies the entire new disk. You need to keep the hidden partition size unchanged and place it in the same location on the disk (at the start or the end of disk space). To do this, resize and relocate the partition by dragging it or its borders with a mouse on the horizontal bar on the screen. Or you can enter corresponding values into the appropriate fields (Partition size, Free space before, Free space after). Click **Accept** when the partition has the required size and location and then click **Next**.
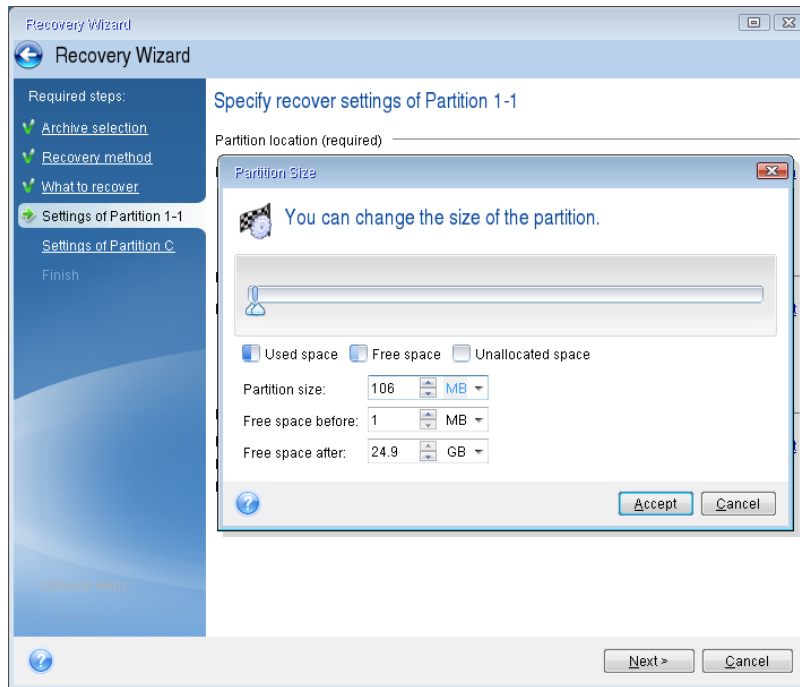
Specify the settings for the second partition which in this case is your system partition. Click **New location**, and then select unallocated space on the destination disk that will receive the partition.
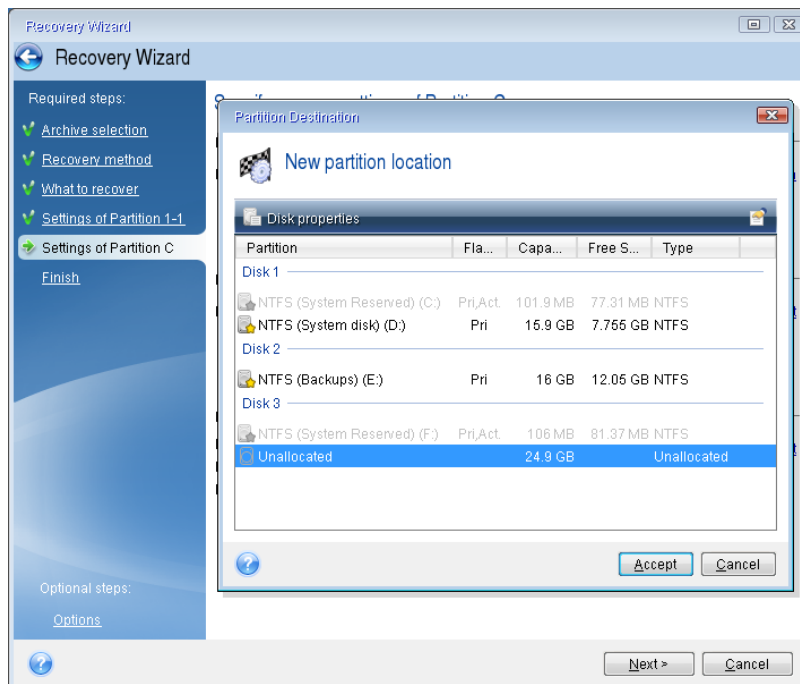
Click **Accept**, check the partition type (change, if necessary). The system partition must be primary.

Specify the partition size which by default equals the original size. Usually there is no free space after the partition, so allocate all the unallocated space on the new disk to the second partition. Click **Accept** and then click **Next**.
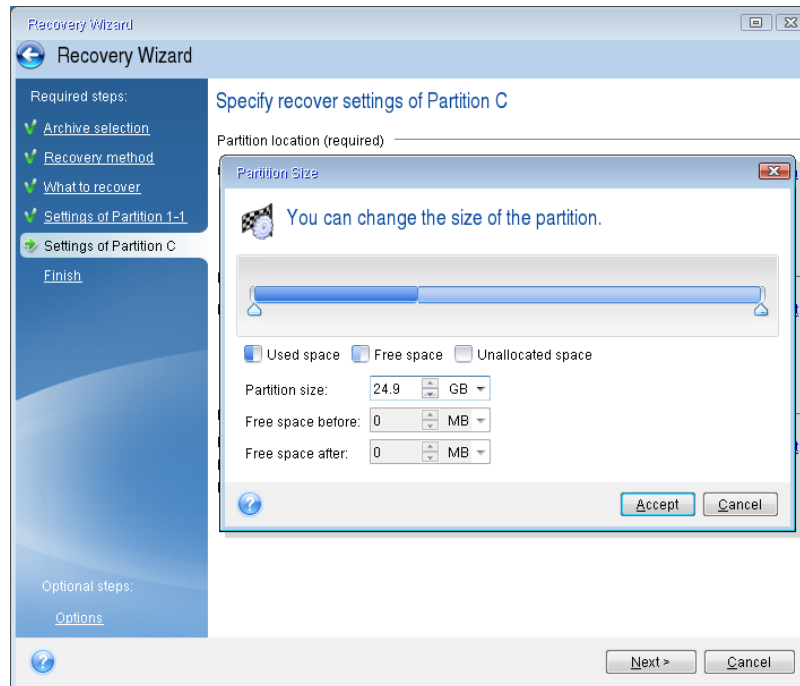
9. Carefully read the summary of operations to be performed and then click **Proceed**.

In the case being described (recovery of the System Reserved partition) steps 10-12 are optional. You need to perform them when recovering a hidden partition created by the PC manufacturer.

10. When the operation finishes, proceed to MBR recovery. You need to recover the MBR because the PC manufacturer could change the generic Windows MBR or a sector on track 0 to provide access to the hidden partition.

11. Select the same backup again. Right-click and select **Recover** in the shortcut menu. Choose **Recover whole disks and partitions** at the Recovery method step and then select the **MBR and Track 0** box.

12. At the next step, select the destination disk as the target for MBR recovery, click **Next** and then **Proceed**. After MBR recovery is complete, exit the standalone version of Seagate DiscWizard.

Windows should not "see" both the new and old drive during the first boot after recovery because this could result in problems booting Windows. If you upgrade the old drive to a larger capacity new one, disconnect the old drive before the first boot.

Switch off the computer, if you need to disconnect the old drive. Otherwise, just reboot the computer after removing the rescue media.

Boot the computer to Windows. It may report that new hardware (hard drive) is found and Windows needs to reboot. After making sure that the system operates normally, restore the original boot order.

4.5 Recovering data from file-level backups

You will usually start recovering files and folders from Acronis Backup Explorer.

When recovering a specific file version, you will start recovery from the **View Versions** window. In all cases, starting recovery opens the **File Recovery** window.

Let's consider recovery of files and folders from the Backup Explorer.

1. Select in the Backup Explorer the files and folders you want to recover. For more information on selection in the Backup Explorer see Files and folders tab (p. 19). Click **Recover** to start recovery. This will open the **File Recovery** window.
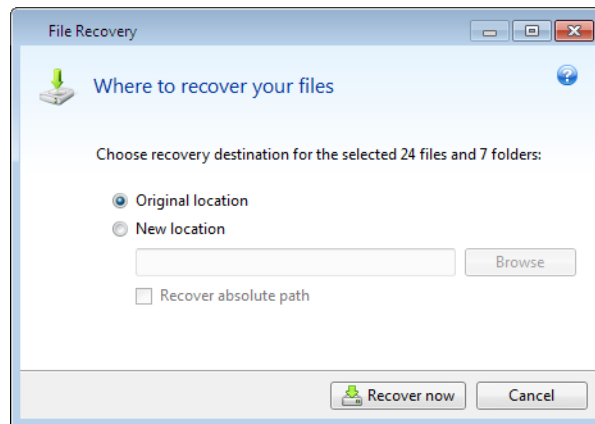
2. Select a destination on your computer to where you want to recover selected files/folders. You can recover data to its original location or choose a new one, if necessary. To choose a new location, click the **Browse...** button.

3. When you choose a new location, the selected items will be recovered by default without recovering the original, absolute path. You may also wish to recover the items with their entire folder hierarchy. In this case select the **Recover absolute path** check box.

4. When needed, set the options for the recovery process (recovery process priority, file-level security settings, etc.). To set the options, click the **File recovery options** link. The options you set here will be applied only to the current recovery operation.

5. To start the recovery process, click the **Recover now** button.

6. The recovery progress will be shown in a special window. You can stop the recovery by clicking **Cancel**. Please keep in mind that the aborted recovery may still cause changes in the destination folder.

4.6 Recovering file versions

If you need to recover a specific version of a file, select the file in the Backup Explorer. When you select the file, the **View versions** link appears below the file size information. Clicking the link opens the **View Versions** window with a list of all versions of the file in the backup.

Until you select a file version, the **Open** and **Recover...** buttons remain disabled. Selecting a file version enables the buttons:
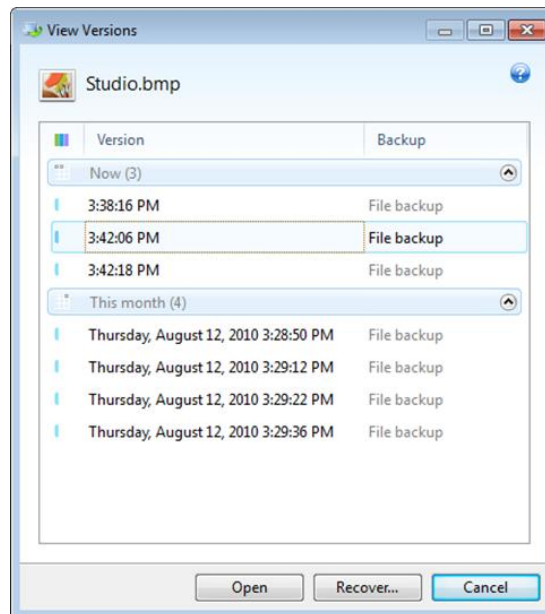
Select the required version by its backup time and click the **Recover...** button. This will open the **File Recovery** window. Select the destination and recover the file version to the folder of your choice. For more information see Recovering data from file-level backups (p. 56).

You can also recover the version by dragging it into a selected folder in Windows Explorer.

To choose the correct version, you can open the version in the associated application and view the file contents. Choose the version by its backup time, and then click the **Open** button. Seagate DiscWizard will recover the file version to a temporary folder. Then it will open the file using the associated application.

4.7 Backup protection dialog box

A backup file can be protected with a password. You can set password protection in backup options while creating a backup using a full product version.

If you try to recover data from a password-protected backup, mount it or append an incremental backup to such a backup, the program will ask for the password in a special window, allowing access only to authorized users. In this case, you must specify the correct password for the selected backup file. Only then will you be able to proceed with the selected operation.

4.8 Arranging boot order in BIOS

BIOS has a built-in setup utility for initial computer configuration. To enter it, you have to press a certain key combination (**Del, F1, Ctrl+Alt+Esc, Ctrl+Esc**, or some other, depending on your BIOS) during the POST (power-on self test) sequence that starts immediately after you turn your computer on. Usually the message with the required key combination is displayed during the startup test. Pressing this combination takes you to the menu of the setup utility that is included in your BIOS.

The menu can differ in appearance, sets of items and their names, depending on the BIOS manufacturer. The most widely known BIOS makers for PC motherboards are Award/Phoenix and

AMI. Moreover, while items in the standard setup menu are mostly the same for various BIOSes, items of the extended (or advanced) setup heavily depend on the computer and BIOS version.

Among other things, the BIOS menu allows you to adjust the **boot order**. **Boot order** management differs for various BIOS versions, e.g. for AMI BIOS, AWARDBIOS, and brand-name hardware manufacturers.

Computer BIOS allows booting operating systems not only from hard disks, but also from CD-ROMs, DVD-ROMs, and other devices. Changing the boot order may be required, for example, to make your rescue media (CD, DVD or USB stick) device the first booting device.

If there are several hard disks installed in your computer labeled as C:, D:, E:, and F:, you can change the boot order so that an operating system is booted from, for example, disk E:. In this case, you have to set the boot order to look like E:, CD-ROM:, A:, C:, D:.

*This does not mean that booting is done from the first device in this list; it only means that the **first attempt** to boot an operating system will be from this device. There may be no operating system on disk E:, or it may be inactive. In this case, BIOS queries the next device in the list.*

The BIOS numbers disks according to the order in which they are connected to IDE controllers (primary master, primary slave, secondary master, secondary slave); next go the SCSI hard disks.

This order is broken if you change the boot order in BIOS setup. If, for example, you specify that booting has to be done from hard disk E:, numbering starts with the hard disk that would be the third in usual circumstances (it is usually the secondary master for IDE hard drives).

*Some motherboards have a so called boot menu opened by pressing a certain key or key combination, for instance, **F12**. The boot menu allows selecting the boot device from a list of bootable devices without changing the BIOS setup.*

4.9   Recovery options

In the **Disk Recovery Options** and **File Recovery Options** windows you can configure options for a disk/partition and file recovery processes respectively. After you installed the application, all options are set to the initial values. You can change them for your current recovery operation only or for all further recovery operations as well. Select the **Save the settings as default** check box to apply the modified settings to all further recovery operations by default.

Note, that disk recovery options and file recovery options are fully independent, and you should configure them separately.

If you want to reset all the modified options to their initial values that were set after the product installation, click the **Reset to initial settings** button.

In this section

4.9.1   Pre/Post commands for recovery

You can specify commands (or even batch files) that will be automatically executed before and after the recovery procedure.

For example, you may want to start/stop certain Windows processes, or check your data for viruses before recovery.

To specify commands (batch files):

- Select a command to be executed before the recovery process starts in the **Before recovery process** field. To create a new command or select a new batch file, click the **Edit** button.
- Select a command to be executed after the recovery process ends in the **After recovery process** field. To create a new command or select a new batch file, click the **Edit** button.

Please do not try to execute interactive commands, i.e. commands that require user input (for example, "pause"). These are not supported.

4.9.1.1   Edit user command for recovery

You can specify user commands to be executed before or after recovery:

- In the **Command** field type-in a command or select it from the list. Click **...** to select a batch file.
- In the **Working directory** field type-in a path for command execution or select it from the list of previously entered paths.
- In the **Arguments** field enter or select command execution arguments from the list.

Disabling the **Do not perform operations until the command execution is complete** parameter (enabled by default), will permit the recovery process to run concurrently with your command execution.

The **Abort the operation if the user command fails** (enabled by default) parameter will abort the operation if any errors occur in command execution.

You can test the command you entered by clicking the **Test command** button.

4.9.2   Validation option

- **Validate backup before recovery**

  The preset is **disabled**.

  Before data is recovered from the backup, Seagate DiscWizard can check its integrity. If you suspect that the backup might have been corrupted, enable this option.

- **Check the file system after recovery**

  The preset is **disabled**.

  Having recovered a partition from an image, Seagate DiscWizard can check the integrity of the file system. To do so, enable this option.

Limitations on use of this option:

- Check of the file system is available only when recovering partitions using FAT16/32 and NTFS file systems.
- The file system will not be checked if a reboot is required during recovery, for example, when recovering the system partition to its original place.

4.9.3   Computer restart

The preset is **Disabled**.

If you want the computer to reboot automatically when it is required for recovery, select the **Restart the computer automatically if needed for the recovery** check box. This may be used when a partition locked by the operating system has to be recovered. Enabling the option allows rebooting the computer without user interaction during recovery.

4.9.4   File recovery options

You can select the following file recovery options:

- **Recover files with their original security settings** - if the file security settings were preserved during backup (see File-level security settings for backup), you can choose whether to recover them or let the files inherit the security settings of the folder where they will be recovered to. This option is effective only when recovering files from file/folder backups.

- **Set current date and time for recovered files** - you can choose whether to recover the file date and time from the backup or assign the files the current date and time. By default the file date and time from the backup will be assigned.

4.9.5   Overwrite file options

Choose what to do if the program finds a file in the target folder with the same name as in the backup.

Selecting the **Overwrite existing files** check box will give the files from the backup unconditional priority over the files on the hard disk, though, by default, the more recent files and folders are protected against overwriting. If you want to overwrite those files and folders too, clear the appropriate check box.

If you do not need to overwrite some files:

- Select/clear the **Hidden files and folders** check box to enable/disable overwriting of all hidden files and folders.

- Select/clear the **System files and folders** check box to enable/disable overwriting of all system files and folders.

- Select/clear the **More recent files and folders** check box to enable/disable overwriting of new files and folders.

- Click **Add specific files and folders** to manage the list of custom files and folders that you do not want to overwrite.

  - To disable overwriting of specific files, click the **Add...** button to create an exclusion criterion.

  - While specifying the criteria, you can use the common Windows wildcard characters. For example, to preserve all files with extension **.exe**, you can add ***.exe**. Adding **My???.exe** will preserve all .exe files with names consisting of five symbols and starting with "my".

To delete a criterion, for example, added by mistake, click the Delete icon to the right of the criterion.

4.9.6   Performance of recovery operation

On the **Performance** tab you can configure the following settings:

Operation priority

Changing the priority of a backup or recovery process can make it run faster or slower (depending on whether you raise or lower the priority), but it can also adversely affect the performance of other running programs. The priority of any process running in a system, determines the amount of CPU usage and system resources allocated to that process. Decreasing the operation priority will free more resources for other CPU tasks. Increasing backup or recovery priority may speed up the process by taking resources from the other currently running processes. The effect will depend on total CPU usage and other factors.

You can set up the operation priority:

- **Low** (enabled by default) - the backup or recovery process will run slower, but the performance of other programs will be increased.
- **Normal** - the backup or recovery process will have the equal priority with other processes.
- **High** - the backup or recovery process will run faster, but the performance of other programs will be reduced. Be aware that selecting this option may result in 100% CPU usage by Seagate DiscWizard.

4.9.7   Notifications for recovery operation

Free disk space threshold

You may want to be notified when the free space on the backup storage becomes less than the specified threshold value. If after starting a backup Seagate DiscWizard finds out that the free space in the selected backup location is already less than the specified value, the program will not begin the actual backup process and will immediately inform you by displaying an appropriate message. The message offers you three choices - to ignore it and proceed with the backup, to browse for another location for the backup or to cancel the backup.

If the free space becomes less than the specified value while the backup is being run, the program will display the same message and you will have to make the same decisions.

To set the free disk space threshold:

- Select the **Show notification message on insufficient free disk space** check box
- In the **Size** box, type or select a threshold value and select a unit of measure

Seagate DiscWizard can monitor free space on the following storage devices:

- Local hard drives
- USB cards and drives
- Network shares (SMB/NFS)

*The message will not be displayed if the **Do not show messages and dialogs while processing (silent mode)** check box is selected in the **Error handling** settings.*

This option cannot be enabled for FTP servers and CD/DVD drives.

5 Useful information

In this section

5.1 Protecting your system

To protect your system, please take the necessary precautionary measures:

1) To protect your system from a disaster, you need to make a full backup of your system. We strongly advice you to create a system backup as soon as possible.

2) Whenever possible, you should store your system backup on a hard drive other than your primary disk C:, preferably on an external one. This gives an additional guarantee that you will be able to recover your system if your primary hard disk drive fails.

3) Because recovery of your system after a failure in most cases will be done after booting from the rescue media, you **must** create the rescue media (see Creating bootable rescue media (p. 84)) and then test it as described in Making sure that your rescue media can be used when needed (p. 65).

4) It is recommended to scan your system partition for viruses before backing it up.

Backing up your system partition

If you want to use your external drive for storing the backup, attach and power it on before starting Seagate DiscWizard.

1. Start Seagate DiscWizard, select the **Backup and recovery** tab and then click **Disk and partition backup**.
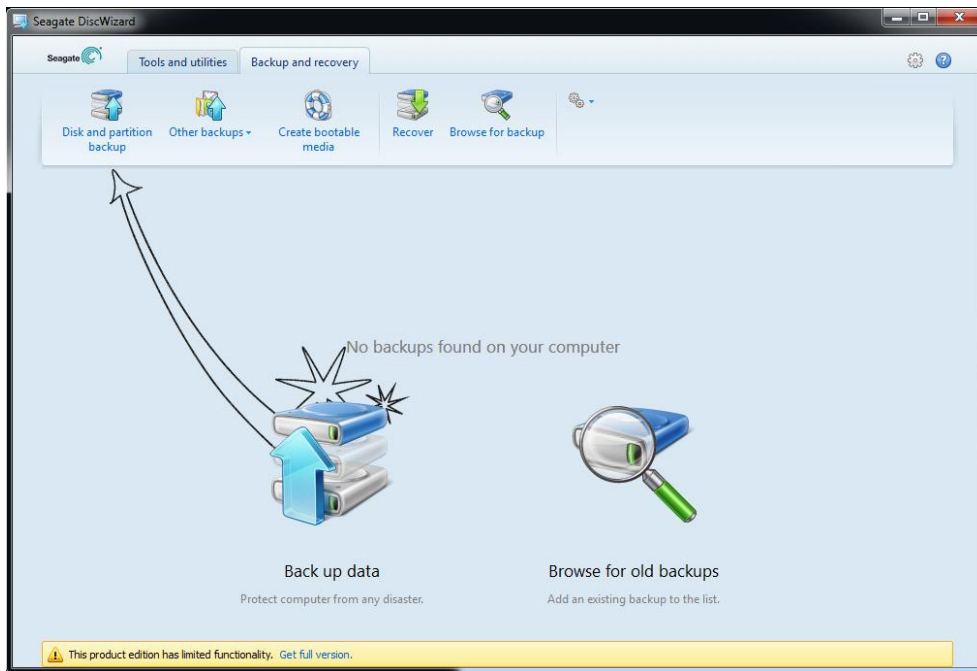
2. This opens the **Disk Backup** window with your system partition (usually C:) selected by default.
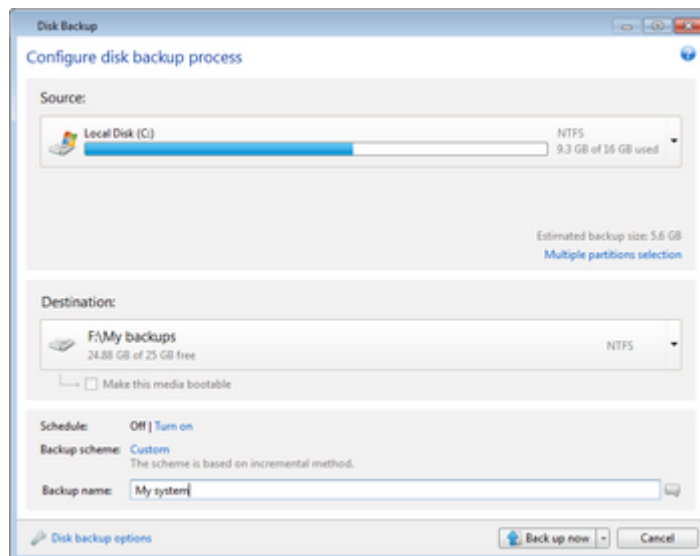
3. Select a destination for backup (you can leave the default destination or browse for a destination after clicking the down arrow to the right of the current destination and selecting **Browse...**).

4. Click **Back up now**.

Additional recommendations

Many IT professionals recommend that you have at least two copies of your system backup (three are even better). It is further recommended to keep one copy of a backup in a different location from

the other (preferably on other premises – for example, at work or at a friend's home, if you use the backed up computer at home).

One more argument in favor of several backups: when starting recovery, Seagate DiscWizard deletes the target partition (or disk). If you have just a single backup, you are at great risk. The moment the system partition is deleted on the computer being recovered the only thing you have is the image being recovered. If the image is corrupted, you will not be able to recover the system.

5.2 Deciding where to store your backups

Seagate DiscWizard supports quite a few of storage devices. For more information see Supported storage media (p. 9). Some of the supported storage locations are discussed below.

Hard disk drives

Since hard disk drives are now quite inexpensive, in most cases purchasing an external hard drive for storing your backups will be an optimal solution. An external drive enhances the security of your data because you can keep it off-site (for example, at home if you back up your office computer and vice versa). You can choose various interfaces – USB, FireWire, eSATA depending on the configuration of your computer ports and the required data transfer rate. In many cases the best choice will be an external USB hard drive, especially if your computer supports USB 3.0.

If you plan to use an external USB hard drive with your desktop PC, connecting the drive to a rear connector using a short cable will usually provide the most reliable operation. This reduces the chance of data transfer errors during backup/recovery.

Home file server, NAS or NDAS

If you have a Gigabit Ethernet home network and a dedicated file server or NAS, you can store backups on the file server or NAS practically like on an internal drive.

If you decide to use an external hard drive, NAS, NDAS, etc., you will need to check whether Seagate DiscWizard detects the selected backup storage. You need to check this both in Windows and when booted from the rescue media.

To gain access to an NDAS enabled storage device, in many cases you will need to specify the NDAS device ID (20 characters) and the write key (5 characters). The write key allows you to use an NDAS enabled device in write mode (for example, for saving your backups). Usually the device ID and write key are printed on a sticker attached to the bottom of the NDAS device or on the inside of its enclosure. If there is no sticker, you need to contact your NDAS device vendor to obtain that information.

Optical discs

Blank optical discs such as DVD-R, DVD+R are very cheap, so they will be the lowest cost solution for backing up your data, though the slowest one. This is especially true when backing up directly to DVDs. Furthermore, if your backup consists of several DVDs, data recovery from DVDs will require a lot of disc swapping. On the other hand, using Blu-ray discs may be a viable option.

Due to the necessity of swapping discs, we strongly recommend to avoid backing up to DVDs if the number of discs is more than three. When there is no alternative to backing up to DVDs, we recommend to copy all DVDs to a folder on a hard disk and then to recover from that folder.

5.2.1 Authentication settings

If you are connecting to a networked computer, in most cases you will need to provide the necessary credentials for accessing the network share. For example, this is possible when you select a backup storage in the **Browse for destination** window. The **Authentication Settings** window appears automatically when you click a networked computer name. To open it manually, click **Specify credentials for this locations** on the toolbar.

If you need to specify the user name and password:

- **User name** - enter a user name
- **Password** - enter the user's password

When you click the **Test connection** button, the computer will try to connect to the selected network share. If you receive an error message, check if the credentials are correct and provide the correct user name and password for the selected network share. To repeat the connection attempt, click the **Test again** button.

Having provided the required information, click **Connect**.

5.3 Making sure that your rescue media can be used when needed

To maximize the chances of your computer's recovery, you must test that your computer can boot from the rescue media. In addition, you must check that the rescue media recognizes all your computer's devices, such as the hard drives, the mouse, the keyboard and network adapter.

To test the rescue media

If you use external drives for storing your backups, you must attach the drives before booting from the rescue CD. Otherwise, the program might not detect them.

1. Configure your computer to enable booting from the rescue media. Then, make your rescue media device (CD-ROM/DVD-ROM drive or USB stick) the first boot device. See Arranging boot order in BIOS (p. 57).
2. Boot the computer from the rescue CD.
3. After the boot menu appears, choose Seagate DiscWizard.

   If your wireless mouse does not work, try to replace it with a wired one. The same recommendation applies to the keyboard.

If you do not have a spare mouse or keyboard, contact the product's support team. They will build a custom rescue CD that will have drivers for your models of the mouse and keyboard. Please be aware that finding the appropriate drivers and making the custom rescue CD may take some time. Furthermore, this may be impossible for some models.
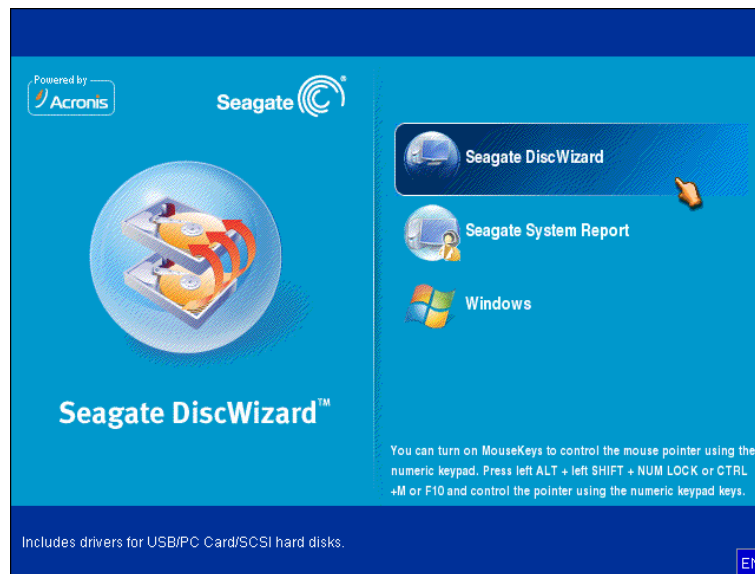
Figure 7: REMOVE AFTER TRANSLATION

4. When the program starts, we recommend you try recovering some files from your backup. A test recovery allows you to make sure that your rescue CD can be used for recovery. In addition, you will check that the program detects all the hard drives you have in your system.

If you have a spare hard drive, we strongly recommend you to try a test recovery of your system partition to this hard drive.

How to test recovery, as well as check the drives and network adapter

1. If you have file backups, start Recovery Wizard by clicking **Recovery** -> **File Recovery** on the toolbar.

*If you have only disk and partition backup, Recovery Wizard also starts and the recovery procedure is similar. In such a case, you need to select **Recover chosen files and folders** at the **Recovery Method** step.*

2. Select a backup at the **Archive location** step and then click **Next**.
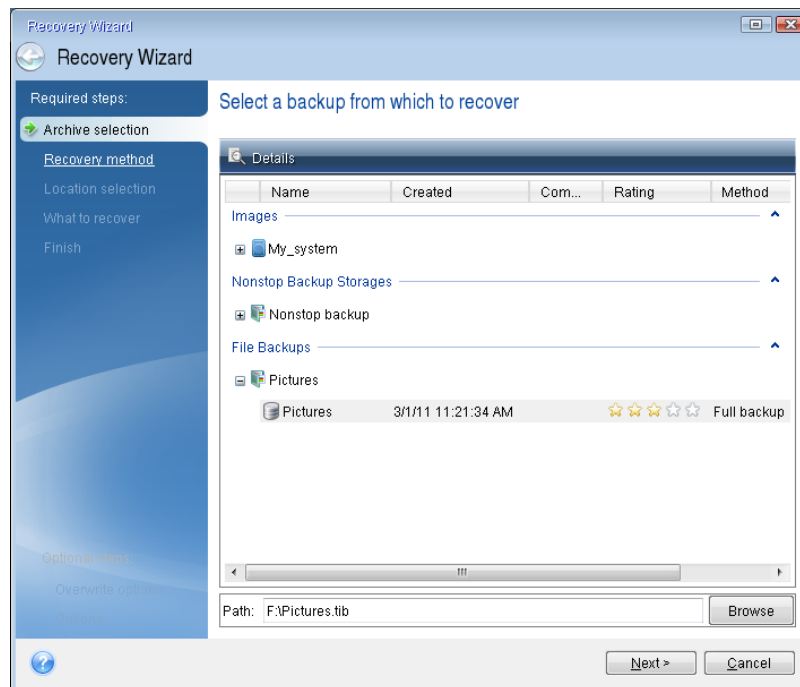
3. When recovering files with the rescue CD you are able to select only a new location for the files to be recovered. Therefore just click **Next** at the **Location selection** step.

4. After the **Destination** window opens, check that all your drives are shown under **My Computer**.

   If you store your backups on the network, you should also check that you can access the network.

   *If no computers are visible on the network, but the **Computers Near Me** icon is found under **My Computer**, specify network settings manually. To do this, open the window available at **Tools & Utilities** → **Options** → **Network adapters**.*

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*If the **Computers Near Me** icon is not available under **My Computer**, there may be problems either with your network card or with the card driver provided with Seagate DiscWizard.*
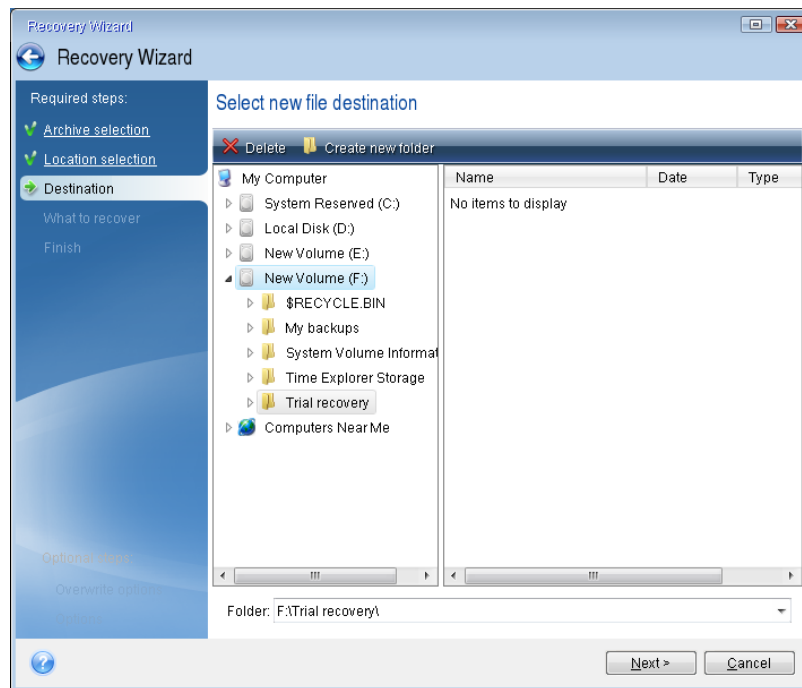
5. Select the destination for the files and then click Next.
6. Select several files for recovery by selecting their check boxes and then click **Next**.
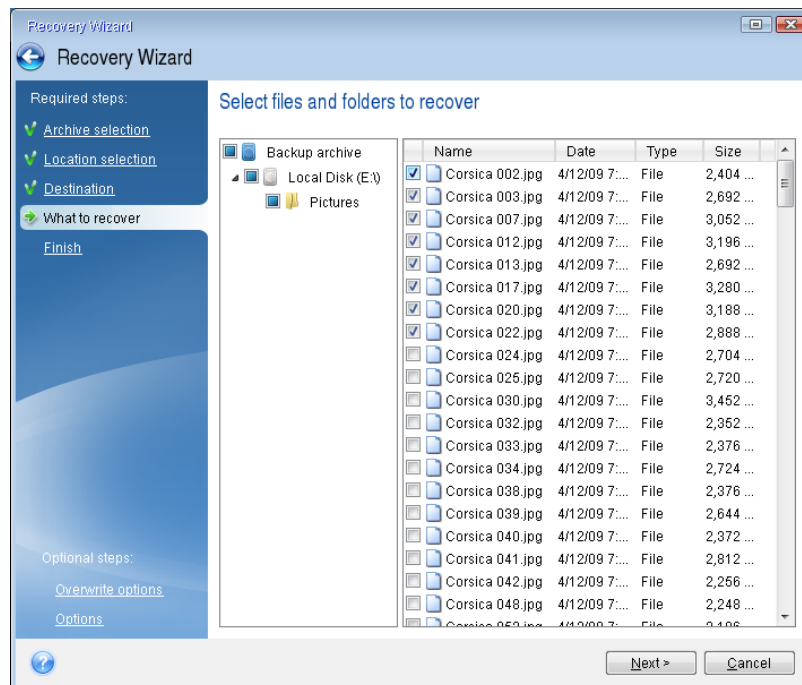
7. Click **Proceed** on the Summary window to start recovery.
8. After the recovery finishes, exit the standalone Seagate DiscWizard.

Now you can be reasonably sure that your rescue CD will help you when needed.

5.3.1 Selecting video mode when booting from the rescue media

When booting from the rescue media the optimal video mode is selected automatically depending on the specifications of your video card and monitor. However, sometimes the program can select the wrong video mode, which is unsuitable for your hardware. In such case you can select a suitable video mode as follows:

1. Start booting from the rescue media. When the boot menu appears, hover the mouse over Seagate DiscWizard item and press the F11 key.

2. When the command line appears, type "vga=ask" (without quotes) and click **OK**.
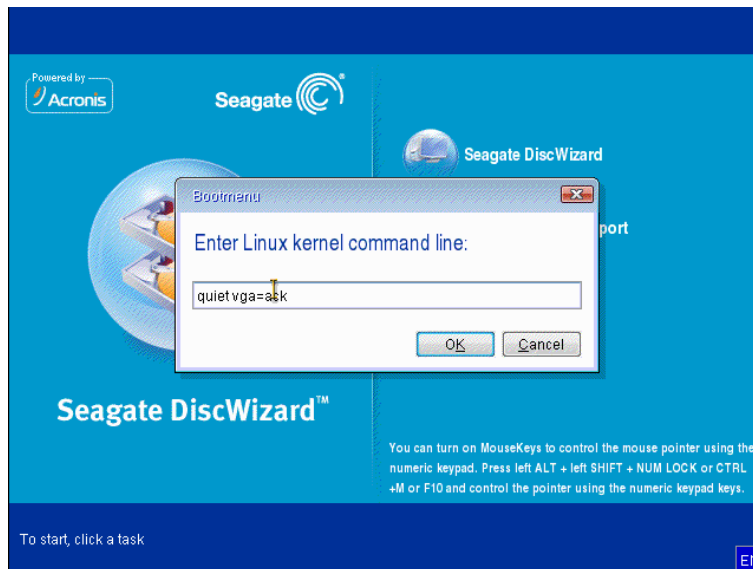
Figure 8: REMOVE AFTER TRANSLATION

3. Select Seagate DiscWizard in the boot menu to continue booting from the rescue media. To see the available video modes, press the Enter key when the appropriate message appears.

4. Choose a video mode you think best suitable for your monitor and type its number in the command line. For instance, typing 338 selects video mode 1600x1200x16 (see the below figure).
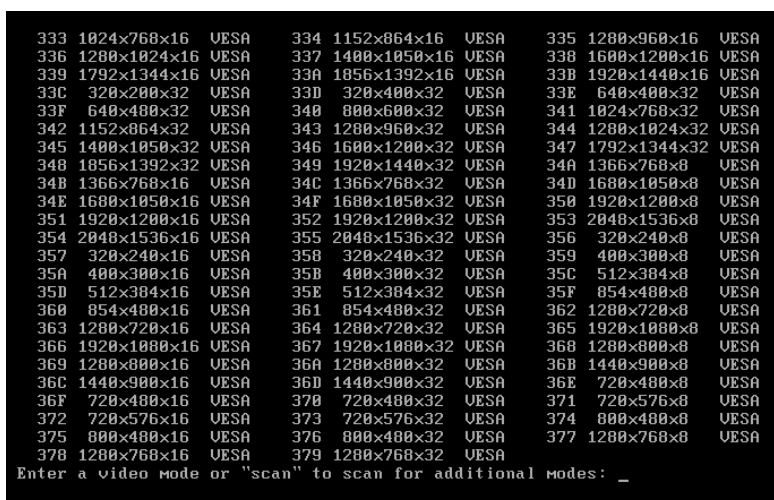
5. Wait until Seagate DiscWizard starts and make sure that the quality of the Welcome screen display on your monitor suits you.

To test another video mode, close Seagate DiscWizard and repeat the above procedure.

After you find the optimal video mode for your hardware, you can create a new bootable rescue media that will automatically select that video mode.

To do this, start Seagate Media Builder, select the required media components, and type the mode number with the "0x" prefix (0x338 in our instance) in the command line at the "Bootable media startup parameters" step, then create the media as usual.

5.4 Testing that your backups can be used for recovery

Here are some recommendations:

Even if you start recovery of the active partition in Windows, the program will reboot into the Linux environment after the recovery process starts. This is because Windows cannot be left running during the recovery of its own partition. So you will recover your active partition under the recovery environment in all cases.

If you have a spare hard drive, we strongly recommend you to try a test recovery to this hard drive. It should be done after booting from the rescue media which uses Linux.

If you do not have a spare drive, please, at least validate the image in the recovery environment. A backup that can be read during validation in Windows, **may not always be readable under Linux environment**.

When you use the Seagate DiscWizard rescue media, it creates disk drive letters that might differ from the way Windows identifies drives. For example, the D: disk identified in the standalone Seagate DiscWizard might correspond to the E: disk in Windows. It is advisable to assign unique names (labels) to all partitions on your hard drives. This will make finding the disk containing your backups easier.

5.5 Migrating your system from an HDD to an SSD

In this section

5.5.1 Preparing for migration

Solid state disks have become quite common. Many users decide to replace their system hard disk with an SSD to enhance the disk system performance. Such a replacement may raise a number of questions.

First of all, make sure that Seagate DiscWizard detects your new SSD both in Windows and under the Seagate rescue media. If there is a problem, see What to do if Seagate DiscWizard does not recognize your SSD (p. 71).

SSD size

Because SSDs are still somewhat expensive, the size of your new SSD will usually be less than that of your old hard disk. This may cause a problem if your hard disk contains the operating system, programs and data.

We presuppose that before purchasing the SSD you estimated the approximate space occupied by your operating system and applications and that you selected an SSD that has a reasonable reserve capacity.

If the occupied space on your old hard disk exceeds the size of your SSD, you will need to free up space on the system disk to make migration possible. See What to do if your SSD does not have enough space for all HDD content (p. 72).

SSD alignment

Another question concerns the alignment of SSDs. To get the optimum performance from an SSD and to prolong its life, the partition offset must meet certain criteria.   In most cases you do not need to check or manually fix the alignment, the program will do it automatically.

In any event, we recommend that you perform one of the following:

- Create the backup you are going to use for migration in disk mode. In other words, back up the source disk entirely, not just the system partition.
- Make sure the destination SSD does not contain partitions (the disk space is unallocated). Note that if your SSD is new and has never been used before, it does not contain partitions.

For more information see SSD support (p. 9).

Which migration method to choose

If your system disk consists of a single partition (not counting the hidden System Reserved partition existing in many installations of Windows 7), you can try to migrate to the SSD using the Clone tool. For more information see Cloning a hard disk (p. 89).

However, we recommend to use the backup and recovery method in most cases. This method provides more flexibility and control over migration. See Migrating to an SSD using the backup and recovery method (p. 74).

5.5.1.1   What to do if Seagate DiscWizard does not recognize your SSD

Sometimes Seagate DiscWizard may not recognize an SSD.

In such a case, check whether the SSD is recognized in BIOS.

If the BIOS of your computer does not show the SSD, verify that the power and data cables are properly connected. You may also try to update the BIOS and SATA drivers. If these suggestions do not help, contact the Support of your SSD manufacturer.

If the BIOS of your computer does show the SSD, you can try the following procedure:

For Windows Vista/Windows 7 type **cmd** in the Search field and press **Enter**.

*For Windows XP, type **cmd** in the Run field and press **Enter**.*

At the command line prompt type:

`diskpart`

`list disk` The screen will show the disks connected to your computer. Find out the disk number for your SSD. Use its size as the reference.

`select disk N` Here N is the disk number of your SSD.

clean This operation removes all information from the SSD and overwrites the MBR with the default one.

exit

exit

Start Seagate DiscWizard and check whether it detects the SSD. If it detects the SSD, use the Add new disk tool to create a single partition on the disk occupying the entire disk space. When creating a partition, check that the free space before partition is 1 MB. For more information, see Adding a new hard disk (p. 98).

The next step is to check whether your Seagate bootable rescue media recognizes the SSD.

1. Boot from the rescue media.

2. Select **Tools & Utilities -> Add New Disk** in the main menu and the **Disk selection** screen will show the information about all hard disks in your system. Use this for checking whether the SSD is detected in the recovery environment.

3. If the screen shows your SSD, just click **Cancel**.

If the rescue media does not recognize the SSD and the SSD controller mode is ACHI, you can try to change the mode to IDE (or ATA in some BIOS brands) and see whether this solves the problem.

Attention! Do not start Windows after changing the mode; it may result in serious system problems. You must return the mode to ACHI before starting Windows.

If after changing the mode the rescue media detects the SSD, you may use the following procedure for recovery or cloning under rescue media:

1. Shut down the computer.

2. Boot to BIOS, change the mode from AHCI to IDE (or ATA in some BIOS brands).

3. Boot from Seagate rescue media.

4. Recover or clone the disk.

5. Boot to BIOS and change IDE back to AHCI.

6. Start Windows.

What to do if the above suggestions do not help

You can request a custom rescue media from Seagate Support. For more information, see Creating a custom rescue CD (p. 122).

Please be aware that finding the appropriate drivers and making the custom rescue media may take time. Furthermore, finding the appropriate drivers may not be possible in some cases.

5.5.1.2   What to do if your SSD does not have enough space for all HDD content

Now let's see what can be done when the occupied space on your old hard disk exceeds the size of your SSD.

In this case, you need to move your data files from the old hard disk to another location, for example, to another hard disk drive.

If your notebook has space only for a single disk, your options are limited. You can move the data files you rarely use to an external hard disk. Alternatively, you can create zip archives of such files

and then delete the original files. In addition, you can clean up the hard disk. Choose to delete the System Restore points on the More Options tab of the Disk Cleanup window.

After freeing up space on the old hard disk, check whether the occupied space is less than the SSD size. If so, perform the migration procedure described earlier. Take note that for stable operation, Windows needs to have several GB of free space on the system partition.

After you migrate the system, you can try to tweak some of the Windows settings. This will reduce the disk space required for Windows. In most cases you can safely perform the following:

- Turn off System Restore. You don't need it, because you have Seagate DiscWizard for restoring your system.
- Disable Indexing Service.
- Turn off the hibernation mode.

5.5.1.3   Checking SSD partition alignment

If you installed Windows Vista/Windows 7 from the installation DVD to a new hard disk, the operating system automatically aligns the hard disk during installation to a multiple of 4096 and usually to 1.024 MB. In any case, it will be useful to check.

Mount the SSD into the intended location in your computer.

Windows Vista/Windows 7

1. Type **cmd** in the Search field and press **Enter**.
2. At the command line prompt type:

   `wmic partition get BlockSize, Index, Name, StartingOffset`

   You will get the output looking like this:

   ```
   C:\Users\tester>wmic partition get BlockSize, StartingOffset, Name, Index
   BlockSize  Index  Name                  StartingOffset
   512        0      Disk #0, Partition #0  32256
   512        1      Disk #0, Partition #1  107619563520
   512        2      Disk #0, Partition #2  201371304960
   512        3      Disk #0, Partition #3  203016360960
   512        0      Disk #1, Partition #0  32256
   512        0      Disk #2, Partition #0  17408
   512        1      Disk #2, Partition #1  134235136
   512        0      Disk #3, Partition #0  1048576
   512        0      Disk #4, Partition #0  1048576
   ```

In the screen shot, disk 0 has an incorrect alignment and disks 3 and 4 have the correct alignment.

Windows XP

In this case the procedure requires more commands:

1. Type **cmd** in the Run field and press **Enter**.
2. At the command line prompt type:

   `diskpart`

   `list disk` The screen will show the disks connected to your computer. Find out the disk number for your SSD using its size as reference

   `select disk N` Here N is the number of your SSD

   `list partition`

The output will show the size of SSD partition(s) and offset value.

If the SSD has an incorrect offset value, see Fixing SSD partition alignment (p. 74).

5.5.1.4 Fixing SSD partition alignment

If you did not properly prepare your SSD before transferring your system to it, the starting offset may turn out be incorrect. For example, this may occur if you upgraded Windows XP to Windows Vista/7.

Let's see how to fix the alignment problem.

1. Start Seagate DiscWizard and click the **Backup and Recovery** tab.
2. Create a task for backing up your SSD in the disk backup mode.
3. Back up your SSD using as destination, for example, an external hard disk.
4. Go to the command line prompt. To do so, perform the following:
   - Shut down the computer and then boot using Windows installation CD. Press Shift+F10 during GUI-mode phase of the Setup. Note, that you should not start Windows installation.
5. At the command line prompt type:

   diskpart

   select disk N where N is the number of your SSD

   clean

   create partition primary align=1024

   active

   format fs=ntfs quick

   exit

   exit

6. Shut down the computer and then boot to Seagate rescue media.
7. Validate the backup to make sure that it can be used for recovery.
8. Click the **Recovery** tab and then click **Disk recovery**.
9. Select the backup of your SSD at the **Archive selection** step and then click **Next**.

   *If the disks have different disk letters in Windows and the recovery environment, click **Browse** and show the path to the backup.*

10. Select **Recover whole disks and partitions** and click **Next**.
11. Select the check box of the entire SSD disk and click **Next**.
12. Select the SSD as the destination and click **Next**.
13. When the confirmation window appears stating that the destination disk contains partitions, perhaps containing useful data, click **OK**.
14. Carefully read the summary of operations to check the settings you made and click **Proceed**.
15. After the recovery finishes, check the partition offset once more to make sure it is fixed.

5.5.2 Migrating to SSD using the backup and recovery method

You can use the following procedure for all supported operating systems. First, let's consider a simple case: your system disk consists of a single partition. Note that for Windows 7, the system disk usually has a hidden System Reserved partition.

1. Start Seagate DiscWizard and click the **Backup and recovery** tab.
2. Create Seagate rescue media, if you do not have it yet. To do this, on the toolbar, click **Create bootable media** and follow the instructions on the screen.
3. Click **Disk and partition backup** and then back up your system disk (in the disk backup mode) to a hard disk other than your system hard disk and the SSD.

4. Switch off the computer and remove your system hard disk.

5. Mount the SSD into the slot where the hard disk was.

   For some SSD brands you may need to insert the SSD into a PCI Express slot.

6. Boot from your Seagate rescue media.

7. Validate the backup to make sure that it can be used for recovery. To do this, click **Recovery** on the left pane and select the backup. Right-click, select **Validate Archive** in the shortcut menu and then click **Proceed**.

8. After the validation finishes, right-click the backup and select **Recover** in the shortcut menu.

9. Choose **Recover whole disks and partitions** at the Recovery method step and then click **Next**.

10. Select the system disk at the What to recover step.

11. Click **New location** and then select the SSD as the new location for your system disk, then click **Accept**.

12. At the next step click **Proceed** to start recovery.

13. After the recovery is complete, exit the standalone version of Seagate DiscWizard.

14. Try to boot from the SSD and then make sure that Windows and applications work correctly.

If your system hard disk also contains a hidden recovery or diagnostic partition, as is quite often the case with notebooks, the procedure will differ. You will usually need to resize the partitions manually during recovery to the SSD. For instructions see Recovering a disk with a hidden partition.

5.6   Scheduling

To open the **Scheduler** window, click the **Turn on** link to the right of **Schedule** while configuring a backup.

Here you can specify the backup and validation schedule settings.
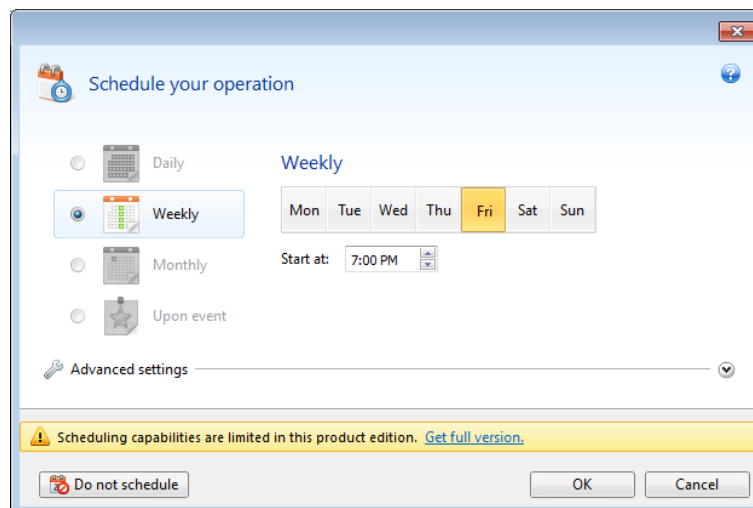
You can choose and set up one of the following backup or validation frequencies:

- **Daily** - the operation will be executed once a day or more frequently.

- **Weekly** (p. 76) - the operation will be executed once a week or several times a week on the selected days.

- **Monthly** - the operation will be executed once a month or several times a month on the selected dates.

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- **Upon event** - the operation will be executed upon an event.

Clicking the **Do not schedule** button turns off the scheduler for the current operation. In this case the backup or validation will run only when you click **Back up now** or **Validate backup** respectively in the main window.

Note: Scheduling options that are grayed out are available in the full version of the product. To access these features, please upgrade to full version.

Advanced settings

Clicking **Advanced settings** allows you to specify the following additional settings for backup and validation:

- To postpone a scheduled operation until the next time the computer is not in use (a screen saver is displayed or computer is locked), select the **Run the backup only when the computer is idle** check box. If you schedule validation, the check box will change to **Run the validation only when the computer is idle**.

- If you want to wake up the sleeping/hibernating computer to perform the scheduled operation, select the **Wake up the sleeping/hibernating computer** check box.

- If the computer is switched off when the scheduled time comes, the operation won't be performed. You can force the missed operation to run at the next system startup. To do so, select the **Run at system startup** check box.

  Additionally, you can set a time delay to start backup after   the system startup. For example, to start backup 20 minutes after system startup, type *20* in the appropriate box.

- If you want to regularly back up data located on a removable media (for example USB flash drive) or remote storage (for example network folder or NAS), we recommend that you select the **Run when the current source device is attached** check box. This is useful because an external storage device may be often unavailable at the scheduled moment of backup. In that case, if the check box is selected, the missed backup operation will start when the device is connected or attached.

Having finished scheduling, click **OK**.

In this section

5.6.1   Weekly execution parameters

You can set up the following parameters for weekly operation execution:

- **Week days**

  Select the days on which to execute the operation by clicking on their names.

- **Start time**

  Set the operation's start time. Enter hours and minutes manually, or set the desired start time using the up and down buttons.

Description of the **Advanced settings** see in Scheduling (p. 75).

5.7   Searching backups and their content

In this section

5.7.1   Searching

In addition to the ability to explore backups, Seagate DiscWizard provides search for files in your backups.

Enter a search string into the Search field at the top right of the Seagate DiscWizard window. You will be taken to the Acronis Backup Explorer screen. The program shows search results on the **Files and folders** tab.
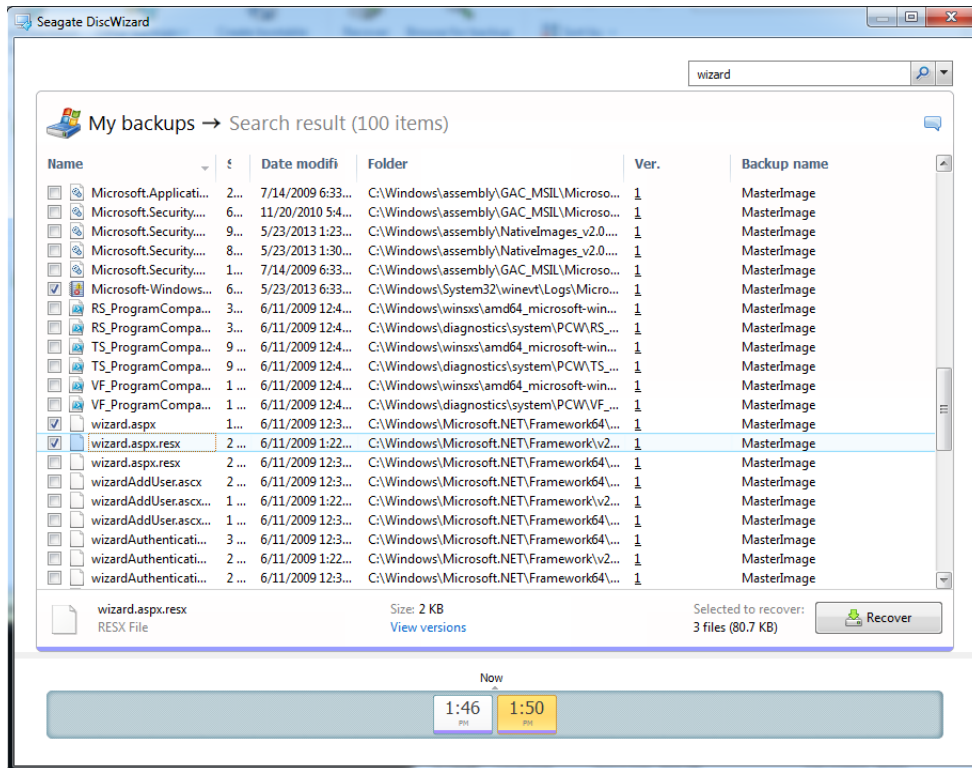
Figure 9: REMOVE AFTER TRANSLATION

By default Seagate DiscWizard performs the search in all the sources where it can search information. That is, it searches files in all backups and their versions on all local storage devices.

*Seagate DiscWizard cannot perform search on network shares and devices that are recognized by Windows as **Devices with removable storage**.*

The **Files and folders** tab shows results of searches for files and folders in tib backups. Double-clicking on a filename opens the file. You can recover the file by right-clicking on its filename and choosing **Recover** in a shortcut menu. This shortcut menu also enables you to open the file or the parent folder that contains that file.

When searching files in backups you can type all or part of the filename and use the common Windows wildcard characters. For example, to find all batch files in the backups, type "*.bat". Typing my???.exe will allow you to find all .exe files with names consisting of five symbols and starting with "my". It should be noted that search is case-insensitive, i.e. "Backup" and "backup" is the same search string.

When a file is included in several backups and it has been modified, the search results will show the number of file versions in the appropriate column. Clicking on the number in this column opens the **View Versions** window where you can select the version you want to recover.

Please note that Seagate DiscWizard does not search files in encrypted and password-protected tib backups nor in the password-protected Acronis Secure Zone.

5.7.2 Using Windows Search with Seagate DiscWizard

If you use any edition of Windows Vista or Windows 7 that has built-in Desktop Search functionality or Windows Desktop Search 3.0 or later, you can enable indexing for tib files.

If you do not have Windows Search installed, but would like to use it, you can download Windows Search 4.0 for free from Microsoft's Web site. To download, click http://www.microsoft.com/download/en/details.aspx?id=23. Double-click on the downloaded file and follow the instructions for installation.

Seagate DiscWizard has a plug-in for Windows Search. To speed up searches in your backups, you can install the plug-in for indexing the backups. After indexing you will be able to search backup content by entering a filename into the Windows Search query field without opening Seagate DiscWizard. Using the search results you can:

- Select any file and open it for viewing and/or save that file back to anywhere in the file system (not in the backup) or where it was before
- See in which backup a given file is stored and recover that backup

In addition to indexing the files in backups by their names, Windows Search provides Seagate DiscWizard with the ability to perform full-text indexing of many files in your backups. You will be able to use this feature and perform searches of the files' content.

Full-text indexing of files in backup is provided only for the file types recognizable by Windows Search. It recognizes text files, Microsoft Office files, all Microsoft Office Outlook and Microsoft Outlook Express items, and more.

The contents of password-protected backups or backups protected by a password and encryption will not be indexed, though Windows Search provides search for the tib files of such backups. Furthermore, Windows Search has no access to Acronis Secure Zone, so it will be unable to search and index backups in the zone.

Windows Search does not support indexing of zip files content.

1. To register the plug-in, click the down arrow to the right of the Search field at the upper right corner of the main program window and then click **Use Windows Search**.
2. You can verify that the tib files indexing support is enabled. Right-click on the Windows Search icon in your system tray and select **Windows Desktop Search Options…** in the context menu. The following window appears. Make sure that the "tib://..." item is present in the Included Locations list.

*To open the Indexing Options window in Windows Vista or Windows 7, open the Control Panel and then double-click the **Indexing Options** icon. The Windows Vista and Windows 7 indexing options have some differences in content and appearance, though most of the following information is applicable to those operating systems as well.*
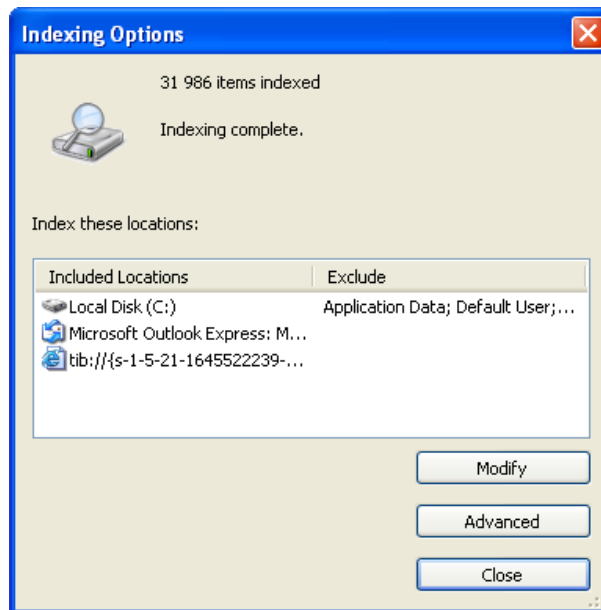
3. Click **Advanced**, select the **File Types** tab and then make sure that the **tib** extension is selected and ".tib IFilter" is shown in the Filter Description field. Select **Index Properties and File Contents**.
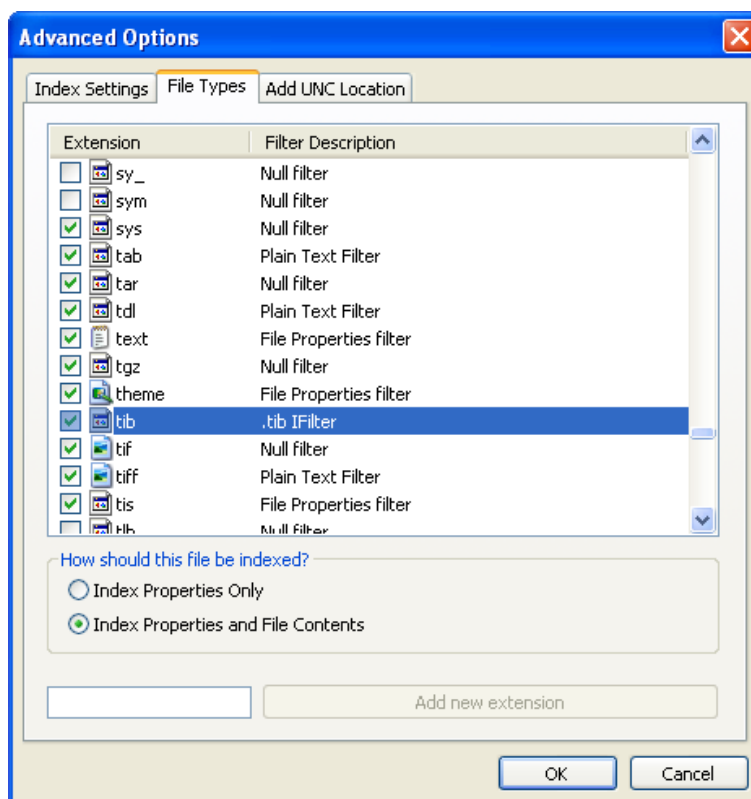
4. Click **OK** and while the **Indexing Options** window is open, check that the disks where you store your backups are shown in the "Included Locations" list. If the list does not contain those disks,

the backups will not be indexed. To include the disks, click **Modify** and select them in the window that appears.
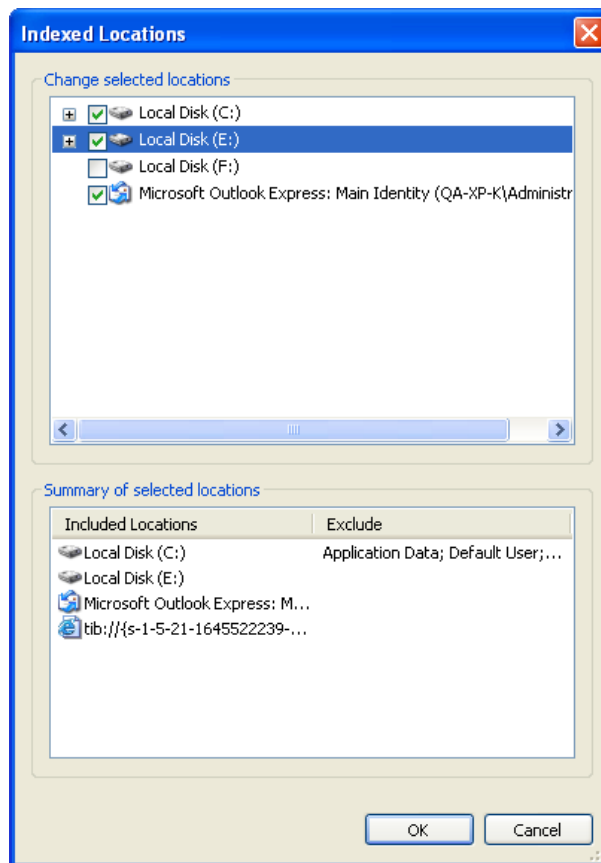
*If you store backups on a network share, Windows Search can index them too. You just have to add the share to the Indexed Locations list by typing the appropriate UNC path after selecting the **Add UNC Location** tab of **Advanced Options**.*

Give Windows Search some time for indexing Acronis backups on your computer's hard disks and adding the indexing information to its index database. The required time depends on the number of backups and the number of files they contain. After completing the indexing, the Windows Search will be able to search files in tib backups.
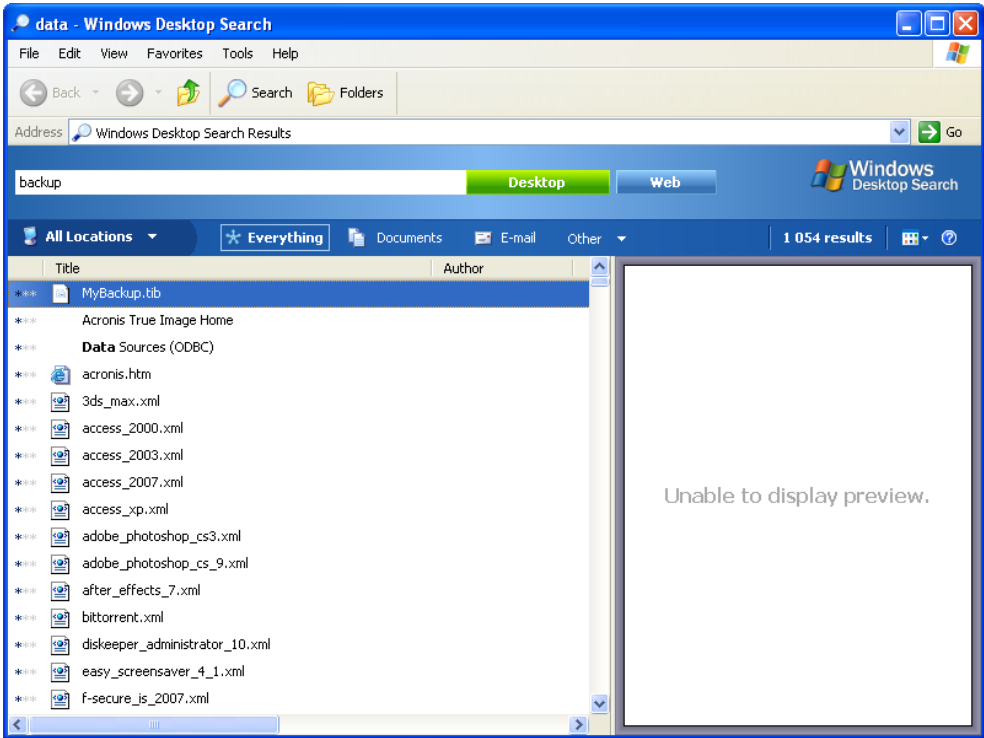
The search engines in Windows Search and Windows Vista or Windows 7 have similar functionalities, though search results are presented somewhat differently.
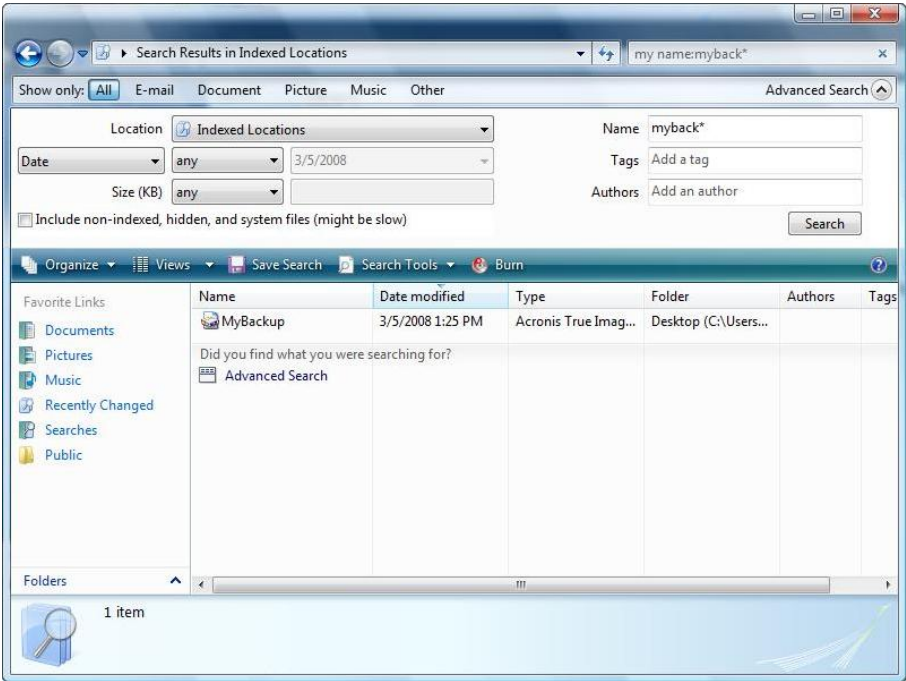
5.8   Choosing columns for viewing in wizards

You can change the way the columns are represented in various wizards.

To sort items by a particular column, click the header (another click will switch the items to the opposite order).

To select columns to view, right-click in the right pane and select **Choose Columns** in the shortcut menu. Then flag the columns you want to display. You can also change the display order of columns using the **Move Up** and **Move Down** buttons.

You can change the width of a column by dragging its borders with the mouse.

5.9   Backup information

The backup information window provides detailed information about the selected backup.

- **Path** - the location where the backup is stored. In case it is an incremental backup, the location may be different from the location where the full backup is stored.
- **Backup method** may be full or incremental. For more information about types of backup see Full and incremental backups (p. 26).
- **Backup file type** - either a disk/partition or a file/folder backup.
- **Created** - the date and time when the backup was created.
- **Comments** - if you have entered comments, they will be shown here.

5.10 Timeout settings

Sometimes when the program performs an operation, an error message or a warning message may interrupt the operation progress. To resume the operation, some additional information or a decision is required from the user.

For example, such a situation may occur during a backup operation when the storage space in the destination location becomes insufficient for completing the backup. The program will wait for your decision on whether you want to cancel the backup, free some storage space or select another destination for the backup.

Timeout settings allow you to specify the time interval the program should wait for your response. Move the slider to the right to set the time interval (in minutes). Note that the **Infinite** setting is not recommended. If the response is not received during the interval, the operation will be canceled.

6 Tools and utilities

Tools and utilities include Try&Decide, protection tools, mounting tools, backup conversion tools, clone disk utility, security and privacy utilities, disk management utilities, and backup settings transfer tools.

Features marked with the 🔒 *sign are available in the full version of the software only. To access these features, please upgrade to full version.*

Try&Decide

Try any unsafe operation in the Try mode and then decide whether to apply or discard it.

Protection tools

- **Acronis Startup Recovery Manager**

  Allows you to start Seagate DiscWizard without loading the operating system by pressing F11 at boot time before the operating system starts.

- **Rescue Media Builder**

  Allows you to create a bootable rescue media with Seagate products (or their specified components) installed on your computer.

- **Acronis Secure Zone**

  Allows you to store your backups in a special safe partition on your disk.

- **Boot Sequence Manager**

  Allows you to add Windows 7 system partition images to the booting list and then manage the list.

Backup settings transfer

- **Import backup settings**

  Allows you to get backup settings from another computer.

- **Export backup settings**

  Allows you to copy the settings of your backups and move them to another computer.

Backup conversion

- **Acronis backup conversion**

  Use the feature to convert a backup file format from tib to vhd. The vhd files can be used, for example, in Windows Vista and Windows 7 operating systems for mounting disk images without using Seagate DiscWizard.

- **Windows backup conversion**

  Use the feature to convert a backup file format from vhd to tib. The latter is the native file format of Acronis backups.

Clone disk

Use Clone disk wizard if you need to clone your hard disk drive by copying the partitions to another hard disk.

Security and privacy

- **Seagate DriveCleanser**

Seagate DriveCleanser utility provides for secure destruction of data on your hard disk.

- **File Shredder**

    With the File Shredder you can quickly select unnecessary files and folders and destroy them permanently.

- **System Clean-up**

    With the System Clean-up utility, you can clean up components (folders, files, registry sections, etc.), related to general system tasks. These Windows components retain evidence of user PC activity, so they too should be thoroughly wiped to maintain confidentiality.

Disk management

- **Add new disk**

    Add new disk wizard helps you to add a new hard disk drive to your computer. You will be able to prepare the new hard disk drive by creating and formatting new partitions on this hard disk.

- **Seagate Extended Capacity Manager**

    If you use an operating system that has a 2 TB limitation on hard drive capacity, this tool will help you to lift this restriction. You will be able to use all the space of your 3 TB disk, and not only 2 TB.

- **View current state of your disks**

    This link opens an integrated Seagate Disk Editor (in read-only mode) to show you the state of your cleaned up disks or partitions. For more information see Disk Editor (read-only mode) (p. 112).

Image mounting

- **Mount image**

    With this tool you can explore a previously created image. You will be able to assign temporary drive letters to the partition images and easily access these images as ordinary, logical drives.

- **Unmount image**

    With this tool you can unmount the temporary logical drives you have created to explore an image.

6.1 Creating bootable rescue media

In this section

6.1.1 Seagate Media Builder

You can run Seagate DiscWizard from an emergency boot media on a bare-metal system or a crashed computer that cannot boot. You can even back up disks on a non-Windows computer, copying all its data into the backup by imaging the disk in the sector-by-sector mode. To do so, you will need bootable media that has a copy of the standalone Seagate DiscWizard version installed on it.

You can create bootable media using the Bootable Media Builder. For this, you will need a blank CD-R/RW, a blank DVD+R/RW or any other media from which your computer can boot, such as a USB flash drive.

Seagate DiscWizard also provides the ability to create an ISO image of a bootable disc on the hard disk.

Notes

- If you have chosen not to install the Bootable Media Builder during Seagate DiscWizard installation, you will not be able to use this feature.

- When booting from the Rescue Media, you cannot perform backups to disks or partitions with Ext2/Ext3/Ext4, ReiserFS, and Linux SWAP file systems.

- Please keep in mind that the backups created by the later program version may be incompatible with the previous program versions. Due to this reason, we strongly recommend that you create a new bootable media after each Seagate DiscWizard upgrade.

- When booting from the rescue media and using a standalone version of Seagate DiscWizard you cannot recover files and folders encrypted with use of the encryption available in Windows XP and later operating systems.

6.1.1.1   Rescue media contents selection

You can select which components of Seagate programs you want to place on the bootable media.

Seagate DiscWizard offers the following components:

- **Seagate DiscWizard** - includes support of USB, PC Card (formerly PCMCIA) and SCSI interfaces along with the storage devices connected via them.

- **Seagate System Report** - the component allows you to generate a system report that is used for collecting information about your system in case of any program problem. Report generation will be available before you start Seagate DiscWizard from the bootable media. The generated system report can be saved to a USB flash drive.
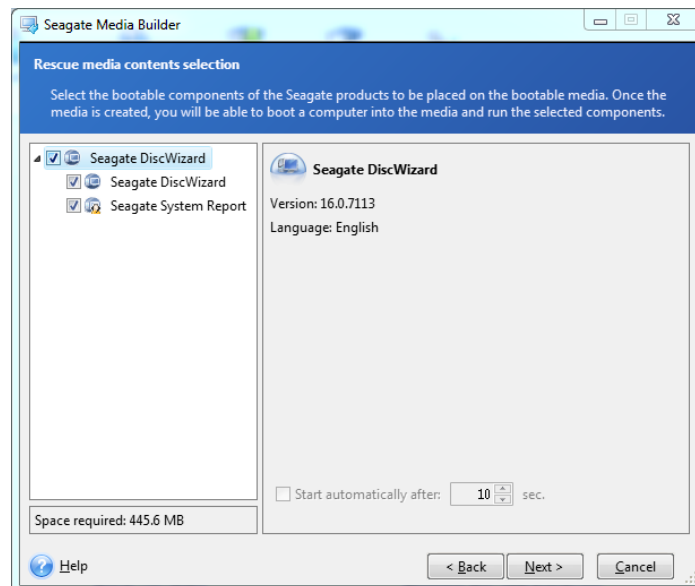
Figure 10: REMOVE AFTER TRANSLATION

To select a component:

- Select the check box of the program you want to include into the bootable media. The bottom field displays the space required for the selected components. If you have other Seagate products installed on your computer, you can also include standalone versions of these programs into the same bootable media.

- If automatic start of the program is necessary, select the **Starts automatically after** check box. The **Start automatically after** parameter specifies the timeout interval for the boot menu. If this

parameter is not specified, the program will display the boot menu and wait for you to select whether to boot the OS or the Seagate component. If you set, for example, **10 sec** for Seagate rescue media, the standalone Seagate DiscWizard will launch 10 seconds after the menu is displayed.

- Click **Next** to continue

6.1.1.2   Bootable media startup parameters

Here, you can set bootable media startup parameters in order to configure rescue media boot options for better compatibility with different hardware. Several options are available (nousb, nomouse, noapic, etc.). These parameters are provided for advanced users. If you encounter any hardware compatibility problems while testing boot from the rescue media, it may be best to contact the product's support team.

To add a startup parameter

- Enter a command into the **Parameters** field.
- Having specified the startup parameters, click **Next** to continue.

Additional parameters that can be applied prior to booting Linux kernel

Description

The following parameters can be used to load Linux kernel in a special mode:

- **acpi=off**

Disables ACPI and may help with a particular hardware configuration.

- **noapic**

Disables APIC (Advanced Programmable Interrupt Controller) and may help with a particular hardware configuration.

- **nousb**

Disables loading of USB modules.

- **nousb2**

Disables USB 2.0 support. USB 1.1 devices still work with this option. This option allows using some USB drives in USB 1.1 mode, if they do not work in USB 2.0 mode.

- **quiet**

This parameter is enabled by default and the startup messages are not displayed. Deleting it will result in the startup messages being displayed as the Linux kernel is loaded and the command shell being offered prior to running the Seagate program.

- **nodma**

Disables DMA for all IDE disk drives. Prevents kernel from freezing on some hardware.

- **nofw**

Disables FireWire (IEEE1394) support.

- **nopcmcia**

Disables PCMCIA hardware detection.

- **nomouse**

Disables mouse support.

- **[module name]=off**

Disables the module (e.g. **sata_sis=off**).

- **pci=bios**

Forces to use PCI BIOS, and not to access the hardware device directly. For instance, this parameter may be used if the machine has a non-standard PCI host bridge.

- **pci=nobios**

Disallows use of PCI BIOS; only direct hardware access methods are allowed. For instance, this parameter may be used if you experience crashes upon boot-up, probably caused by the BIOS.

- **pci=biosirq**

Uses PCI BIOS calls to get the interrupt routing table. These calls are known to be buggy on several machines and they hang the machine when used, but on other computers it is the only way to get the interrupt routing table. Try this option, if the kernel is unable to allocate IRQs or discover secondary PCI buses on your motherboard.

- **vga=ask**

Gets the list of the video modes available for your video card and allows selecting a video mode most suitable for the video card and monitor. Try this option, if the automatically selected video mode is unsuitable for your hardware.

6.1.1.3   Bootable media selection

Select a destination for bootable media creation:

- **CD-R/RW** - if you are creating CD, insert a blank disc so that the program can determine its capacity.
- **ISO image** - having created an ISO disk image, you will be able to burn it onto any kind of recordable DVD, using DVD recording software. Creating a bootable DVD directly from Bootable Media Builder is impossible.
- any other media your PC can boot from, such as USB flash drives, etc.

If you use non-optical media, the media must have a FAT file system. This limitation is not applicable for an ISO image.
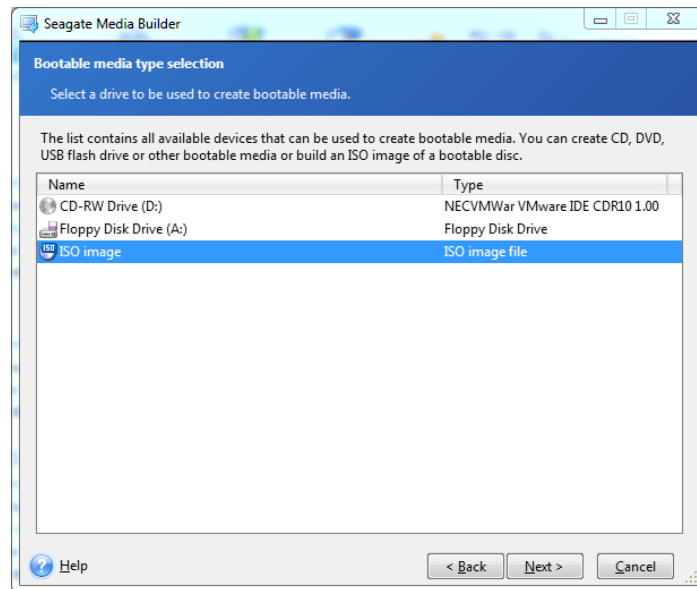

Figure 11: REMOVE AFTER TRANSLATION

6.1.1.4   Destination file selection

If you chose to create a bootable disk ISO image, specify the ISO file name and the folder where to place it:

- Select the destination folder from the folder tree
- Enter a name for the .iso file in the **File name** field
- Click **Next** to continue

6.1.1.5   Bootable media creation summary

This page displays operations to be performed.

Click **Proceed** to start the bootable media creation process.

Use the sidebar on the left to navigate through the wizard's steps for revision.

To cancel operation and quit Seagate Media Builder, click **Cancel**.

After you create a boot disc, mark it and keep it in a safe place.

Please keep in mind that the backups created by the later program version may be incompatible with the previous program versions. Due to this reason, we strongly recommend that you create a new bootable media after each Seagate DiscWizard upgrade. One more thing you should remember – when booting from the rescue media and using a standalone version of Seagate DiscWizard you cannot recover files and folders encrypted with use of the encryption feature available in Windows XP and later operating systems.

6.1.1.6   How to create a bootable USB flash drive

You can create a bootable USB flash drive containing a standalone Seagate DiscWizard. This may be handy, for example, if your notebook does not have an internal CD/DVD-drive.

You will need a USB flash drive with a capacity of 256 MB or more. The drive must be formatted in FAT16 or FAT32 file system.

To create a bootable USB flash drive, attach the drive to a USB port. Start Seagate Media Builder and then select the drive as the destination for the rescue media creation. Then follow the Media Builder wizard steps. For more information on creating the media see How to create bootable media.

If Seagate Media Builder does not recognize your USB flash drive, you can try using the procedure described in an Acronis Knowledge Base article at http://kb.acronis.com/content/1526.

6.2   Cloning a hard disk

In this section

6.2.1   General information

You might find that your hard disk does not have enough space for the operating system and installed applications, preventing you from updating your software or installing new applications. In this case, you have to transfer the system to a higher-capacity hard disk.

To transfer the system, you must first install the new disk in the computer. If your computer doesn't have a bay for another hard disk, you can temporarily install it in place of your CD drive or use a USB 2.0 connection to the external target disk. If that is not possible, you can clone a hard disk by creating a disk image and recovering it to a new hard disk with larger partitions.

On program screens, damaged partitions are marked with a red circle and a white cross inside in the upper left corner. Before you start cloning, you should check such disks for errors and correct the errors using the appropriate operating system tools.

For best results, install the target (new) drive where you plan to use it and the source drive in another location, e.g. in an external USB enclosure. This recommendation is especially important for laptops.

We strongly recommend that you create a backup of the entire original disk as a safety precaution. It could be your data saver if something goes wrong with your original hard disk during cloning. For information on how to create such a backup see see Backing up partitions and disks (p. 28). After creating the backup, make sure that you validate it.

To clone a disk:

- Click **Clone disk** on the **Tools and utilities** tab of the Home screen.

- Follow the **Disk Clone Wizard** steps.

6.2.2   Security

Please note the following: if the power goes off or you accidentally press **RESET** during the transfer, the procedure will be incomplete and you will have to partition and format or clone the hard disk again.

No data will be lost because the original disk is only being read (no partitions are changed or resized). The system transfer procedure does not alter the original disk at all. After the procedure finishes, you might want to format the old disk or securely wipe the data it contains. Use Windows tools or Seagate DriveCleanser for these tasks.

Nevertheless, we do not recommend that you delete data from the old disk until you are sure it is correctly transferred to the new disk, the computer boots up from it and all applications work.

6.2.3   Selecting clone mode

There are two transfer modes available:
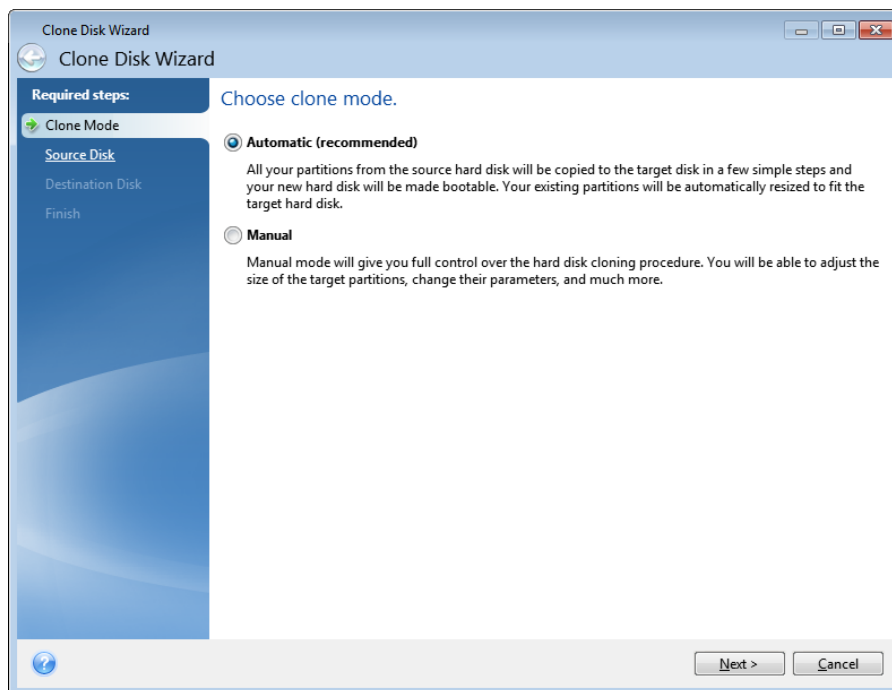
- ▪ **Automatic** (recommended in most cases). In automatic mode, you will only have to take several simple actions to transfer all the data, including partitions, files and folders, to a newer disk, making it bootable if the original disk was bootable.
- ▪ **Manual**. Manual mode will provide more data transfer flexibility. Manual mode can be useful if you need to change the disk partition layout.

If the program finds two disks, one partitioned and another unpartitioned, it will automatically recognize the partitioned disk as the source disk and the unpartitioned disk as the destination disk. In such case, the next steps will be bypassed and you will be taken to the cloning Summary screen.

6.2.4   Selecting a source disk

You can determine the source and destination using the information provided in this window (disk number, capacity, label, partition and file system information). If the program finds several partitioned disks, it will ask you which is the source (i.e. the older data disk).
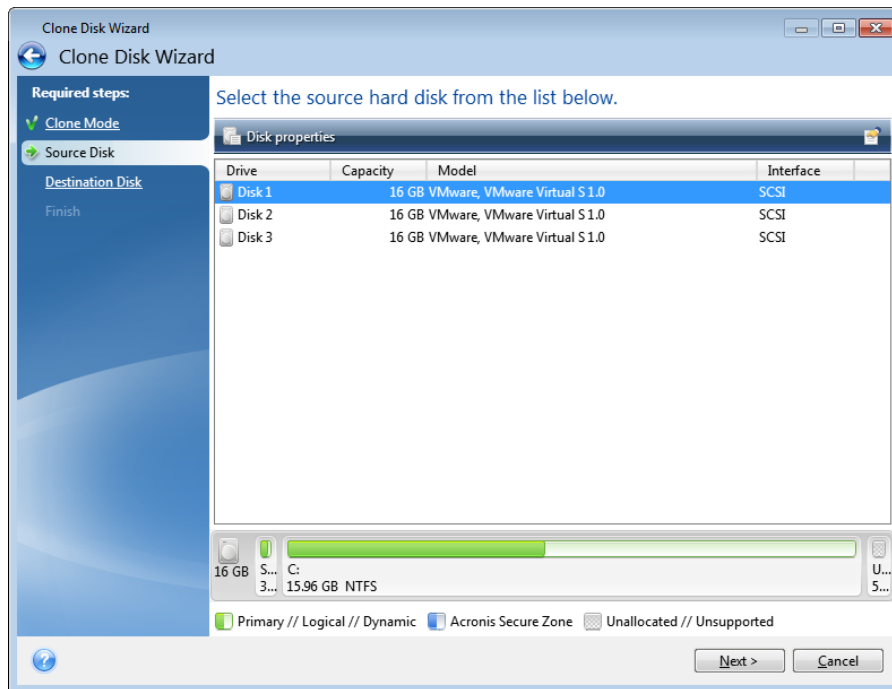
Seagate DiscWizard does not support cloning of dynamic disks.

▪ Select the source disk and click **Next** to continue.

Viewing disk and partition information

▪ ⬜ Columns - selects the columns to display. You can change the width of a column by dragging its borders with the mouse.

▪ ⬜ Disk properties (duplicated in the context menu, opened by right-clicking objects) - displays the selected partition or disk properties window.

This window contains two panels. The left panel contains the properties tree and the right one describes the selected property in detail. The disk information includes its physical parameters (connection type, device type, size, etc.); partition information includes both physical (sectors, location, etc.), and logical (file system, free space, assigned letter, etc.) parameters.

6.2.5 Selecting a destination disk

After you select the source disk, you have to select the destination where the disk information will be copied to. The previously selected source becomes grayed-out and disabled for selection.
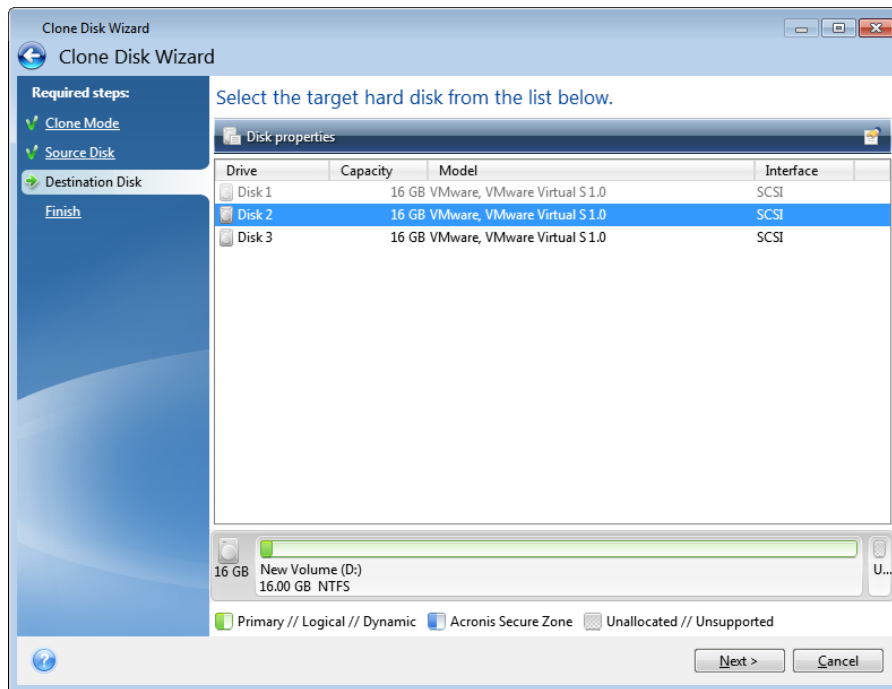
- Select the destination disk and click **Next** to continue.

At this point, the program checks to see if the destination disk is free. If not, you will be prompted by the Conformation window stating that the destination disk contains partitions, perhaps with useful data. To confirm deletion of the partitions, click **OK**.

*Note that no real changes or data destruction will be performed at this time! For now, the program will just map out cloning. All changes will be implemented only when you click **Proceed**.*

If any disk is unpartitioned, the program will automatically recognize it as the destination and bypass this step.

6.2.6 Move method

When you select the manual cloning mode, Seagate DiscWizard will offer you the following data move methods:
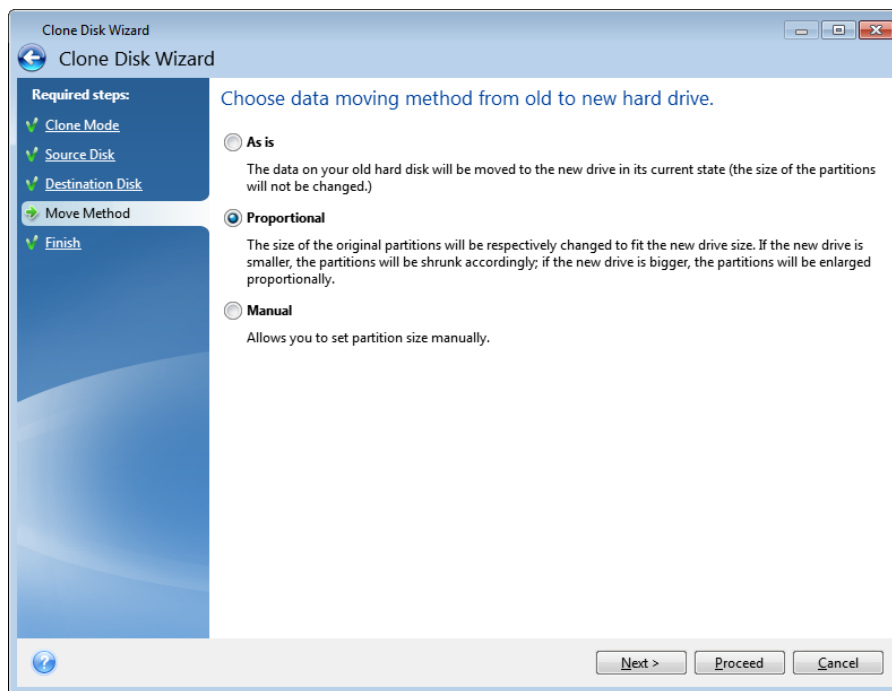
- **As is** - a new partition will be created for every old one with the same size and type, file system and label. The unused space will become unallocated.
- **Proportional** - the new disk space will be proportionally distributed between cloned partitions

- **Manual** - you will specify a new size and other parameters yourself

If you elect to transfer information "as is," a new partition will be created for every old one with the same size and type, file system and label. The unused space will become unallocated. Afterwards, you will be able to use the unallocated space to create new partitions or to enlarge the existing partitions with special tools, such as Acronis Disk Director Suite.

As a rule, "as is" transfers are not recommended as they leave a lot of unallocated space on the new disk. Using the "as is" method, Seagate DiscWizard transfers unsupported and damaged file systems.

If you transfer data proportionally, each partition will be enlarged, according to the proportion of the old and new disk capacities.

FAT16 partitions are enlarged less than others, as they have a 4GB size limit.

Depending on the selected combination, you will proceed to either the cloning summary window, or the Change disk layout step (see below).

6.2.7   Excluding items

In the **What to exclude** section, you can set up exclusions for files and folders that you do not want to include in the disk clone.

1. To create a list of items for exclusion, do one of the following:
   - In the **Exclude by files and folders** tab, select files and folders using a typical file browser;
   - In the **Exclude by masks** tab, enter names of individual files and folders (full path is required), or define a pattern through common wildcard characters ***** and **?**. Use buttons **Add**, **Edit**, **Remove** and **Remove All** on the right to control the set of items in the list.

You can combine these two methods. For example, define a file mask and select certain items in the file browser.
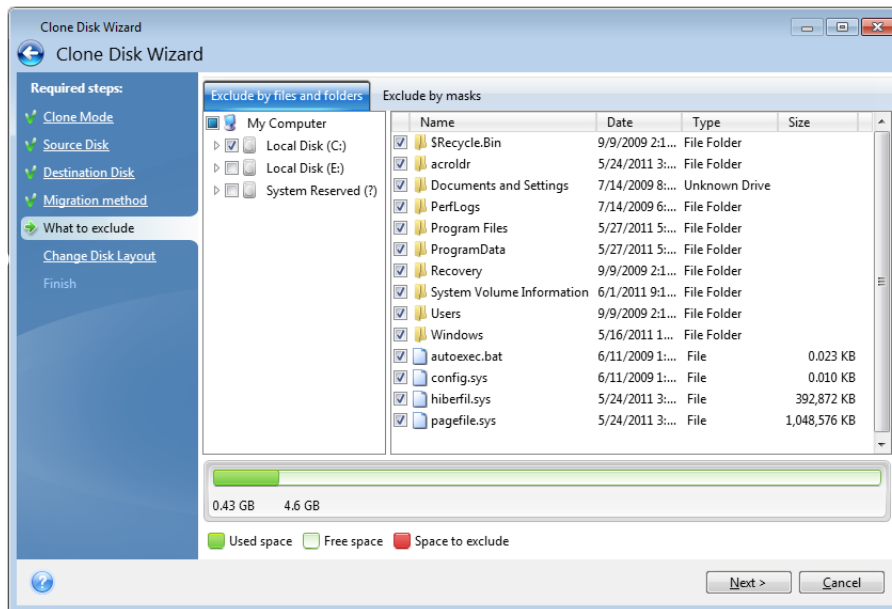
Remember that if you select or somehow specify to exclude a file that has NTFS hard links, you also need to select/specify to exclude these hard links from the clone. Otherwise, the file will not be excluded and will appear on the target disk after the cloning.

Note: When you exclude files, the program calculates the size of excluded items and checks if the cloned data will fit the target disk. Please be patient as this process may take up to several minutes to complete.

2. To proceed to the next step, click **Next**.

Insufficient free space warning

You may receive a warning message saying that there is no enough free space on the target hard drive to complete the operation. The possible reasons are as follows:

■ Amount of data being cloned from the source disk exceeds the available capacity of the target disk. To resolve this issue, try excluding more items from the clone, then click **Next**. If necessary, repeat this operation several times until the warning message disappears.

■ Source disk has an unsupported file system and is larger than the target disk. The target disk must be larger or equal in size to the source disk in this case, and it will be pointless to exclude more items.

■ Source disk has partitions both with supported and unsupported file systems, and the target disk capacity is less than the amount of data being cloned from partitions with supported file system plus the size of partitions with unsupported file system. Trying to exclude more items may be helpful in this case.

6.2.7.1   Exclusion examples

Files and folders on the source disk can be excluded from the clone both individually and in bulk according to a pattern. Such pattern can be either a file or folder name or a file mask defined through common wildcard characters:

   * - substitutes for zero or more characters;
   ? - substitutes for exactly one character.

If necessary, you can type several criteria in the same line separating them by semicolons. For example, to exclude all files with .gif and .bmp extensions, you may type ***.gif;*.bmp**.

The table below shows several exclusion examples.

Pattern	Example	Description
By name	F.log	Excludes all files named "F.log"
	F	Excludes all folders named "F"
By file path	C:\Finance\F.log	Excludes the file named "F.log" located in the folder C:\Finance
By folder path	C:\Finance\F\	Excludes the folder C:\Finance\F (be sure to specify the full path starting from the disk letter and the backslash(\) at the end)
By mask (*)	*.log	Excludes all files with the .log extension
	F*	Excludes all files and folders with names starting with "F" (such as folders F, F1 and files F.log, F1.log)
By mask (?)	F???.log	Excludes all .log files with names consisting of four symbols and starting with "F"

Wildcards in a mask may represent only parts of file or folder names, and cannot substitute for a part of the file path. Sub-folders should always be specified explicitly using a backslash, "\"). For example, to exclude all files in directory C:\Program Files\Acronis\TrueImageHome\ that have "Qt" in the file name, you may use the following line: *\Prog*\Acr*\True**Qt*.??? .

6.2.8   Manual partitioning

The manual transfer method enables you to resize partitions on the new disk. By default, the program resizes them proportionally.

This window displays rectangles indicating the source hard disk, including its partitions and unallocated space, as well as the new disk layout.

Along with the hard disk number, you can see disk capacity, the label, volume and file system information. Different volume types, including primary, logical and unallocated space are marked with different colors.
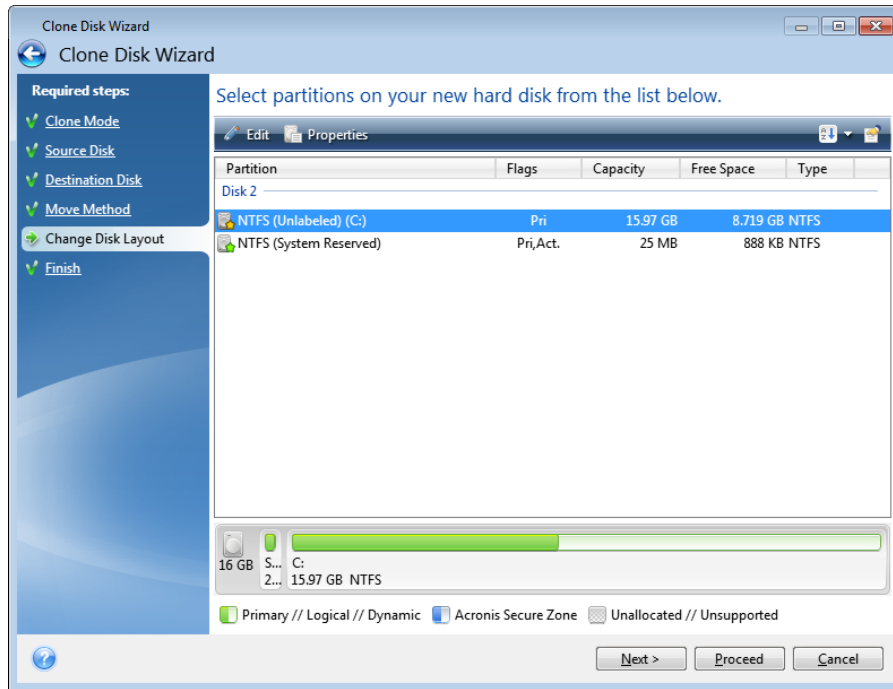
To resize, change the volume type, change the label of the existing volume, right click on it, and select **Edit** in the shortcut menu. This will open the Partition Settings window.
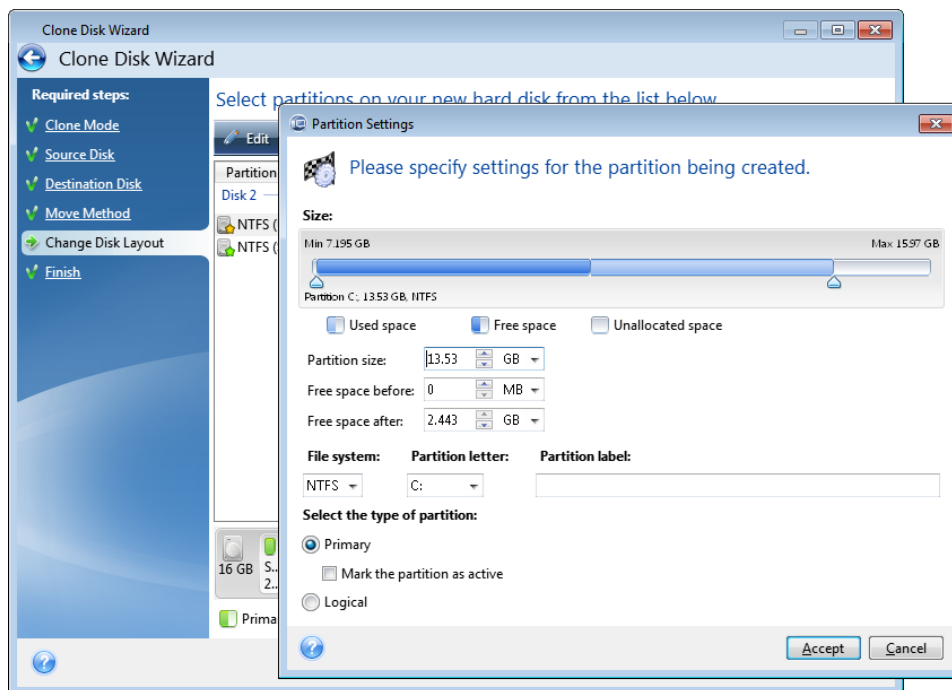
You can do this by entering values in the **Free space before**, **Partition size**, **Free space after** fields, by dragging partition borders or the partition itself.

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If the cursor turns into two vertical lines with left and right arrows, it is pointed at the partition border and you can drag it to enlarge or reduce the partition's size. If the cursor turns into four arrows, it is pointed at the partition, so you can move it to the left or right (if there's unallocated space near it).

Having provided the new location and size, click **Accept**. You will be taken back to the Change disk layout window. You might have to perform some more resizing and relocation before you get the layout you need.

By clicking **Next** you will proceed to the Cloning summary window.

⚠️ **Be careful!**

Clicking any previous wizard step on the sidebar in this window will reset all size and location changes that you've selected, so you will have to specify them again.

6.2.9   Cloning summary

The cloning summary window graphically (as rectangles) illustrates information about the source disk (partitions and unallocated space) and the destination disk layout. Along with the disk number, some additional information is provided: disk capacity, label, partition and file system information.
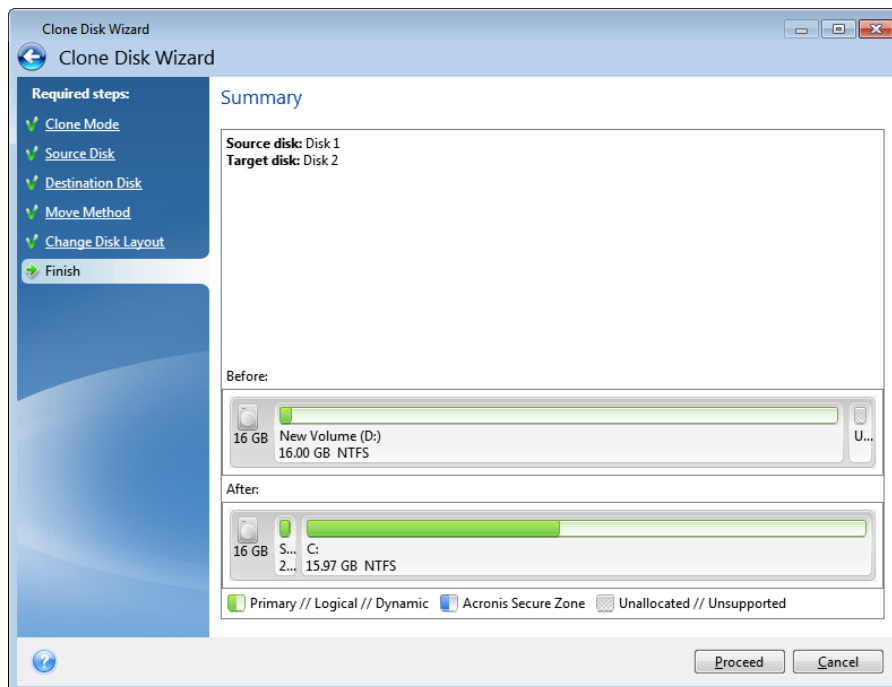
- Click **Proceed** to start disk cloning.
- Click **Cancel** to cancel the procedure and quit to the main program window.

Cloning a disk containing the currently active operating system will require a reboot. In that case, after clicking **Proceed** you will be asked to confirm the reboot. Canceling the reboot will cancel the entire procedure. After the clone process finishes you will be offered an option to shut down the computer by pressing any key. This enables you to change the position of master/slave jumpers and remove one of the hard drives.

Cloning a non-system disk or a disk containing an operating system, but one that is not currently active, will proceed without the need to reboot. After you click **Proceed**, Seagate DiscWizard will start cloning the old disk to the new disk, indicating the progress in a special window. You can stop this procedure by clicking **Cancel**. In that case, you will have to repartition and format the new disk or repeat the cloning procedure. After the cloning operation is complete, you will see the results message.

6.3 Adding a new hard disk

If you do not have enough space for your data (e.g. family photos and videos), you can either replace the old disk with a new higher-capacity one (data transfers to new disks are described in the previous chapter), or add a new disk only to store data, leaving the system on the old disk. If the computer has a bay for another disk, it would be easier to add a disk drive than to clone one.

To add a new disk, you must first install it in your PC.

To add a new hard disk:

- Click the **Tools and utilities** tab and then click **Add new disk**
- Follow the Add new disk Wizard steps

*If you use   a 32-bit version of Windows XP, the wizard will not have the **Initialization options** step because this operating system does not support GPT disks.*

In this section

6.3.1 Selecting a hard disk

Select the disk that you have added to the computer. If you have added several disks, select one of them and click **Next** to continue. You can add the other disks later by restarting the Add New Disk Wizard.

*If there are any partitions on the new disk, they must be deleted first. If the added disk contains partitions,
Seagate DiscWizard will warn you by displaying the warning message. Click* **OK** *to delete the existing partitions
on the added disk.*
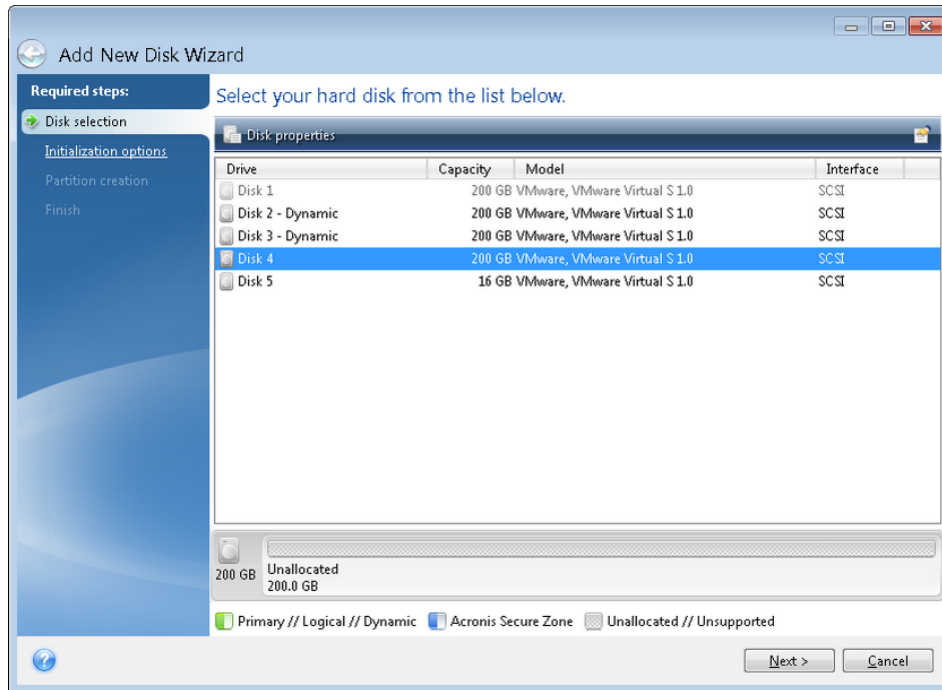
You can also see the properties of all the hard disks installed in your system, for example, the name
and the model of the selected disk drive, its capacity, file system and its interface.

6.3.2 Selecting initialization method

Seagate DiscWizard supports both MBR and GPT partitioning. GUID Partition Table (GPT) is a new hard disk partitioning method providing advantages over the old MBR partitioning method. If your operating system supports GPT disks, you can select the new disk to be initialized as a GPT disk.
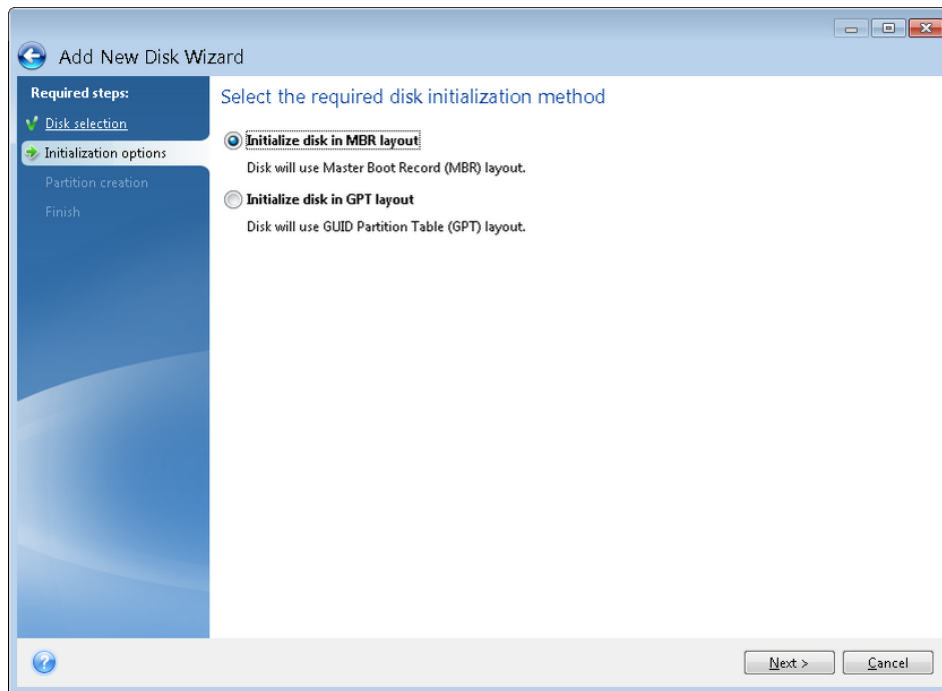
- To add a GPT disk, click **Initialize disk in GPT layout**.

- To add an MBR disk, click **Initialize disk in MBR layout**.

If you use a 32-bit version of Windows XP, the GPT initialization method will be unavailable and the ***Initialization options*** *step will be absent.*

After selecting the required initialization method click **Next**.

6.3.3 Creating new partitions

To use the space on a hard disk, it must be partitioned. Partitioning is the process of dividing the hard disk's space into logical divisions. Each logical division may function as a separate disk with an assigned drive letter, its own file system, etc. Even if you do not intend to divide your hard disk into logical divisions it must be partitioned so that the operating system knows that it is intended to be left in one piece.

Initially, all disk space will be unallocated. This will change after you add new partitions.

To create a new partition:

- Select the unallocated space and click **Create new partition** in the upper part of the window, or right click on the unallocated space, and select **Create new partition** in the shortcut menu.

- Specify the following settings for the partition being created:
    - the size of the new partition,
    - file system of the new partition,
    - partition type (available only for MBR disks),

- partition letter and label.
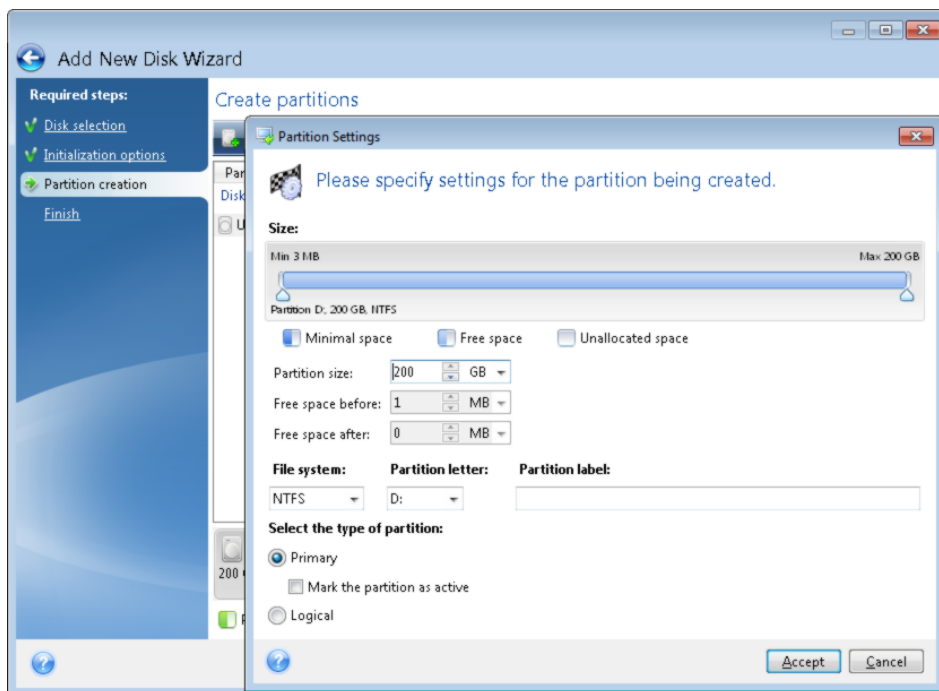
If you allocate all unallocated space on the disk to the new partition, the **Create new partition** button disappears.

6.3.3.1   Partition settings

Specify the settings for the partition being created.

Size

You can resize and relocate the partition being created.

If you want to resize the partition:

- Point the cursor at the partition border. If the cursor is pointed exactly at the partition border, it will change into two vertical lines with arrows on each side.
- Hold down the left mouse button and drag the selected partition border to enlarge or reduce the partition size.

You can also set the size of the partition manually, by typing-in the desired partition size in the **Partition Size** field.

If you want to relocate the partition:

- Point the cursor at the partition. The cursor will change into a crosshair.
- Hold down the left mouse button and drag the partition until you get the necessary size of the **Free space before** and/or **Free space after** fields. You can also set the amount of unallocated space before or after the selected partition by manually typing-in the necessary value in the respective fields.

If you create one or more logical drives, the program will reserve some unallocated space for system needs in front of the created partition(s). If you create a primary partition or a primary partition together with a logical one then no unallocated space will be reserved for system needs.

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File System

Choose the file system type for the partition being created. Different partitions may have different type of file system.

You can either leave the partition unformatted, or choose between the following file system types:

- **NTFS** is a Windows NT, Windows 2000, Windows XP, Windows Vista, and Windows 7 native file system. Choose it if you use these operating systems. Note, that Windows 95/98/Me and DOS cannot access NTFS partitions.

- **FAT 32** is an improved 32-bit version of the FAT file system that supports volumes up to 2 TB.

- **FAT 16** is a DOS native file system. Most operating systems recognize it. However, if your disk drive is more than 4 GB, it is not possible to format it in FAT16.

- **Ext2** is a Linux native file system. It is fast enough, but it is not a journaling file system.

- **Ext3** – officially introduced with Red hat Linux version 7.2, Ext3 is a Linux journaling file system. It is forwards and backwards compatible with Linux Ext2. It has multiple journaling modes, as well as broad, cross platform compatibility in both 32-bit and 64-bit architectures.

- **Ext4** is a new Linux file system. It has improvements in comparison to ext3. It is fully backward compatible with ext2 and ext 3. However, ext3 has only partial forward compatibility with ext4.

- **ReiserFS** is a journaling file system for Linux. Generally it is more reliable and faster than Ext2. Choose it for your Linux data partition.

- **Linux Swap** is a swap partition for Linux. Choose it if you want to add more swap space using Linux

Partition letter

Select a letter to be assigned to the partition being created from the drop-down list. If you select **Auto**, the program assigns the first unused drive letter in alphabetical order.

Partition label

Partition label is a name, assigned to a partition so that you can easily recognize it. For example, one could be called System — a partition with an operating system, Program — an application partition, Data — a data partition, etc. Partition label is an optional attribute.

Partition type (these settings are available only for MBR disks)

Choose the type of partition to be created. You can define the new partition as primary or logical.

- **Primary** - choose this parameter if you are planning to boot from this partition. Otherwise, it is better to create a new partition as a logical drive. You can have only four primary partitions per drive, or three primary partitions and one extended partition.

  Note: If you have several primary partitions, only one will be active at a time, the other primary partitions will be hidden and won't be seen by the OS.

  - **Mark the partition as active** - an active partition is used for loading an operating system. Selecting Active for a partition without an installed operating system could prevent your computer from booting.

- **Logical** - choose this parameter if you don't intend to install and start an operating system from the partition. A logical drive is part of a physical disk drive that has been partitioned and allocated as an independent unit, but functions as a separate drive.

When you finish to specify the settings for the partition being created, click **Accept** to continue.

6.3.4   Add new disk summary

The Add new disk summary graphically (as rectangles) illustrates information about the new disk layout before and after partitioning.
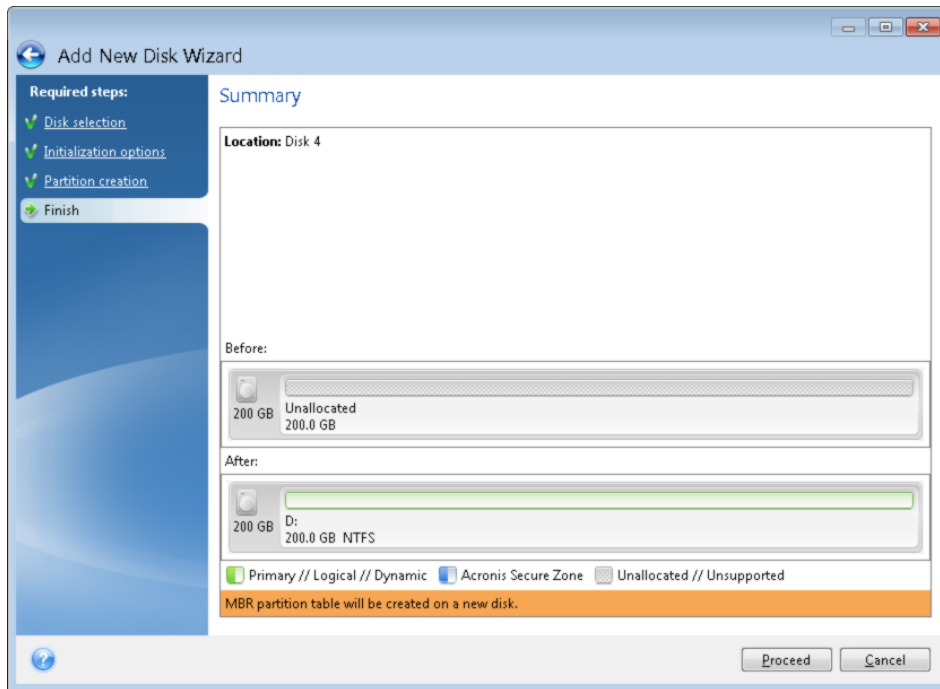
- Click **Proceed** to start creating new partition(s).
- Click **Cancel** to cancel the procedure and quit to the main program window.

After you click **Proceed**, Seagate DiscWizard starts creating new partition or partitions, indicating the progress in a special window. If you stop this procedure by clicking **Cancel**, you will have to repartition and format the new disk or repeat the disk add procedure.

*Before clicking the **Proceed** button you can use the sidebar to navigate through the **Add New Disk Wizard** steps and make changes.*

6.4   Seagate Extended Capacity Manager

The Seagate Extended Capacity Manager (ECM) allows your operating system (OS) to support large capacity disks that have the MBR partition style. You are able to use the disk space beyond 2 TB. This free space will be recognized as a separate disk, and will be usable by your operating system and applications as if it was a regular physical hard disk.

When it is needed

If you have hard disks larger than 2 TB and your OS does not see the entire disk space, you can resolve this issue through one of the following options:

- Use Extended Capacity Manager. You can use this tool for all cases, because it doesn't delete any data on a large disk. Therefore, we recommend that you use this tool if your large disk contains an operating system or useful data. See details below.

- Convert the MBR disk to GPT disk. The easiest way to do this is by using Windows built-in **Disk Management** utility. Note that this utility erases all data on the disk while converting it to GPT.

The following table helps you to find out which option to choose. It relates only to disks larger than 2 TB.

	MBR disk containing OS or data	Clear MBR disk without OS and data
Windows XP (x32)	Use ECM	Use ECM
Windows XP (x64)	Use ECM	Convert to GPT
Windows Vista	Use ECM	Convert to GPT
Windows 7	Use ECM	Convert to GPT
Windows 8	Use ECM	Convert to GPT

How it works

Seagate Extended Capacity Manager wizard displays all hard disks larger than 2 TB (unallocated or with MBR partition style). You can see the disk space which Windows recognizes and allocates. This space is called Windows Native Capacity in the wizard.

The space beyond 2 TB is displayed as Extended Capacity. You can enable Extended Capacity Disks, and once it is done, this space becomes visible to the operating system and ready for disk management operations.

How to use it

1. To start Seagate Extended Capacity Manager, select the **Tools and utilities** tab and then click **Seagate Extended Capacity Manager**.

   If the program does not find any MBR disks with a capacity of more than 2 TB, it displays a message that the entire disk space is accessible and you do not need to use Seagate Extended Capacity Manager.

2. Seagate Extended Capacity Manager shows the Extended Capacity available for allocation.
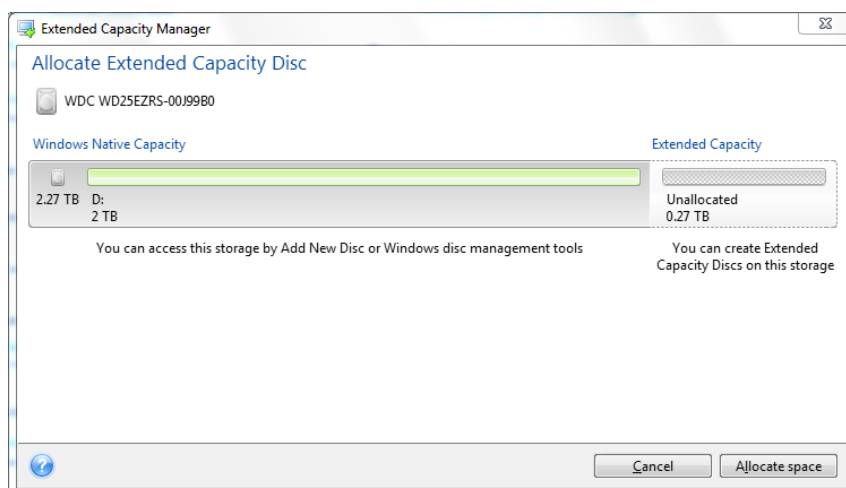
3. Click **Allocate space** to see the possible disk space allocation in the next step.

   After clicking the **Apply** button, an Extended Capacity Disk will be emulated on your physical disk. If your physical disk's capacity is more than 4 TB and your operating system does not support the GPT partition style, the program creates several MBR Extended Capacity Disks.

   Note that Extended Capacity Disks are not bootable, though most of their properties are the same as that of physical disks.

4. Click **Close** to exit the Seagate Extended Capacity Manager.

What else you can do

After allocating the space, you can temporarily switch off the Extended Capacity Disks by clicking **Temporary switch off Extended Capacity Disks**. This makes the Extended Capacity Disks invisible for disk management tools, though the disk space will remain allocated and you will be able to make these partitions visible again later. To do this, start the Seagate Extended Capacity Manager and then click **Allocate space**.
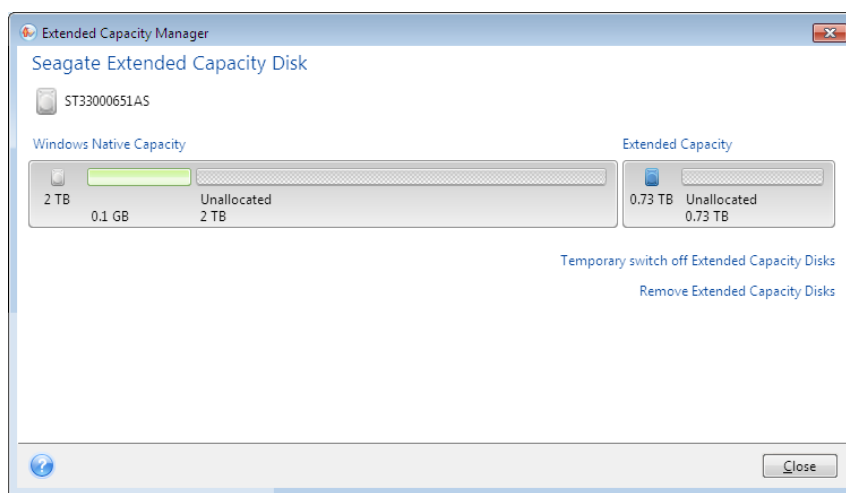
Figure 12: REMOVE AFTER TRANSLATION

To remove the Extended Capacity Disks, click **Remove Extended Capacity Disks** and then click the **Apply** button in the next step. These disks will be removed from your system, and the disk space beyond 2 TB will become inaccessible. To allocate this space later, you need to start the Extended Capacity Manager again and then repeat the wizard's steps.

You will be able to continue using the Extended Capacity Disks even after uninstalling Seagate DiscWizard. During uninstallation, you will be asked whether you want to remove the Extended Capacity Disk. If you choose not to remove the disk, it will remain usable.

6.5   Security and Privacy Tools

Seagate DiscWizard contains the utility for secure destruction of data on an entire hard disk drive, and individual partitions.

When replacing your old hard drive with a new, higher-capacity one, you may accidentally leave personal and confidential information on the old disk. This information could be retrieved even if you have reformatted the disk.

The Seagate DriveCleanser provides for the destruction of confidential information on hard disk drives and/or partitions with the help of techniques that meet or exceed most national and state

standards. You can select an appropriate data destruction method depending on the importance of your confidential information.

The data destruction methods are described in detail in Hard Disk Wiping methods (p. 113) of this guide.

In this section

6.5.1 Seagate DriveCleanser

Many operating systems do not provide users with secure data destruction tools, so deleted files can be recovered easily by using simple applications. Even a complete disk reformat cannot guarantee permanent confidential data destruction.

Seagate DriveCleanser solves this problem with guaranteed and permanent data destruction on selected hard disks and partitions. You can select from a number of data destruction algorithms depending on the importance of your confidential information.

Be aware that, depending on the total size of selected partitions and the selected data destruction algorithm, the data destruction may take many hours.

Working with Seagate DriveCleanser

With Seagate DriveCleanser you can perform the following:

- Clean up the selected hard disks or partitions using preset algorithms.
- Create and execute custom user algorithms of hard disk clean-up.

Seagate DriveCleanser is based on a wizard that **scripts** all hard disk operations, so no data destruction is performed until you click **Proceed** in the wizard's Summary window. At any moment, you can return to the previous steps to select other disks, partitions or data destruction algorithms.

To permanently destroy data on your disk:

- Click the **Tools and utilities** tab, and then click **Seagate DriveCleanser**.
- Follow the Seagate DriveCleanser wizard steps.

6.5.1.1   Data selection

First, you must select the hard disk partitions where you want to destroy data.
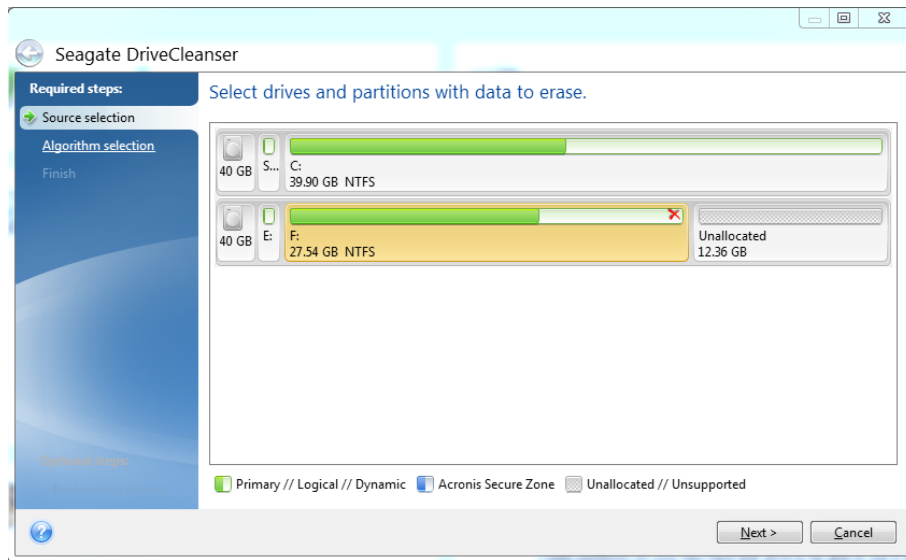
Figure 13: REMOVE AFTER TRANSLATION

To select a partition, click the corresponding rectangle. You will see a red mark in the upper right corner indicating that the partition is selected.

You can select an entire hard disk or several disks for data destruction. To do this, click the rectangle corresponding to the hard disk (with a device icon, disk number and capacity).

You can simultaneously select several partitions located on different hard disk drives or on several disks, as well as unallocated space on disks.

Seagate DriveCleanser cannot wipe partitions on dynamic and GPT disks, so they will not be shown in the **Source selection** *window.*

Click **Next** to continue.

If the disks and/or partitions you have selected include the system disk or partition, you will see a warning window.
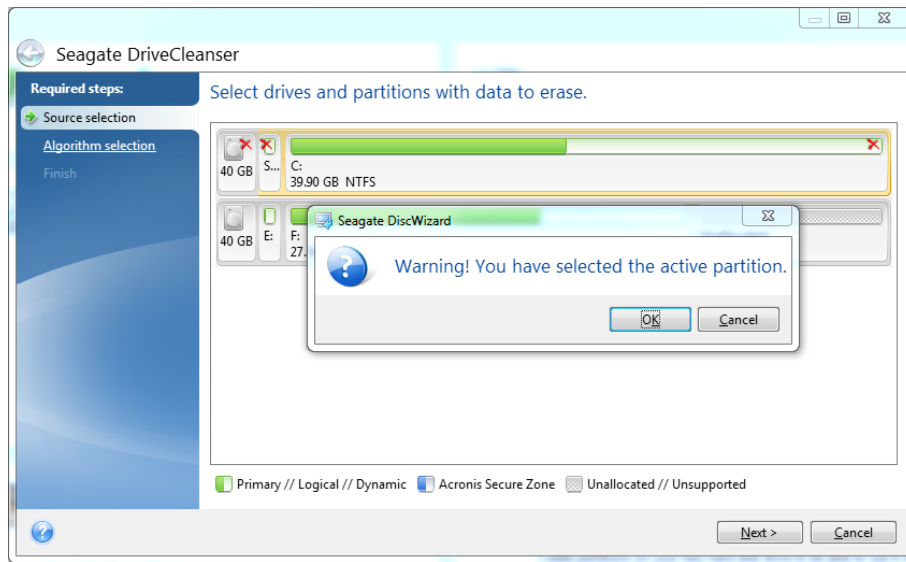
Be careful, because clicking **OK** in this warning window and then **Proceed** in the Summary window will result in wiping the system partition containing your Windows operating system.

6.5.1.2 Algorithm selection

Seagate DriveCleanser utilizes a number of the most popular data destruction algorithms. Select the desired algorithm from the drop-down list.

The data destruction methods are described in detail in Hard Disk Wiping Methods (p. 113) of this guide.
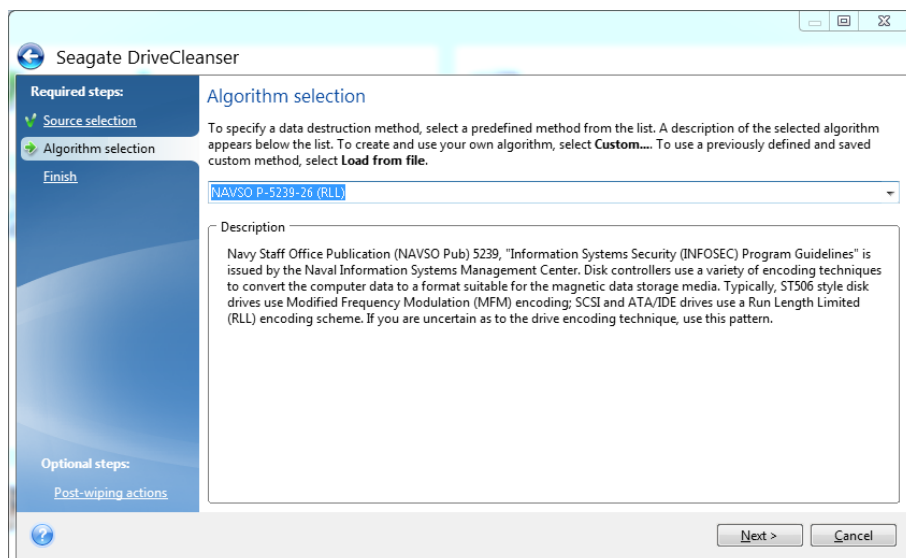
After you select an algorithm, Seagate DriveCleanser will perform all the actions necessary to destroy the contents of the selected partition or disk. After this is done, you will see a message indicating successful data destruction.

Seagate DriveCleanser offers you another useful capability — to estimate the results of executing a data destruction algorithm on a hard disk or partition. It features an integrated Disk Editor (hard disk browsing tool).

The aforementioned algorithms offer various levels of confidential data destruction. Thus the picture you might see on a disk or partition depends on the data destruction algorithm. But what you actually see are disk sectors filled with either zeros or random symbols.

Creating custom algorithms of data destruction

Seagate DriveCleanser gives you the opportunity to create your own algorithms for wiping hard disks. Although the software includes several levels of data destruction, you can choose to create your own. This is recommended only for users familiar with the principles of data destruction used in secure disk wiping methods.

To create a custom hard disk wiping algorithm, select and click the **Custom…** line from the drop-down list in the Algorithm selection window. In this case some new required steps appear in the DriveCleanser wizard and you will be able to create a data destruction algorithm matching your security requirements.
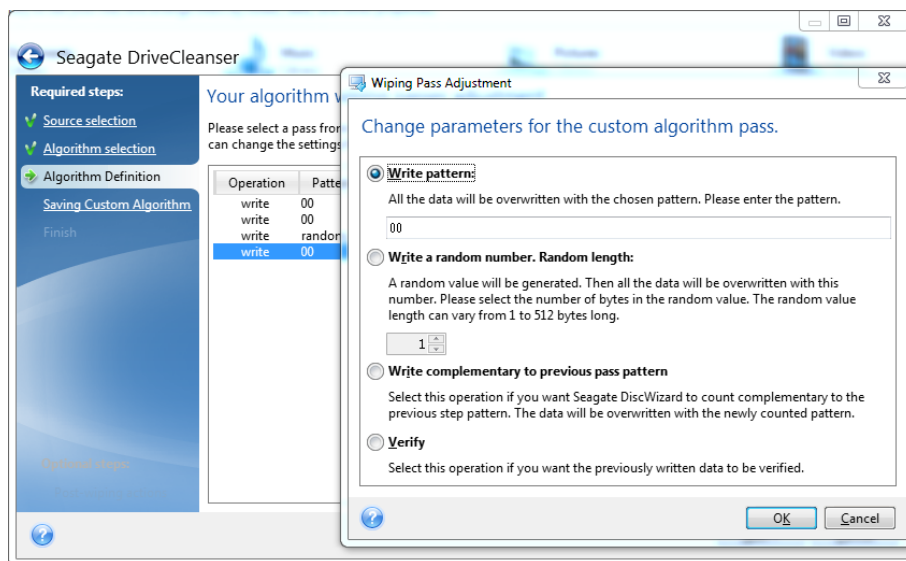
Figure 16: REMOVE AFTER TRANSLATION

Having created a custom method, you can save the algorithm you created. This will be handy if you are going to use it again.

Loading an algorithm from a file

If you created and saved your algorithm for data destruction while working with Seagate DiscWizard software, you can use it in the following way:

In the Select algorithm window, choose **Load from file…** from the drop-down list and select the file with custom data destruction algorithm parameters. By default, such files have a *.alg extension.

Algorithm definition

The Algorithm definition window shows you a template of the future algorithm.

The window has the following legend: The first column of the list contains the type of operation on a disk (there are just two: to write a symbol to disk, "writing"; and to verify written, "verification"); the second column contains the pattern of data to be written to disk.

The pattern to be written is always a hexadecimal value, for example, a value of this kind: 0x00, 0xAA, or 0xCD, etc. These values are 1 byte long, but they may be up to 512 bytes long. Except for such values, you may enter a random hexadecimal value of any length (up to 512 bytes). Your algorithm may also include one more value for writing that is designated as the «complementary value» – the value that is complementary to the one written to disk during the previous pass.

If the binary value is represented by the 10001010 (0x8A) sequence, then the complementary binary value will be represented by the 01110101 (0x75) sequence.

The Algorithm definition window offers you the template for the algorithm only. You should define exactly what the software should write to disk to destroy the confidential data according to your algorithm.

To do this, click your mouse on the line representing pass #1 and click **Edit**.

Wiping pass adjustment

The Wiping Pass Adjustment window allows you to define the pattern to be written to disk (hexadecimal value).

This is what the window control elements mean: You may enter any hexadecimal value into the field under the **Write pattern** switch to write it to a hard disk during any pass (during the first pass in this case).

By setting the switch to **Write a random number** position, you will first select to write a random value to disk, and specify the length of the random value in bytes in the field below.

The U.S. standard provides the writing of random values to each byte of each disk sector during the first pass, so set the switch to **Write a random number** position and enter 1 into the field.

Click the **OK** button to continue.

You will be taken to the algorithm definition window again and will see that the former record (write – 00) was replaced by write – random, 1 byte.

To define the next pass, click the **Add** button.

You will see the already-familiar window, but this time there will be more switch positions available: two additional positions will be available for selection:

- **Write complementary to previous pass pattern**: As during the second pass of the U.S. standard, each disk sector is filled with hexadecimal values that are complementary to those written during the previous pass. Therefore you should set the switch to the Write complementary to previous pass pattern position and click the **OK** button.

    You will be taken to the algorithm definition window again. In this window, the second record looks like this: write – complementary to previous step pattern.

- **Verify**

Following the U.S. data destruction standard specification, define third and fourth data overwriting passes.

In the same way, you can create any data destruction algorithm to match your security requirements.

Saving custom algorithm

In the next Saving Custom Algorithm window, you will be able to save the algorithm you have created. This will be useful if you are going to use it again.

In order to save your algorithm, you need to give it a filename and define the path in the Select file field or locate an existing file on the disk.

Each custom algorithm is stored in a separate file with its own name. If you try to write a new algorithm to an already existing file, the existing file's contents will be erased.

6.5.1.3   Post-wiping actions

In the Post-wiping actions window, you can select actions to be performed on the partitions selected for data destruction. Seagate DriveCleanser offers you three options:

- **No action** — just destroy data using the algorithm selected below
- **Delete partition** — destroy data and delete partition
- **Format** — destroy data and format partition (default).
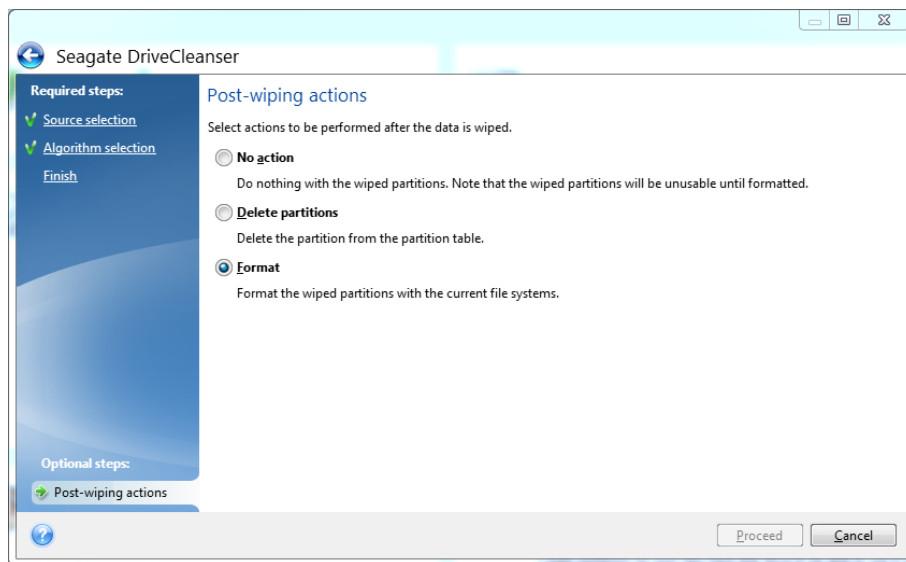
Figure 17: REMOVE AFTER TRANSLATION

6.5.1.4   Disk wiping summary

The summary window contains the list of operations to be performed.

Note that after you click the **Proceed** button, the selected partitions will be wiped permanently. So the button is disabled until you select the **Wipe the selected partitions irreversibly** check box.

Click the **Proceed** button to start the listed operations.

Click the **Options** button to perform the optional steps.

Click the **Cancel** button to exit the wizard without performing any operations.

6.5.1.5   Disk Editor (read-only mode)

Seagate DriveCleanser offers you another useful capability — to estimate the results of executing a data destruction method on a hard disk or partition. To view the state of your cleaned up disks or partitions, click the **Tools & Utilities** tab. Then click the **View current state of your disks** link and choose the partition whose cleaning results you wish to view. This opens an integrated Seagate Disk Editor (in read-only mode).

Different algorithms offer various levels of confidential data destruction. Thus the picture you might see on a disk or partition depends on the data destruction method. But what you actually see are disk sectors filled with either zeros or random symbols.

Equation 1: REMOVE
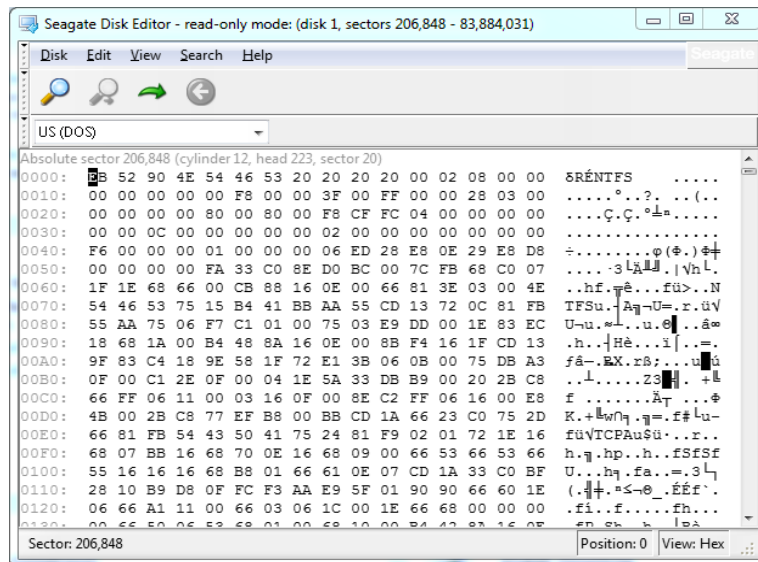*AFTER TRANSLATION*

Hard disk content search

The **Search** menu allows you to search a hard disk for a line and to go to a disk sector according to its absolute offset.

Selecting the **Search** item in the same menu will give you access to functions of searching lines in the disk being edited. (You can do the same by pressing the **Ctrl + F** key combination.) Search parameters are set in the **Search** dialog window.

To begin searching:

- A search line can be set both as a char (**Text** field), and numeric (hexadecimal) value (**Hex** field). When you type text in the **Text** field, it will be automatically converted to hexadecimal value in the **Hex** field, and vice versa.

- Check the **Case sensitive** parameter to consider a letter case. If you selected a search mode without letter case matching, not only the case but also elements of the above characters will be ignored for Roman character sets.

- Check the **Search at sector offset** parameter to search for a given line at a given offset inside the sector

- Click **OK** to begin searching. After the search process is finished, the current position will be moved to where a line was found, or will remain the same if no lines were found. You can search for the next line from the current position by selecting the **Search again** item in the **Search** menu or by pressing the **F3** key.

Go to sector

You can go to the necessary sector according to its absolute offset by selecting the **Go to…** line in the **Search** menu (or by pressing the **Alt+P** key combination). Selecting this line opens the **Go to…** dialog window.

The transition is performed by entering the absolute sector offset, or cylinder, head, and sector numbers. The listed parameters are bound by this expression:

(CYL x HDS + HD) x SPT + SEC – 1

Where CYL, HD, SEC are numbers of the cylinder, head, sector in the CHS co-ordinates (Cylinder – Head – Sector); HDS is the number of heads per disk, SPT is the number of sectors per track.

You can return to a sector from another one by selecting the **Back** item in the **Search** menu (or by pressing the **Ctrl+Backspace** key combination).

6.5.2   Hard Disk Wiping methods

Information removed from a hard disk drive by non-secure means (for example, by simple Windows delete) can easily be recovered. Utilizing specialized equipment, it is possible to recover even repeatedly overwritten information. Therefore, guaranteed data wiping is more important now than ever before.

The **guaranteed wiping of information** from magnetic media (e.g. a hard disk drive) means it is impossible to recover data by even a qualified specialist with the help of all known tools and recovery methods.

This problem can be explained in the following way: Data is stored on a hard disk as a binary sequence of 1 and 0 (ones and zeros), represented by differently magnetized parts of a disk.

Generally speaking, a 1 written to a hard disk is read as 1 by its controller, and 0 is read as 0. However, if you write 1 over 0, the result is conditionally 0.95 and vice versa – if 1 is written over 1 the result is 1.05. These differences are irrelevant for the controller. However, using special equipment, one can easily read the «underlying» sequence of 1's and 0's.

It only requires specialized software and inexpensive hardware to read data "deleted" this way by analyzing magnetization of hard disk sectors, residual magnetization of track sides and/or by using current magnetic microscopes.

Writing to magnetic media leads to subtle effects summarized as follows: every track of a disk stores **an image of every record** ever written to it, but the effect of such records (magnetic layer) becomes more subtle as time passes.

6.5.2.1   Functioning principles of Information wiping methods

Physically, the complete wiping of information from a hard disk involves the switching of every elementary magnetic area of the recording material as many times as possible by writing specially selected sequences of logical 1's and 0's (also known as samples).

Using logical data encoding methods in current hard disks, you can select **samples** of symbol (or elementary data bit) sequences to be written to sectors in order to **repeatedly and effectively wipe confidential information.**

Methods offered by national standards provide (single or triple) recording of random symbols to disk sectors that are **straightforward and arbitrary decisions, in general**, but still acceptable in simple situations. The most effective information-wiping method is based on deep analysis of subtle features of recording data to all types of hard disks. This knowledge speaks of the necessity of complex multipass methods to **guarantee** information wiping.

The detailed theory of guaranteed information wiping is described in an article by Peter Gutmann. Please see:

Secure Deletion of Data from Magnetic and Solid-State Memory at http://www.cs.auckland.ac.nz/~pgut001/pubs/secure_del.html.

6.5.2.2   Information wiping methods used by Seagate

The table below briefly describes information wiping methods used by Seagate. Each description features the number of hard disk sector passes along with the number(s) written to each sector byte.

The description of built-in information wiping methods

No.	Algorithm (writing method)	Passes	Record
1.	United States Department of Defense 5220.22-M	4	1st pass – randomly selected symbols to each byte of each sector, 2 – complementary to written during the 1st pass; 3 – random symbols again; 4 – writing verification.
2.	United States: NAVSO P-5239-26 (RLL)	4	1st pass – 0x01 to all sectors, 2 – 0x27FFFFFF, 3 – random symbol sequences, 4 – verification.
3.	United States: NAVSO P-5239-26 (MFM)	4	1st pass – 0x01 to all sectors, 2 – 0x7FFFFFFF, 3 – random symbol sequences, 4 – verification.
4.	German: VSITR	7	1st – 6th – alternate sequences of: 0x00 and 0xFF; 7th – 0xAA; i.e. 0x00, 0xFF, 0x00, 0xFF, 0x00, 0xFF, 0xAA.
5.	Russian: GOST P50739-95	1	Logical zeros (0x00 numbers) to each byte of each sector for 6th to 4th security level systems. Randomly selected symbols (numbers) to each byte of each sector for 3rd to 1st security level systems.
6.	Peter Gutmann's method	35	Peter Gutmann's method is very sophisticated. It's based on his theory of hard disk information wiping (see Secure Deletion of Data from Magnetic and Solid-State Memory).
7.	Bruce Schneier's method	7	Bruce Schneier offers a seven-pass overwriting method in his Applied Cryptography book. 1st pass – 0xFF, 2nd pass – 0x00, and then five times with a cryptographically secure pseudo-random sequence.
8.	Fast	1	Logical zeros (0x00 numbers) to all sectors to wipe.

6.6   Mounting an image

Seagate DiscWizard offers mounting for images and exploring for both images and file-level backups.

Exploring images and file-level backups lets you view their contents and copy the selected files to a hard disk. To explore a backup in Windows Explorer, double-click on the corresponding tib file. You can also right-click on the file and choose **Explore** in the shortcut menu.

When you copy files from a backup being explored, the copied files lose the "Compressed" and "Encrypted" attribute. If you need to keep these attributes, it is recommended to recover the backup.

Mounting images as virtual drives lets you access them as though they were physical drives. Such ability means that:

- a new disk with its own letter will appear in the drives list
- using Windows Explorer and other file managers, you can view the image contents as if they were located on a physical disk or partition
- you will be able to use the virtual disk in the same way as the real one: open, save, copy, move, create, delete files or folders. If necessary, the image can be mounted in read-only mode.

The operations described in this section are supported only for the FAT and NTFS file systems.

Please keep in mind that, though both file backups and disk/partition images have a default ".tib" extension, only **images** can be mounted. If you want to view file backup contents, use the Explore operation.

How to mount an image

1. Start the Mount wizard by clicking **Mount image** on the **Tools and utilities** tab.
2. Select the backup for mounting.
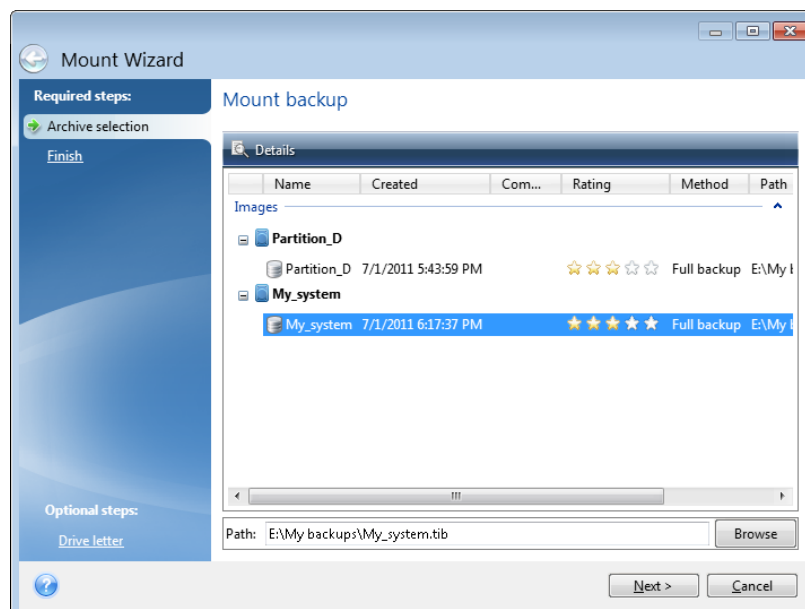
If you selected a backup containing incremental images, you can select one of the successive incremental images (also called "backup versions") by its creation date/time. Thus, you can explore the data state at a certain moment.

To mount an incremental image, you must have all previous backup versions and the initial full backup. If any of the successive backups are missing, mounting is not possible.

If the backup was password-protected, Seagate DiscWizard will ask for the password in a dialog box. Neither the partitions layout will be shown, nor will the **Next** button be enabled until you enter the correct password.
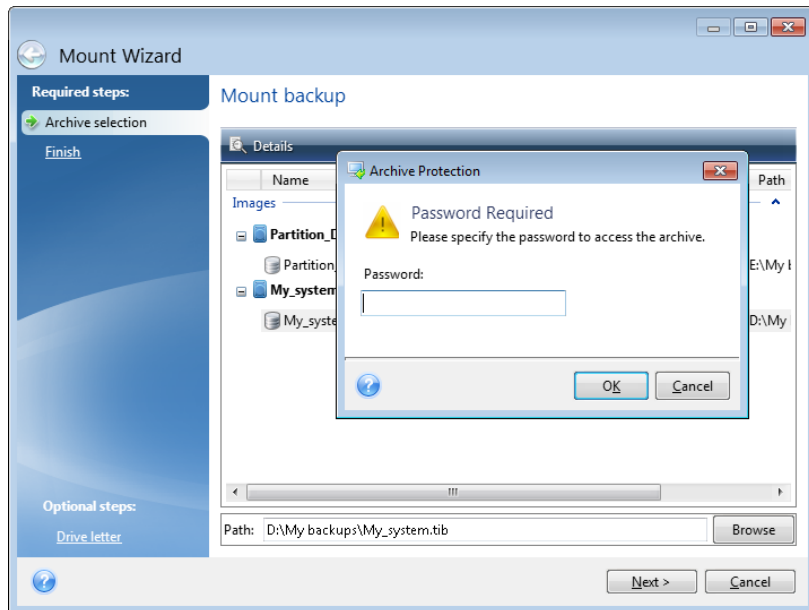
3. Select a partition to mount as a virtual disk. (Note that you cannot mount an image of the entire disk except in the case when the disk consists of one partition). If the image contains several partitions, by default all of them will be selected for mounting with automatically assigned drive letters. If you would like to assign different drive letters to the partitions to be mounted, click **Options**.
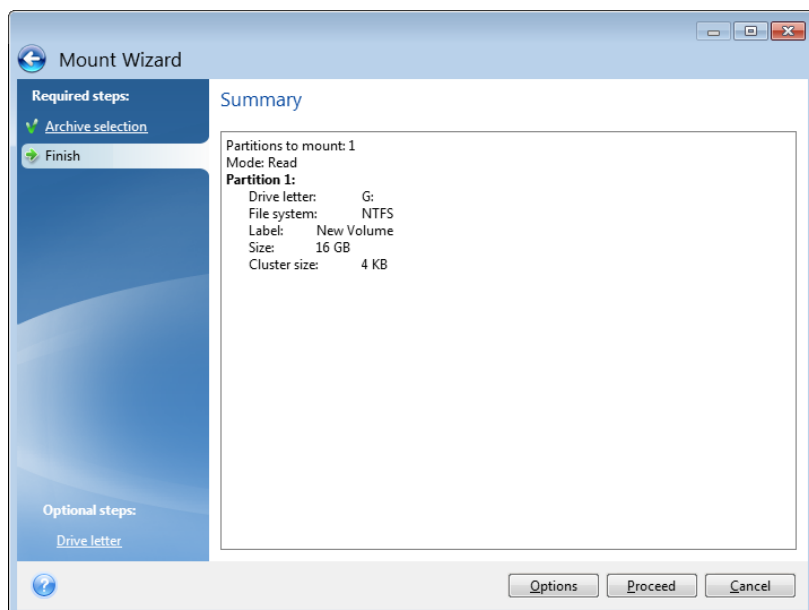
You can also select a letter to be assigned to the virtual disk from the **Mount letter** drop-down list. If you do not want to mount a partition, select **Do not mount** in the list or clear the partition's check box.
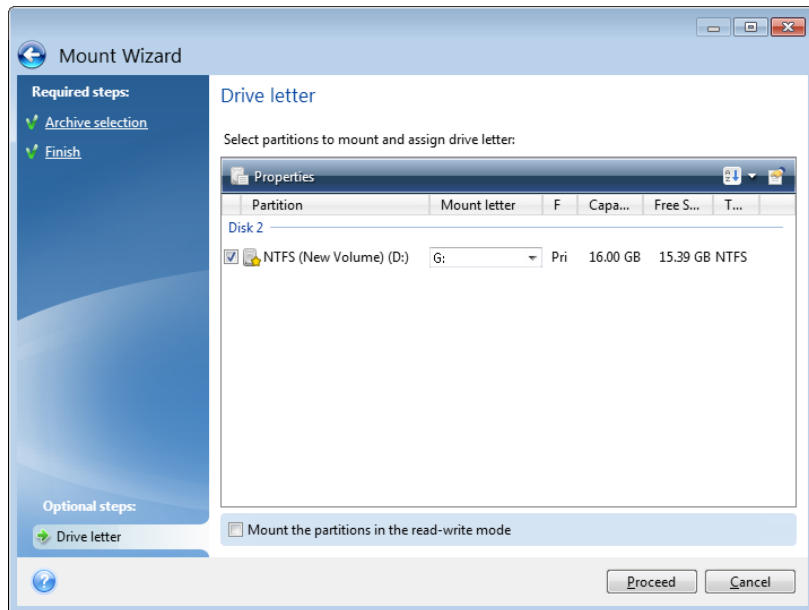
4. Having finished the settings, click **Proceed** to connect the selected partition images as virtual disks.

5. After the image is connected, the program will run Windows Explorer, showing its contents. Now you can work with files or folders as if they were located on a real disk.

6.7 Unmounting an image

We recommend that you unmount the virtual disk after all necessary operations are finished, as maintaining virtual disks takes considerable system resources. If you do not unmount the disk, it will disappear after your computer is turned off.

To disconnect the virtual disk, click **Unmount image** on the **Tools and utilities** tab, select the disk to unmount and click **OK**.

If you have mounted several partitions, by default all of them will be selected for unmounting. You can disconnect all mounted drives together or disconnect only those you do not need mounted anymore.
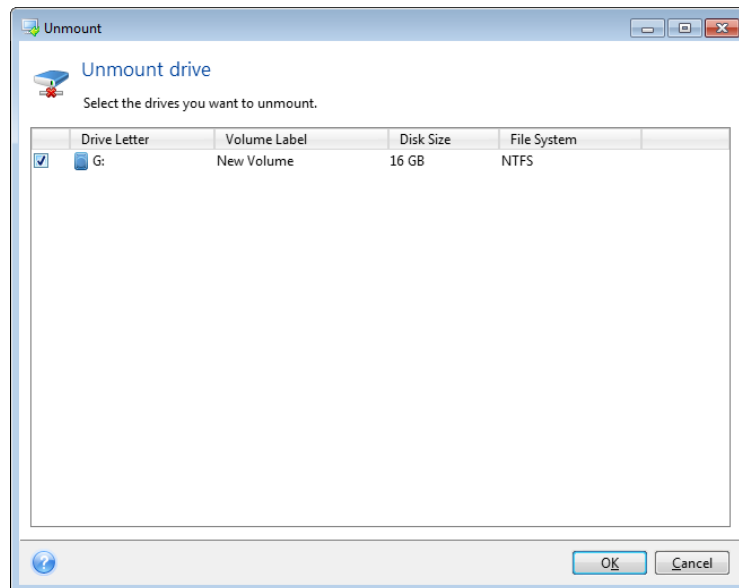
You can also do this in Windows Explorer by right-clicking on the disk icon and choosing **Unmount**.

6.8   Working with .vhd files

True Image backups (.tib files) of disks or partitions can be converted to Windows backups (.vhd files).

How to use .vhd files

- True Image allows you to recover your system from a .vhd file created by Windows Backup utility. Refer to Recovery using .vhd files created by Windows Backup for details.
- You can boot your computer from the converted .vhd file to test whether the backup is valid and can be recovered to a bootable operating system. You can also boot from a .tib file. In this case, it will be converted automatically to a .vhd file. Refer to Booting from a .tib image of your system partition for details.
- You can keep a converted .vhd file for emergency situations. For example, if your computer cannot start and you need to run it right away, you can boot from the .vhd file.
- In Windows 7, you can mount a .vhd file as an additional drive. The .vhd file may contain any partitions – system or non-system.

Limitations and additional information

- A file backup cannot be converted to a .vhd file.
- To boot from a converted .vhd file, it must contain:
  - System partition of the same computer. You cannot boot other computers using the same .vhd file.
  - Windows 7 Ultimate or Windows 7 Enterprise.
- Any changes you make to a booted or mounted .vhd file are saved to it. If you boot from a .vhd file and make changes to the data that was not backed up, these changes will affect your live system.

- You cannot run a converted .vhd file as a virtual machine.
- The stand-alone versions of Seagate DiscWizard that start when booting from the rescue media do not support conversion operations.
- Disk images created by Windows 8 (.vhdx files) are not supported.
- True Image cannot convert .tib and .vhd files that contain dynamic volumes which were originally located on more than one disk drive (for example, spanned or striped dynamic volumes).

In this section

6.8.1   Recovery using vhd files created by Windows Backup

You may have vhd files if you used the Windows Backup utility included into Windows Vista and Windows 7 for backing up the system hard drive.

When you need to recover your system using a vhd backup file, proceed as follows:

1. Arrange the boot order in BIOS so as to make your rescue media device (CD, DVD or USB stick) the first boot device. See Arranging boot order in BIOS (p. 57).
2. Boot from the rescue media and select Seagate DiscWizard.
3. After Seagate DiscWizard starts, click the **My Disks** link under **Recover** on the Welcome screen.
4. Choose the vhd backup file to be used for recovery by its creation date. When the required vhd backup is not shown, click **Browse**, choose Windows Backup Archives (*.vhd) in the "Files of type" field and locate the backup for recovery.

    *Even if the required vhd backup is shown on the screen, after you choose it Seagate DiscWizard may display the following message: "Seagate DiscWizard cannot detect volume 1 of "Backup_Name" archive", where Backup_Name is the name of the chosen backup. This is because disk letters in the standalone Seagate DiscWizard may differ from those in Windows and the path to this backup stored in the metadata information will point to the wrong location. In such case click **Browse**, choose Windows Backup Archives (*.vhd) in the "Files of type" field and locate the backup for recovery.*

5. At the next step select **Recover whole disks and partitions** (if it is not selected) and click **Next**.
6. Select the system partition at the **What to recover** step. Usually you will not need to recover the MBR.
7. Then specify the settings of the selected system partition: location, type (primary, active) and size. When recovering the partition to the original location, you do not need to make any setting changes.
8. Read the Summary of the recovery operations and then click **Proceed**.

You can also recover partitions and disks from vhd files while working in Windows. This is preferable for recovering data partitions and disks.

6.9   Importing and exporting backup settings

Seagate DiscWizard allows you to import and export the settings of your backups. This may be desirable if you need to transfer the settings to a new PC after installing Seagate DiscWizard on that computer.

Such transfer will make configuring backups on the new PC much easier. You only need to export the settings and then import them to the other PC. The settings are exported in the form of script files.

The settings content can be different depending on a backup type. In case of "classic" disk and file type backups the settings consist of the following items:

- list of items for backup
- backup options
- backup location
- schedule
- backup scheme
- automatic clean-up rules
- backup version naming rules

To export the settings of your existing backups, click **Tools & Utilities** on the menu bar. Then click **Export backup settings** and browse for the destination to save the script files with the settings.

To import the settings, start Seagate DiscWizard on another computer and click **Tools & Utilities** on the menu bar. Then click **Import backup settings** and show the path to the script files with the settings.

After importing the settings you may need to change some of them to suit the new environment. For example, it may be necessary to change the list of items for backup, backup destination, etc.

If you want to copy some of your backups to another computer, it is recommended to export the settings of those backups too. Thus you will not lose some of the copied backup's functionality.

7   Troubleshooting

In this section

7.1   Seagate System Report

When you contact the Seagate support team, they will usually need information about your system in order to resolve your problem. Sometimes getting the information is an inconvenient process and may take a long time. The Generate system report tool simplifies the procedure. It generates a system report containing all the necessary technical information and allows you to save the information to file. When it's necessary, you can attach the created file to your problem description and send it to Seagate support team. This will simplify and speed up the search for a solution.

To generate a system report, perform one of the following:

- On the main program window click the question mark symbol, and select **Generate system report**.

- On the Windows **Start** menu, click **All Programs** -> **Seagate** -> **Seagate DiscWizard** -> **Tools and Utilities** -> **Seagate System Report**.

- Press **CTRL+F7**. Note that you can use the key combination even when Seagate DiscWizard is performing any other operation.

After the report is generated:

- To save the generated system report to file, click **Save** and in the opened window specify a location for the created file.

- To save the report to file and send it to Seagate support team by e-mail, click **Save and send**.

- To exit to the main program window without saving the report, click **Cancel**.

You can place the tool on your bootable rescue media as a separate component to be able to generate a system report when your computer cannot boot. After you boot from the media, you will be able to generate the report even without running Seagate DiscWizard. In this case you should plug in a USB flash drive before clicking the **Seagate System Report** icon. The generated report will be saved on the USB flash drive.

To place the Seagate System Report tool on a bootable rescue media:

- Select the **Seagate System Report** check box on the **Rescue Media Content Selection** page of the **Seagate Media Builder** wizard.

- Click **Next** to continue.

Creating a system report from the command line prompt

1. Run Windows Command Processor (cmd.exe) as administrator.

2. Change the current directory to the Seagate DiscWizard installation folder. To do so, enter:
   ```
   cd C:\Program Files (x86)\Acronis\TrueImageHome
   ```

3. To create the system report file, enter:
   ```
   SystemReport
   ```

File SystemReport.zip will be created in the current folder.

If you want to create the report file with a custom name, type the new name instead of <file name>:

```
SystemReport.exe /filename:<file name>
```

7.2   Creating a custom rescue CD

In most cases you can use a standard rescue CD created with a help of Seagate Media Builder. For more information see Creating bootable rescue media (p. 84).

If the recovery environment cannot detect some of the hard disk drives, the network adapter, the mouse or the keyboard, usually there is a problem with the drivers. So when the standard rescue CD lacks some of your hardware drivers, you need to create a custom one.

The Linux-based recovery environment used by Seagate does not provide the ability for users to add new drivers. Because of this, you should request the product's support team to create a custom rescue CD that will have all the drivers you need.

Before making a request, collect the information about your system. Select **Generate system report** in the Help menu.   Seagate DiscWizard will automatically collect the required information and display a list of what is collected in the report. In the process of creating the report the program may install some components required for collecting the necessary information. When the report is complete, click **Save** and select the desired folder or leave the default folder. The program will archive the report into a zip file. This report may also be useful when you request the product's support team to help you with a problem.

Send the file to the product's support team. They will build an iso image of a custom rescue media compatible with your computer hardware and send you the iso file. Burn this file to a CD/DVD using a program that can handle iso files such as Nero.

Please be aware that finding the appropriate drivers and making the custom rescue media may take time. Furthermore, finding the appropriate drivers may be not possible in some cases.

After burning your custom rescue CD, test it to make sure that all your computer hardware is now detected in the recovery environment.

8   Glossary of Terms

A

Acronis Secure Zone

A secure partition for storing backups (p. 123) on a hard disk. Advantages:

- enables recovery of a disk to the same disk where the disk's backup resides
- offers a cost-effective and handy method for protecting data from software malfunction, virus attack, operator error
- eliminates the need for a separate media or network connection to back up or recover the data

Note! This product edition does not support Acronis Secure Zone creation. To access this feature, please upgrade to full version.

B

Backup

1. The same as Backup operation (p. 123).
2. A set of backup versions created and managed by using backup settings. A backup can contain multiple backup versions created using full (p. 124) and incremental (p. 124) backup methods. Backup versions belonging to the same backup are usually stored in the same location.

Backup operation

An operation that creates a copy of the data that exists on a machine's hard disk for the purpose of recovering or reverting the data to a specified date and time.

Backup settings

A set of rules configured by a user when creating a new backup. The rules control the backup process. Later you can edit the backup settings to change or optimize the backup process.

Backup version

The result of a single backup operation (p. 123). Physically, it is a file or a set of files that contains a copy of the backed up data as of a specific date and time. Backup version files created by Seagate DiscWizard have a TIB extension. The TIB files resulting from consolidation of backup versions are also called backup versions.

Backup version chain

Sequence of minimum 2 backup versions (p. 123) that consist of the first full backup version and the subsequent one or more incremental versions. Backup version chain continues till the next full backup version (if any).

Bootable media

A physical media (CD, DVD, USB flash drive or other media supported by a machine BIOS as a boot device) that contains standalone version of Seagate DiscWizard.

Bootable media is most often used to:

- recover an operating system that cannot start
- access and back up the data that has survived in a corrupted system
- deploy an operating system on bare metal
- back up sector-by-sector a disk that has an unsupported file system

D

Differential backup

Note: Differential backups are not available in this product edition. To access this feature, please upgrade to full version.

1. A backup method used for saving data changes that occurred since the last full backup version (p. 124) within a backup.
2. A backup process that creates a differential backup version (p. 123).

Differential backup version

Note: *Differential backups are not available in this product edition. To access this feature, please upgrade to full version.*

A differential backup version stores changes to the data against the latest full backup version (p. 124). You need access to the corresponding full backup version to recover the data from a differential backup version.

Disk backup (Image)

A backup (p. 123) that contains a sector-based copy of a disk or a partition in packaged form. Normally, only sectors that contain data are copied. Seagate DiscWizard provides an option to take a raw image, that is, copy all the disk sectors, which enables imaging of unsupported file systems.

F

Full backup

1. A backup method that is used to save all the data selected to back up.
2. A backup process that creates a full backup version (p. 124).

Full backup version

A self-sufficient backup version (p. 123) containing all data chosen for backup. You do not need access to any other backup version to recover the data from a full backup version.

I

Image

The same as Disk backup (p. 124).

Incremental backup

Note: *Incremental backups are not available in this product edition. To access this feature, please upgrade to full version.*

1. A backup method used for saving data changes that occurred since the last

backup version (p. 123) (of any type) within a backup.
2. A backup process that creates an incremental backup version (p. 124).

Incremental backup version

Note: *Incremental backups are not available in this product edition. To access this feature, please upgrade to full version.*

A backup version (p. 123) that stores changes to the data against the latest backup version. You need access to other backup versions from the same backup (p. 123) to restore data from an incremental backup version.

N

Nonstop backup

Note! *Nonstop Backup is not available in this product edition. To access this feature, please upgrade to full version.*

Nonstop backup actually is a disk/partition or file backup that is created using the Acronis Nonstop Backup feature. This is a set of one full backup version (p. 124) and a sequence of incremental backup versions (p. 124) that are created at short intervals. It gives almost continuous protection of data, that is, it allows recovery of previous data state at any recovery point you need.

Nonstop protection

Note! *Nonstop Backup is not available in this product edition. To access this feature, please upgrade to full version.*

Nonstop protection - the process that the Nonstop Backup feature performs when it is turned on.

R

Recovery

Recovery is a process of returning of a corrupted data to a previous normal state from a backup (p. 123).

V

Validation

An operation that checks whether you will be able to recover data from a particular backup version (p. 123).

When you select for validation…

- a full backup version (p. 124) - the program validates the full backup version only.
- an incremental backup version (p. 124) - the program validates the initial full backup version, the selected incremental backup version, and the whole chain (if any) of backup versions to the selected incremental backup version.