

User's Guide

Acronis®
True Image Server *9.1*
for Windows

Acronis
Compute with confidence
www.acronis.com

Copyright © Acronis, Inc., 2000-2007. All rights reserved.

“Acronis”, "Acronis Compute with Confidence", “Acronis Snap Restore”, “Acronis Recovery Manager, “Acronis Secure Zone” and the Acronis logo are trademarks of Acronis, Inc.

Linux is a registered trademark of Linus Torvalds.

Windows and MS-DOS are registered trademarks of Microsoft Corporation.

All other trademarks and copyrights referred to are the property of their respective owners.

Distribution of substantively modified versions of this document is prohibited without the explicit permission of the copyright holder.

Distribution of this work or derivative work in any standard (paper) book form for commercial purposes is prohibited unless prior permission is obtained from the copyright holder.

DOCUMENTATION IS PROVIDED «AS IS» AND ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT, ARE DISCLAIMED, EXCEPT TO THE EXTENT THAT SUCH DISCLAIMERS ARE HELD TO BE LEGALLY INVALID.

END-USER LICENSE AGREEMENT

BY ACCEPTING, YOU (ORIGINAL PURCHASER) INDICATE YOUR ACCEPTANCE OF THESE TERMS. IF YOU DO NOT WISH TO ACCEPT THE PRODUCT UNDER THESE TERMS, YOU CAN CHOOSE NOT TO ACCEPT BY SELECTING "I decline..." AND NOT INSTALLING THE SOFTWARE.

Acronis® True Image Server (the Software) is Copyright © Acronis, Inc., 2000-2007. All rights are reserved. The ORIGINAL PURCHASER is granted a LICENSE to use the software only, subject to the following restrictions and limitations.

1. The license is to the original purchaser only, and is not transferable without prior written permission from Acronis.

2. The original purchaser can use the software on a single computer. You cannot use the software on more than a single machine, even if you own or lease all of them, without the written consent of Acronis.

3. The original purchaser cannot engage in, nor permit third parties to engage in, any of the following:

A. Providing or permitting use of by, or transferring the software to, third parties.

B. Providing use of the software in a computer service business, network, timesharing or multiple user arrangement to users who are not individually licensed by Acronis.

C. Making alterations or copies of any kind in the software (except as specifically permitted above).

D. Attempting to unassemble, decompile or reverse-engineer the software in any way.

E. Granting sublicenses, leases, or other rights in the software to others.

F. Making copies, or verbal or media translations, of the users guide.

G. Making telecommunication data transmission of the software.

Acronis has the right to terminate this license if there is a violation of its terms or default by the original purchaser. Upon termination for any reason, all copies of the software must be immediately returned to Acronis, and the original purchaser shall be liable to Acronis for any and all damages suffered as a result of the violation or default.

ENTIRE RISK

THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE SOFTWARE IS WITH YOU THE PURCHASER. Acronis DOES NOT WARRANT THAT THE SOFTWARE OR ITS FUNCTIONS WILL MEET YOUR REQUIREMENTS OR THAT THE OPERATION OF THE SOFTWARE WILL BE UNINTERRUPTED OR ERROR FREE OR THAT ANY DEFECTS WILL BE CORRECTED.

NO LIABILITY FOR CONSEQUENTIAL DAMAGES IN NO EVENT SHALL Acronis OR ITS VENDORS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR THE LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, OR ANY OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OR INABILITY TO USE THE SOFTWARE, EVEN IF Acronis HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

SOFTWARE USAGE TERMS AND CONDITIONS

Under current legislation, the «License Agreement» is considered a contract between you and Acronis Inc. The contract is a legal document and its violation may result in legal action. Illegal use and/or distribution of this software will be prosecuted.

Table of Contents

Chapter 1. Introduction 7

1.1 Acronis® True Image Server – a complete solution for corporate users 7
1.2 New in Acronis True Image 9.1 Server for Windows 8
1.3 System requirements and supported media 9
1.3.1 Minimum system requirements 9
1.3.2 Supported operating systems 9
1.3.3 Supported file systems 10
1.3.4 Supported storage media 10
1.4 Technical support 10

Chapter 2. Acronis True Image Server installation and starting 12

2.1 Installing Acronis True Image Server 12
2.1.1 Acronis Universal Restore installation 13
2.2 Extracting Acronis True Image Server 13
2.3 Running Acronis True Image Server 13
2.4 Removing Acronis True Image Server 13

Chapter 3. General information and proprietary Acronis technologies 14

3.1 The difference between file archives and disk/partition images 14
3.2 Full, incremental and differential backups 14
3.3 Acronis Secure Zone 15
3.4 Acronis Startup Recovery Manager 16
3.4.1 How it works 16
3.4.2 How to use 16
3.5 Acronis Snap Restore 16
3.5.1 Limitations in using Acronis Snap Restore 16
3.5.2 How it works 17
3.5.3 How to use 17
3.6 Acronis Universal Restore 17
3.6.1 Acronis Universal Restore purpose 17
3.6.2 Acronis Universal Restore general principles 18
3.6.3 Acronis Universal Restore and Microsoft Sysprep 18
3.6.4 Using Acronis Universal Restore in virtual environment 19
3.6.5 Limitations in using Acronis Universal Restore 19
3.6.6 Getting Acronis Universal Restore 19
3.7 Using dynamic disks and volumes 19
3.8 Backing up to tape drive 20
3.9 Viewing disk and partition information 20

Chapter 4. Using Acronis True Image Server 22

4.1 Main program window 22
4.2 Available operations 24

Chapter 5. Creating backup archives 26

5.1 Backing up files and folders (file backup) 26
5.2 Backing up disks and partitions (image backup) 30
5.3 Setting backup options 32
5.3.1 Archive protection 33
5.3.2 Source files exclusion 33
5.3.3 Pre/post commands 33
5.3.4 Database support 34
5.3.5 Compression level 35
5.3.6 Backup performance 35
5.3.7 Fast incremental/differential backup 36
5.3.8 Archive splitting 36

 Copyright © Acronis, Inc., 2000-2007

5.3.9 File-level security settings *37*
5.3.10 Media components *37*
5.3.11 Additional settings *38*

Chapter 6. Restoring the backup data 39

6.1 Restore under Windows or boot from CD? 39
6.1.1 Network settings in rescue mode *39*
6.2 Restoring files and folders from file archives 40
6.3 Restoring disks/partitions or files from images 42
6.3.1 Starting the Restore Data Wizard *43*
6.3.2 Archive selection *43*
6.3.3 Restoration type selection *44*
6.3.4 Selecting a disk/partition to restore *45*
6.3.5 Selecting a target disk/partition *45*
6.3.6 Changing the restored partition type *46*
6.3.7 Changing the restored partition file system *47*
6.3.8 Changing the restored partition size and location *47*
6.3.9 Assigning a letter to the restored partition *48*
6.3.10 Restoring several disks or partitions at once *48*
6.3.11 Using Acronis Universal Restore *48*
6.3.12 Setting restore options *49*
6.3.13 Restoration summary and executing restoration *49*
6.4 Setting restore options 50
6.4.1 Files to exclude from restoration *50*
6.4.2 Files overwriting mode *50*
6.4.3 Pre/post commands *50*
6.4.4 Restoration priority *51*
6.4.5 File-level security settings *51*
6.4.6 Specifying mass storage drivers *51*
6.4.7 Additional settings *52*

Chapter 7. Scheduling tasks 53

7.1 Creating scheduled tasks 53
7.1.1 Setting up daily execution *54*
7.1.2 Setting up weekly execution *55*
7.1.3 Setting up monthly execution *56*
7.1.4 Setting up one-time execution *56*
7.2 Managing scheduled tasks 57

Chapter 8. Managing Acronis Secure Zone 58

8.1 Creating Acronis Secure Zone 58
8.2 Resizing Acronis Secure Zone 60
8.3 Changing the password for Acronis Secure Zone 60
8.4 Deleting Acronis Secure Zone 61

Chapter 9. Creating bootable media 62

9.1 Creating Acronis rescue media 62
9.2 Creating Win PE ISO with Acronis True Image Server 63

Chapter 10. Other operations 65

10.1 Validating backup archives 65
10.2 Operation results notification 65
10.2.1 Email notification *66*
10.2.2 WinPopup notification *66*
10.3 Viewing logs 67
10.4 Event tracing 68
10.4.1 Windows event log *68*
10.4.2 SNMP notifications *69*

Copyright © Acronis, Inc., 2000-2007

10.5 Managing System Restore 69
Chapter 11. Mounting an image as a virtual drive 70
11.1 Mounting an image 70
11.2 Unmounting an image 72
Chapter 12. Transferring the system to a new disk 73
12.1 General information 73
12.2 Security 73
12.3 Executing transfers 74
12.3.1 Selecting Clone mode 74
12.3.2 Selecting source disk 74
12.3.3 Selecting destination disk 75
12.3.4 Partitioned destination disk 76
12.3.5 Old and new disk partition layout 76
12.3.6 Old disk data 76
12.3.7 Destroying the old disk data 77
12.3.8 Selecting partition transfer method 78
12.3.9 Partitioning the old disk 79
12.3.10 Old and new disk partition layouts 79
12.3.11 Cloning summary 80
12.4 Cloning with manual partitioning 80
12.4.1 Old and new disk partition layouts 80
Chapter 13. Adding a new hard disk 82
13.1 Selecting a hard disk 82
13.2 Creating new partitions 82
13.3 Disk add summary 83
Chapter 14. Command-line mode and scripting 84
14.1 Working in the command-line mode 84
14.1.1 Supported commands 84
14.1.2 Common options (options common for most trueimagecmd commands) 86
14.1.3 Specific options (options specific for individual trueimagecmd commands) 87
14.1.4 trueimagecmd.exe usage examples 91
14.1.5 Command-line mode usage under DOS 93
14.2 Scripting 93
14.2.1 Script execution parameters 93
14.2.2 Script structure 93
14.2.3 Script usage examples 94

 Copyright © Acronis, Inc., 2000-2007

Chapter 1. Introduction

1.1 Acronis® True Image Server – a complete solution for corporate users

You have come to rely on your servers to run your business and retain key enterprise data. Acronis True Image Server provides comprehensive, reliable, and cost-effective system backup and recovery for corporate servers. With Acronis True Image Server you have peace of mind knowing you are protected and can recover from any situation.

Minimizes downtime

Acronis True Image Server enables you to restore systems in minutes, not hours or days. An entire system can be restored from an image that includes everything the system needs to run: the operating system, applications, databases, and configurations. No reinstallation or reconfiguration is required. Moreover, complete system restoration can be performed to an existing system or to a new system with different hardware or to virtual machines. With the new Acronis Snap Restore feature, users can access a system during restore, further decreasing downtime. File-based backups provide you with the flexibility to only backup specific critical files.

Eases Administration

Wizards guide users through backup and recovery tasks, ensuring the product can be implemented with minimal user training.

Automates Backup

With the scheduling capability in Acronis True Image Server, you simply create backup tasks, tailored by group, at certain times or at certain events, automating backups.

To ensure that backups have occurred, or user intervention is required, you can request notifications via email or pop-up. You can view Acronis events in Windows Application Events Log or Acronis own log. Log messages can be automatically sent out to SNMP clients.

The product also supports the creation of custom commands before and after backups. For example, users can automatically run anti-virus products before an image is created and verify the validity of backups after they have been created.

Ensures 24 X 7 Uptime

With the Acronis Drive Snapshot, systems can be imaged while they are in use, supporting 24 by 7 availability. This technology enables the product to backup and image critical operating system files, the master boot record and any partition-based boot records without requiring a reboot. A CPU allocation feature allows you to limit the amount of CPU usage for the application to maximize the CPU's availability for mission critical applications. Moreover, users can control hard disk drive writing speeds and control network bandwidth used during backups, allowing minimal disruption of business operations.

A several-second database suspension is provided for correct backup of mission critical applications such as Microsoft Exchange Server, Microsoft SQL Server and Oracle with support VSS. If your database or operating system does not support VSS, Acronis True Image Server will execute your custom commands to realize database suspension.

Supports Cutting Edge Technology

Copyright © Acronis, Inc., 2000-2007

Businesses today are moving to leverage the latest technologies, dual-core 64 bit processors and 64 bit operating systems. With Acronis True Image Server, you can protect these new machines, as well as legacy ones, running one solution.

Leverages Existing Technology Investments

The product can leverage your current storage infrastructure by supporting a wide variety of storage media, so you can avoid costly hardware purchases to implement the solution. The product supports key storage technologies such as: Direct Attached Storage (DAS), Network Attached Storage (NAS), Storage Area Networks (SAN), Redundant Arrays of Independent Disks (RAID) devices, tapes, USB and IEEE-1394 (FireWire) compliant storage devices, CDs, DVDs, removable drives (Floppy, Zip, etc.) and shared storage. Moreover, the product ensures that you maximize the space on these resources with four levels of compression.

Disk cloning and new disk deployment

Acronis True Image Server can be used to clone an image onto multiple servers. For example, a company purchased several servers and needs similar environments on each of them. Traditionally, an IT manager should install the operating system and programs on every server. With Acronis True Image Server, the IT manager can create a disk image of the first system deployed. That image can then be duplicated onto multiple servers.

If you need to upgrade the server hard disk drive, Acronis True Image Server simplifies the task to few mouse clicks creating the exact copy of your old disk to a new one and adjusting partitions size to fit a new hard disk.

1.2 New in Acronis True Image 9.1 Server for Windows

- **Support for Windows XP Professional x64 Edition, Windows Server 2003 x64 Editions**
- **Direct backup to DVD and bootable DVD creation**
- **Support for GPT hard disks (disks with GUID partition table)**
- **Backup to/restore from FTP servers**
- **Acronis Snap Restore** – A user can start working in seconds while the system is still being restored
- **Acronis Universal Restore (optional)** – Hardware-independent live system restore
- **File-level backup and recovery**, including files opened in exclusive usage mode - In addition to an entire partition/system backup
- **Differential backup** – Backup only the changes made since the full backup
- **Fast incremental/differential backup** – Users can choose to compare files with their archived copies by date/size (fast process) or by file contents (precise, but time-consuming process)
- **Files and folders backup/restore filtering** – Saves space when creating file backups by only backing up files of the types the users want to keep. Similarly, a user can tell the program not to restore certain files from the file archive
- **Microsoft Volume Shadow Copy Service (VSS) support** (for Windows 2003 Server and higher) – Easily backup VSS compatible databases (Exchange, Oracle, SQL Server) without taking databases offline and ensuring data consistency
- **Pre/post backup/restore commands** – Users can specify their own commands which will be executed before and after the backup or restore process. For example, one might

 Copyright © Acronis, Inc., 2000-2007

want to remove some temporary files from the disk before starting a backup or configure a third party antivirus product to be started each time before the backup starts

- **User-editable default backup options** – Users can configure and save backup parameters, such as backup performance (hard disk writing speed, network bandwidth during backups), validate backup archive after backup completion, file-level security settings (preserving files' security settings in the archive, storing encrypted files in encrypted or decrypted state)
- **User-editable default restore options** – Users can configure and save restore parameters, such as files overwriting mode, the original or current date and time for restored files etc.
- **Read-write mode** of mounting images
- **Bootable backup media** – When backing up to removable media, users can make this media bootable in the same manner as a rescue CD, so separate recover media is not required
- **Bootable disks ISOs and RIS packages** – In addition to burning a bootable rescue disk, users can save its ISO image for burning later, or create a RIS package for remote boot of Acronis True Image Server
- **Windows Event Log and SNMP support** – Store event log messages, issued by Acronis True Image Server, to Windows Event Log or send them to SNMP clients
- **Manage System Restore tool** (for Windows 2003 Server and higher) – Turn on/off the Windows native System Restore tool directly from Acronis True Image Server
- **Context Help**

1.3 System requirements and supported media

1.3.1 Minimum system requirements

Acronis True Image Server requires the following hardware:

- Pentium processor or higher
- 256MB RAM
- FDD or CD-RW drive for bootable media creation
- Mouse (recommended).

1.3.2 Supported operating systems

Acronis True Image Server

- Windows NT 4.0 Workstation SP6/2000 Professional SP4/XP Professional SP2
- Windows NT 4.0 Server SP6/2000 Server/2000 Advanced Server/2003 Server
- Windows XP Professional x64 Edition, Windows Server 2003 x64 Editions
- Windows Vista all Editions (except for the Acronis Snap Restore feature)

Acronis Universal Restore (optional)

- Windows 2000 Professional SP4/XP Professional SP2
- Windows 2000 Server/2000 Advanced Server/2003 Server
- Windows XP Professional x64 Edition, Windows Server 2003 x64 Editions

Copyright © Acronis, Inc., 2000-2007

- Windows Vista all Editions

Acronis True Image Server also enables creating a bootable diskette or CD-R/W that can back-up and restore a disk/partition on a computer running any PC-based operating system including Linux®.

1.3.3 Supported file systems

- FAT16/32
- NTFS
- Ext2/Ext3
- ReiserFS
- Reiser4
- Linux SWAP
- XFS
- JFS

If a file system is not supported or is corrupted, Acronis True Image Server can copy data using a sector-by-sector approach.



For XFS and JFS file systems the partition resizing feature is not supported.

1.3.4 Supported storage media

- Hard disk drives
- Networked storage devices such as Storage Area Networks (SANs) and Network Attached Storage (NAS)
- SCSI tape drives
- IDE and SCSI RAID controllers of any level
- FTP-servers*
- CD-R/RW, DVD-R/RW, DVD+R (including double-layer DVD+R), DVD+RW, DVD-RAM**
- USB 1.0 / 2.0, FireWire (IEEE-1394) and PC card storage devices
- ZIP®, Jaz® and other removable media

* - an FTP-server must allow passive mode for file transfers. Data recovery directly from FTP-server requires the archive to consist of files no more than 2GB in size. It is recommended that you change the source computer firewall settings to open ports 20 and 21 for both TCP and UDP protocols and disable the **Routing and Remote Access** Windows service.

** - Burned write-once discs cannot be read in Windows NT 4 without third-party software. Burned rewritable discs cannot be read in Linux without kernel patch.

1.4 Technical support

Users of legally purchased copies of Acronis True Image Server are entitled to free technical support from Acronis. If you experience problems installing or using Acronis products that you can't solve yourself by using this guide, then please contact Acronis Technical Support.

 Copyright © Acronis, Inc., 2000-2007

More information about contacting Acronis Technical Support is available at the following link: http://www.acronis.com/enterprise/support/

Chapter 2. Acronis True Image Server installation and starting

2.1 Installing Acronis True Image Server

To install Acronis True Image Server:

- run the Acronis True Image Server setup file
- in the Install Menu, select the program to install: Acronis True Image Server
- follow the Install Wizard instructions on the screen.



Acronis True Image Server Install Window

Typical, **Custom** and **Complete** installation is available. Having pressed **Custom**, you can choose to install, besides Acronis True Image Server, **Rescue Media Builder** and **Bart PE plug-in**.

With **Rescue Media Builder** you can create bootable rescue disks or RIS packages (see details in *Chapter 9. Creating bootable media*). You might not need this tool if you purchased a boxed product that contains a bootable CD. Installing the **Bootable Rescue Media Builder** will allow you to create bootable media, its ISO image or a bootable RIS package at any time from the main program window or running **Bootable Rescue Media Builder** on its own.

The well-known **Bart PE** utility is used to boot into a Windows-like environment from CD. Applications are installed into Bart PE in the form of plug-ins. Choosing Bart PE plug-in installation (disabled by default) provides the ability to include Acronis True Image Server into a Bart PE plug-in tab. The plug-in files will be placed to the installation folder along with other program files.



When installed, Acronis True Image Server creates a new device in the Device Manager list (**Control Panel -> System -> Hardware -> Device Manager -> Acronis Devices -> Acronis TrueImage Backup Archive Explorer**). Do not disable or uninstall this device, as it is necessary for connecting image archives as virtual disks (see *Chapter 11. Mounting an image as a virtual drive*).

Copyright © Acronis, Inc., 2000-2007

2.1.1 Acronis Universal Restore installation

Acronis Universal Restore is an option to Acronis True Image Server. It is purchased separately and installed from a separate setup file. Acronis Universal Restore has its own serial number which is required at installation.

Acronis Universal Restore can only be installed on a computer where at least one of the following Acronis components is installed:

Acronis True Image Server

Bootable Media Builder.

Acronis Universal Restore can be installed on a networked computer either locally, by running the setup program, or remotely using one of remote installation services, for example, Systems Management Server (a component of Microsoft Windows NT BackOffice program package).

After installation, Acronis Universal Restore automatically plugs in one or more of above program components. Acronis True Image Server name, displayed in its main window, changes to **Acronis True Image Server with Universal Restore**.

2.2 Extracting Acronis True Image Server

When installing Acronis True Image Server, you can save the setup (.msi) file on a local or network drive. This will help when modifying or recovering the existing component installation.

To save a setup file:

- run the Acronis True Image Server setup file;
- in the Install Menu, right-click on the program name and select **Extract**;
- select a location for the setup file and click **Save**.

2.3 Running Acronis True Image Server

You can run Acronis True Image Server in Windows by selecting **Start -> Programs -> Acronis -> Acronis True Image Server -> Acronis True Image Server** or clicking on the appropriate shortcut on the desktop.

If your operating system does not load for some reason, you can run Acronis Startup Recovery Manager. However, this must be activated prior to use; see *3.4 Acronis Startup Recovery Manager* to learn more about this procedure. To run the program, press F11 during server bootup, when you see a corresponding message that tells you to press that key. Acronis True Image Server will be run in the standalone mode, allowing you to recover the damaged partitions.

If your disk data is totally corrupted and you cannot boot (or if you have not activated Acronis Startup Recovery Manager), load the standalone Acronis True Image Server version from the bootable media (supplied with the retail box or created by you using Rescue Media Builder) or RIS-server. Then you will be able to restore the disk from its previously created image.

2.4 Removing Acronis True Image Server

Select **Control panel -> Add or remove programs -> <Acronis True Image Server> -> Remove**. Then follow instructions on the screen. You may have to reboot your computer afterwards to complete the task.

Copyright © Acronis, Inc., 2000-2007

Chapter 3. General information and proprietary Acronis technologies

3.1 The difference between file archives and disk/partition images

A backup archive is a file or a group of files (also called in this Guide “backups”), that contains a copy of selected files/folders data or a copy of all information stored on selected disks/partitions.

When you back up files and folders, only the data, along with the folder tree, is compressed and stored.

Backing up disks and partitions is performed in a different way: Acronis True Image Server stores a sector-by-sector snapshot of the disk, which includes the operating system, registry, drivers, software applications and data files, as well as system areas hidden from the user. This procedure is called “creating a disk image,” and the resulting backup archive is often called a disk/partition image.



Acronis True Image Server stores only those hard disk parts that contain data (for supported file systems). Further, it does not back up swap file information (pagefile.sys) 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 restoration.



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



A disk image includes images of all disk partitions as well as the zero track with master boot record (MBR).

By default, files in all Acronis True Image Server archives have a “.tib” extension.

It is important to note that you can restore files and folders not only from file archives, but from disk/partition images, too. To do so, mount the image as a virtual disk (see *Chapter 11. Mounting an image as a virtual drive*) or start the image restoration and select **Restore specified files or folders**.

3.2 Full, incremental and differential backups

Acronis True Image Server can create full, incremental and differential backups.

A **full backup** contains all data at the moment of backup creation. It forms a base for further incremental or differential backup or is used as a standalone archive. A full backup has the shortest restore time as compared to incremental or differential ones.

An **incremental backup** file only contains data changed since the last full or incremental backup creation. Therefore, it is smaller and takes less time to create. But as it doesn’t contain all data, all the previous incremental backups and the initial full backup are required for restoration.

Unlike incremental backup, when every backup procedure creates the next file in a “chain,” a **differential backup** creates an independent file, containing all changes against the initial full archive. Generally, a differential backup will be restored faster than an incremental one, as it does not have to process through a long chain of previous backups.

 Copyright © Acronis, Inc., 2000-2007

A standalone full backup may be an optimal solution if you often roll back the system to the initial state (like in a gaming club or Internet café, to undo changes made by the guests). In this case, you need not re-create the initial full image, so the backup time is not crucial, and the restore time will be minimal.

Alternatively, if you are interested in saving only the last data state to be able to restore it in case of system failure, consider the differential backup. It is particularly effective if your data changes tend to be little as compared to the full data volume.

The same is true for incremental backup. In addition, it is most useful when you need frequent backups and possibility to roll back to any of stored states. 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. However, the cost in time and disk space (or removable media usage) will be as little as one tenth as much.

It is important to note that the above arguments are nothing but examples for your information. Feel free to make up your own backup policy in accordance with your specific tasks and conditions. Acronis True Image Server is flexible enough to meet any real-life demands.



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 disk and the backups reflect these changes. Therefore, it is recommended that you re-create a full backup after disk defragmentation.

3.3 Acronis Secure Zone

The Acronis Secure Zone is a special hidden partition for storing archives on the computer system itself. For archive security purposes, ordinary applications cannot access it. In the Acronis True Image Server Wizards' windows the zone is listed along with all partitions available for storing archives. Acronis Secure Zone is necessary for using Acronis Startup Recovery Manager and Acronis Snap Restore features (see below).

Acronis Secure Zone is always available for archive creation as long as there is space for the backup file. If there is not enough space, older archives will be deleted to create space.

Acronis True Image Server uses the following scheme to clean up Acronis Secure Zone:

- If there is not enough free space in the zone to create a backup, the program deletes the oldest full backup with all subsequent incremental/differential backups.
- If there is only one full backup (with subsequent incremental/differential backups) left and a full backup is in progress, then the old full backup and incremental/differential backups are deleted.
- Otherwise, (only one full backup left, and an incremental/differential backup is in progress) you will get a message about space error. In that case you will have to either re-create the full backup or increase Acronis Secure Zone.

Thus, you can back up data automatically on a schedule (see *Chapter 7. Scheduling tasks*), and not worry about zone overflow issues. However, if you keep long chains of incremental backups, it will be a good practice to periodically check the zone free space, indicated on the second page of the **Manage Acronis Secure Zone** wizard.

For information on how to create, resize or delete Acronis Secure Zone using this wizard, see in *Chapter 8. Managing Acronis Secure Zone*.

Copyright © Acronis, Inc., 2000-2007

3.4 Acronis Startup Recovery Manager

3.4.1 How it works

The Acronis Startup Recovery Manager enables starting Acronis True Image Server without loading the operating system. With this feature, if the operating system won't load for some reason, you can run Acronis True Image Server by itself to restore damaged partitions. As opposed to booting from Acronis removable media or RIS server, you will not need a separate media or network connection to start Acronis True Image Server.

3.4.2 How to use

To be able to use Acronis Startup Recovery Manager at boot time, prepare as follows:

1. Install Acronis True Image Server.

2. Create Acronis Secure Zone on the server hard disk (see *Chapter 8. Managing Acronis Secure Zone*).

3. Activate Acronis Startup Recovery Manager. To do so, click **Activate Acronis Startup Recovery Manager** and follow the Wizard's instructions.

If you try to activate Acronis Startup Recovery Manager while Acronis Secure Zone is missing from the system, you will be prompted to create the zone, then Acronis Startup Recovery Manager will be activated. Otherwise, Acronis Startup Recovery Manager will be activated immediately.



When Acronis Startup Recovery Manager is activated, it overwrites the master boot record (MBR) with its own boot code. If you have any third-party boot managers installed, you will have to reactivate them after activating the Startup Recovery Manager. For Linux loaders (e.g. LiLo and GRUB), you might consider installing them to a Linux root (or boot) partition boot record instead of MBR before activating Acronis Startup Recovery Manager.

If failure occurs, turn on the computer and press F11 when you see the "Press F11 for Acronis Startup Recovery Manager" message. This will run a standalone version of Acronis True Image Server that only slightly differs from the complete version. For information on restoring damaged partitions, see *Chapter 6. Restoring the backup data*.



Be careful! Disk letters in standalone Acronis True Image Server might sometimes differ from the way Windows identifies drives. For example, the D: drive identified in the standalone Acronis True Image might correspond to the E: drive in Windows.

3.5 Acronis Snap Restore

With this feature you can boot the OS on a crashed computer before the system is completely restored from an image, and start work seconds after the restoration is launched. The restoration will be continued in the background.

3.5.1 Limitations in using Acronis Snap Restore

1. Acronis Snap Restore is currently available for images located in the Acronis Secure Zone only.

2. Acronis Snap Restore does not support images of Windows Vista. If any Vista edition is detected in an image, the Snap Restore option will not appear.

3. Naturally, Acronis Snap Restore cannot be used if the image contains no operating system (a logical partition or disk image) or when restoring file archives.

 Copyright © Acronis, Inc., 2000-2007

3.5.2 How it works

When the restoration procedure is started, Acronis True Image Server:

1. Finds the sectors in the image which contain system files, and restores these sectors first. Thus, the OS is restored and can be started in a very short timeframe. Having started the OS, the user sees the folder tree with files, though file contents still is not recovered. Nevertheless, the user can start working.

2. Writes on the hard disk its own drivers, which intercept system queries to the files. When the user opens files or launches applications, the drivers receive the system queries and restore the sectors that are necessary for the current operation.

3. At the same time, Acronis True Image Server proceeds with the complete sector-by-sector image restoration in the background. However, the system requested sectors have the highest priority.

Finally, the image will be fully restored even if the user performs no actions at all. But if you choose to start working as soon as possible after the system failure, you will gain at least several minutes, considering that restoration of a 10-20GB image (most common image size) takes about 10 minutes. The larger the image size, the more time you save.

3.5.3 How to use

To be able to use Acronis Snap Restore in case of system crash, prepare as follows:

1. Install Acronis True Image Server.

2. Create Acronis Secure Zone on the server hard disk (see *Chapter 8. Managing Acronis Secure Zone*).

3. Activate Acronis Startup Recovery manager (see *3.4 Acronis Startup Recovery Manager*) and create bootable media or RIS package with Acronis True Image Server (see *Chapter 9. Creating bootable* media).

4. Back up (image) the computer's system disk to Acronis Secure Zone (see *5.2 Backing up disks and partitions (image backup)*). You can back up other disks/partitions as well, but the system image is mandatory.



When performing Snap Restore, the current Acronis True Image Server version always restores the entire system disk. Therefore, if your system disk consists of several partitions, all of them must be included in the image. Any partitions which are missing from the image will be lost.

If failure occurs, boot the server from the bootable media, or RIS server, or using F11. Start the recovery procedure (see *6.3 Restoring disks/partitions or files from images*), select the system disk image from Acronis Secure Zone, choose **Use Snap Restore** and in the next window click **Proceed**. In a few seconds the computer will reboot to the restored system. Log in and start work – no more reboots or other actions are required.

You can perform Snap Restore running Acronis True Image Server in supported Windows Server operating systems as well. However, it is mandatory to have bootable media in case Windows cannot boot.

3.6 Acronis Universal Restore

3.6.1 Acronis Universal Restore purpose

A system disk image can be deployed easily on the hardware where it was created or the identical hardware. However, if you change, for example, a motherboard or use another

processor version, which is likely in case of hardware failure, the restored system could be unbootable. An attempt to transfer the system to a new, much more powerful computer will usually produce the same unbootable result because the new hardware is incompatible with the most critical drivers included in the image.

Using Microsoft System Preparation Tool (Sysprep) does not solve this problem, because Sysprep permits replacing drivers only for Plug-and-Play devices (sound cards, network adapters, video cards etc.). As for system Hardware Abstraction Layer (HAL) and mass storage device drivers, they must be identical on the source and the target computers (see Microsoft Knowledge Base, articles 302577 and 216915).

Acronis Universal Restore technology provides an efficient solution for hardware-independent system restoration by replacing the crucial Hardware Abstraction Layer (HAL) and mass storage device drivers.

Acronis Universal Restore is applicable for:

1. Instant recovery of a failed system on different hardware

2. Hardware-independent cloning and deployment of operating systems

3. Real-to-virtual and virtual-to-real computer migration for system recovery, test and other purposes.

3.6.2 Acronis Universal Restore general principles

1. Automatic HAL and mass storage drivers selection

Acronis Universal Restore searches the Windows default driver storage folders (in the image being restored) for HAL and mass storage device drivers and installs drivers that better fit the target hardware. You can specify a custom driver repository (a folder or folders on a network drive or CD) which will also be used for drivers search.



The Windows default driver storage folders are determined in the registry key HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\Current version\DevicePath. Generally, it is WINDOWS/inf folder.

2. Manual selection of mass storage device driver

If the target hardware has a specific mass storage controller (such as a SCSI, RAID, or Fibre Channel adapter) for the hard disk, you can install the appropriate driver manually, bypassing the automatic driver search-and-install procedure.

3. Installing drivers for plug-and-play devices

The primary goal of Acronis Universal Restore is to boot the restored system. The current version of this product handles only HAL and mass storage device drivers and does not install drivers for other devices (sound cards, network adapters, video cards etc.). Once the restored system starts, Windows takes control and initiates the usual first-start process. At this point, you will be able to specify drivers for other devices if Windows cannot find them automatically.

3.6.3 Acronis Universal Restore and Microsoft Sysprep

As appears from the above, Acronis Universal Restore is *not* a system preparation tool. You can apply it to any system image created by Acronis products, including images prepared with Microsoft System Preparation Tool (Sysprep). The following is an example of using both tools on the same system.

 Copyright © Acronis, Inc., 2000-2007

Acronis Universal Restore does not strip security identifier (SID) and user profile settings in order to run the system immediately after recovery without re-joining the domain or re-mapping network user profiles. If you are going to change the above settings on a recovered system, you can prepare the system with Sysprep, image it and restore, if need be, using Acronis Universal Restore.

3.6.4 Using Acronis Universal Restore in virtual environment

Virtual machine technologies provide a powerful tool to help accelerate the development, testing, deployment and support of PC applications. Using Acronis True Image Server with Acronis Universal Restore you can perform real-to-virtual and virtual-to-real computer migration in the same way as with real systems.

If the virtual hard drive uses SCSI controller, you should provide appropriate drivers while performing system restore to the virtual machine. For example, the widespread VMware environment requires Buslogic or LSI logic drivers. Use drivers bundled with your virtual machine software or download the latest drivers versions from the software manufacturer website.

3.6.5 Limitations in using Acronis Universal Restore

1. The system recovered by Acronis Universal Restore may not start if the partition structure in the image or the target disk partitioning does not coincide with that of the source disk. As a result, the loader, restored from the image, will point to the wrong partition and the system will not boot or will malfunction.

Such might be the case if you:

- image not the entire source disk, but only the selected partitions



Keep in mind, that the source disk may have a hidden maintenance partition created by the computer vendor. Therefore, if you check each partition for backup instead of checking the disk, this hidden partition will not be included into the image.

- restore not the entire source disk, but only the selected partitions. In some cases, especially if your system resides on other than the first partition, this can confuse the loader and prevent the restored system from startup.

To avoid the problem, we recommend that you image and restore the entire system disk.

2. The Acronis Universal Restore option does not work if the image contains dynamic disks and volumes.

3. The Acronis Universal Restore option does not work if a computer is booted with Acronis Startup Recovery Manager (using F11) or the backup image is located in Acronis Secure Zone. This is because Acronis Startup Recovery Manager and Acronis Secure Zone are primarily meant for instant data recovery on the same computer.

3.6.6 Getting Acronis Universal Restore

Acronis Universal Restore is an add-on to Acronis True Image Server. It is purchased separately and installed from a separate setup file.

3.7 Using dynamic disks and volumes

Acronis True Image Server supports dynamic disks, i.e. disks, managed by Windows Logical Disk Manager (LDM). You can create an image of one or more dynamic volumes of any type (simple, spanned, stripped etc.) and restore it to a dynamic volume of any type or MBR volume (partition) and vice versa, restore an MBR volume image to a dynamic volume. In

each case, the program stores and restores volume contents only. The type or other properties of the target volume will not be changed.

However, the partition resize is possible when you restore a dynamic volume to a basic disk partition.



If Acronis True Image Server runs in rescue mode (for example, booted from Bootable Rescue media), dynamic disks will not be accessible. Therefore, to be able to repair a system partition, you must keep its image on a basic, network, or removable disk.

3.8 Backing up to tape drive

Acronis True Image Server supports SCSI tape drives. It can store backups on the tape and restore data from the tape, store large backups to multiple tapes, and append incremental/differential changes to a tape with the existing archives.

If a SCSI tape drive is connected to the server, the list of devices available for backup storage will be extended with a name corresponding to the drive type.

Backup and restore on the tape proceed in the same way as with other devices, with the following exceptions.

1. A full backup can be stored on an empty tape only. If you use tape that already contains data, its contents will be overwritten.

2. In case you want to keep more than one archive on the tape, for example, back up two disks separately, choose *incremental* backup mode instead of a *full* backup when you create an initial backup for the second disk. In other situations, incremental backup is used for appending changes to the previously created archive.

3. You do not have to provide filenames for backups.

You might experience short pauses that are required to rewind the tape.



Low-quality or old tape, as well as dirt on the magnetic head, might lead to pauses that can last up to several minutes.

3.9 Viewing disk and partition information

You can change the way of data representation in all schemes you see in various wizards.

To the right are three icons: **Arrange Icons by, Choose Details** and **i (Display the properties of the selected item)**, the last duplicated in the context menu invoked by right-clicking objects.

To sort messages by a particular column, click the header (another click will switch the messages to the opposite order) or **Arrange Icons by** button and select the column.

To select columns to view, right-click the headers line or left-click the **Choose Details** button. Then flag the columns you want to display.

If you click the **i (Display the properties of the selected item)** button, you will see the selected partition or disk properties window.

This window contains two panels. The left panel contains the properties tree and the right 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.

 Copyright © Acronis, Inc., 2000-2007

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

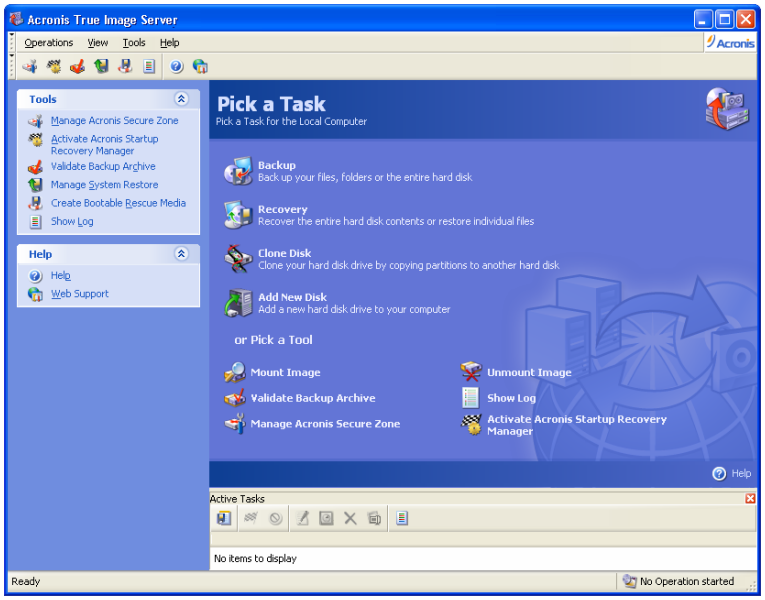
Copyright © Acronis, Inc., 2000-2007

Chapter 4. Using Acronis True Image Server

Acronis True Image Server supports the command-line mode for data backup and restore, as well as the GUI mode, and can be used to execute XML scripts. Here we describe the operations available in GUI mode, which provides more functionality. For console commands and scripting see *Chapter 14. Command-line mode and scripting*.

4.1 Main program window

The main program window contains the menu, the toolbar, the sidebar, the **Active Tasks** pane and the main area. The main area contains operation icons, while the sidebar features **Tools** and **Help** panels.



Most of the operations are represented two or even three times in different window areas, providing several ways to select them for more convenience. For example, you can start the necessary operation or tool by clicking its icon in the main area or by selecting the same item from the **Operations** or **Tools** menu.

The main window contains operation icons divided into two groups.

The **Task** group contains the following operations:

- **Backup** – create a backup archive
- **Recovery** – restore data from a previously created archive
- **Clone Disk** – transfer the OS, applications and data from the old disk to the new one
- **Add New Disk** – add a new disk for data storage leaving the OS and applications on the old one.

The **Tools** group contains the following items:

- **Mount Image** – connect a disk/partition image as a virtual drive
- **Unmount Image** – disconnect the connected virtual drive
- **Validate Backup Archive** – run the archive integrity checking procedure
- **Show Log** – open the Log Viewer window

Copyright © Acronis, Inc., 2000-2007

- **Manage Acronis Secure Zone** – create, delete and resize a special hidden partition for storing archives (Acronis Secure Zone)
- **Activate Acronis Startup Recovery Manager** – activate the boot restoration manager (F11 key).
- **Manage System Restore** – turn on/off Microsoft Windows System Restore tool and set its options directly from Acronis True Image Server

Program menu

The program menu bar features the **Operations, View, Tools** and **Help** items.

The **Operations** menu contains a list of the available operations, including scheduling tasks.

The **View** menu contains items for managing the program window look:

- **Toolbars** – contains commands that control toolbar icons
- **Common Task Bar** – enables/disables the sidebar
- **Status Bar** – enables/disables the status bar
- **Active tasks** – enables/disables the Active Tasks pane at the bottom of the main area.

The **Tools** menu contains the following items:

- **Manage Acronis Secure Zone** – create, delete and resize a special hidden partition for storing archives (Acronis Secure Zone)
- **Activate Acronis Startup Recovery Manager** – activate the boot restoration manager (F11 key)
- **Validate Backup Archive** – run the archive integrity checking procedure
- **Create Bootable Rescue Media** – run the bootable media creation procedure
- **Show Log** – open the Log Viewer window
- **Options** – open a window for editing default backup/restore options, setting text appearance (fonts), configuring email/Winpopup notifications etc.

The **Help** menu is used to invoke help and obtain information about Acronis True Image Server.

Active Tasks pane

The **Active Tasks** pane displays the scheduled and currently-being-executed tasks. It features its own toolbar. You can customize this toolbar view by right-clicking on it and selecting the desired options.

Status bar

At the bottom of the main window, there is a status bar divided into two parts. The left side briefly describes the selected operation; the right side indicates operation progress and results. If you double-click on the operation results, you will see the logs window.

Taskbar notification area icon

During most of the operations, a special indicator icon appears in the Windows taskbar notification area (the right portion of the status bar with the clock). If you mouse over the icon, you will see a tool tip indicating the operation's progress. This icon doesn't depend on the main program window being open. It is present for background execution of scheduled tasks as well.

Copyright © Acronis, Inc., 2000-2007

4.2 Available operations

You can perform the following operations.

- **Backup and restore data, including system disks/partitions**

Click **Backup** or **Recovery**, then follow the Wizard's instructions. See details in *Chapter 5. Creating backup archives* and *Chapter 6. Restoring the backup data.*

- **Schedule backup operations**

Click the very left button on a tasks pane toolbar, then follow the Wizard's instructions. See details in *Chapter 7. Scheduling tasks*.

- **Set up backup/restore options,** such as system/network resources usage, before/after backup commands etc.

Select **Tools -> Options** -> **Default backup options** or **Default restoration options** and make settings. See details in *5.3 Setting backup options* and *6.4 Setting restore options.*

- **Validate backup archives wherever they reside, be it local, network or removable media**

Click **Validate Backup Archive**, then follow the Wizard's instructions. See details in *10.1 Validating backup archives*.

- **Set up sending notifications about Acronis True Image Server operation and tracing** this operation in Windows Application Event Log

Select **Tools -> Options** -> **Notifications** or **Event tracing** and make settings. See details in *10.2 Operation results notification* and *10.4 Event tracing*.

- **Browse logs of Acronis True Image Server operation**

Click the very right button on a tasks pane toolbar at the bottom of the window. See details in *10.3 Viewing logs*.

- **Manage Acronis Secure Zone**

Click **Manage Acronis Secure Zone**, then follow the Wizard's instructions. See details in *Chapter 8. Managing Acronis Secure Zone*.

- **Activate Acronis Startup Recovery Manager**

Click **Activate Acronis Startup Recovery Manager**, then follow the Wizard's instructions. See details in *3.4 Acronis Startup Recovery Manager*.

- **Mount partitions' images to explore and modify their contents, or to restore individual files**

Click **Mount image**, then follow the Wizard's instructions. See details in *Chapter 11. Mounting an image as a virtual drive*.

- **Unmount previously mounted partition images**

Click **Unmount image**, then follow the Wizard's instructions. See details in *11.2 Unmounting an image*.

- **Transfer the system to a new hard disk**

See *Chapter 12. Transferring the system to a new disk*.

- **Format partitions on a new hard disk**

See *Chapter 13. Adding a new hard disk*.

 Copyright © Acronis, Inc., 2000-2007

- **Turn on/off Windows System Restore tool**

See *10.5 Managing System Restore*.

- **Create bootable rescue media, its ISO or RIS package**

See *Chapter 9. Creating bootable media*.

Some of the above operations can be executed in command-line as well. For more information on Acronis True Image Server command-line mode see *14.1 Working in the command-line mode*.

Copyright © Acronis, Inc., 2000-2007

Chapter 5. Creating backup archives

To be able to restore the lost data or roll back your system to a predetermined state, you should first create a data or entire-system backup file.

If you are not concerned about restoration of your operating system along with all settings and applications, but plan to keep safe only certain data (the current project, for example), choose file/folder backup. This will reduce the archive size, thus saving disk space and possibly reducing removable media costs.

Backing up the entire system disk (creating a disk image) takes more disk space but enables you to restore the system in minutes in case of severe data damage or hardware failure. Moreover, the imaging procedure is much faster than copying files, and may significantly speed the backup process when it comes to backing up large volumes of data (see details in *3.1 The difference between file archives and disk/partition images*).

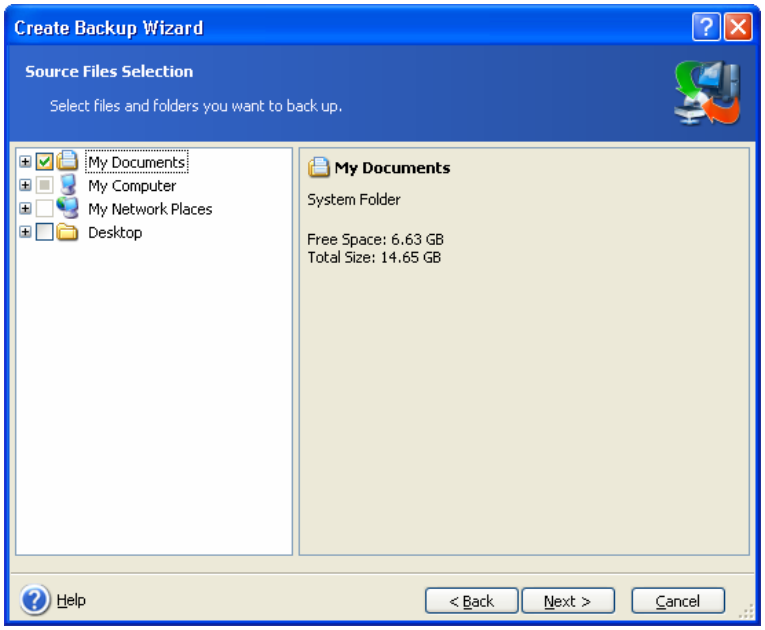
5.1 Backing up files and folders (file backup)

1. Invoke the **Create Backup Wizard** by clicking on the backup operation icon in the main program window.

2. Click **Next**.

3. Select **Backup files** and click **Next**.

4. From the tree pane, select files and folders to back up. You can select a random set of files, folders, partitions, disks and even computers.





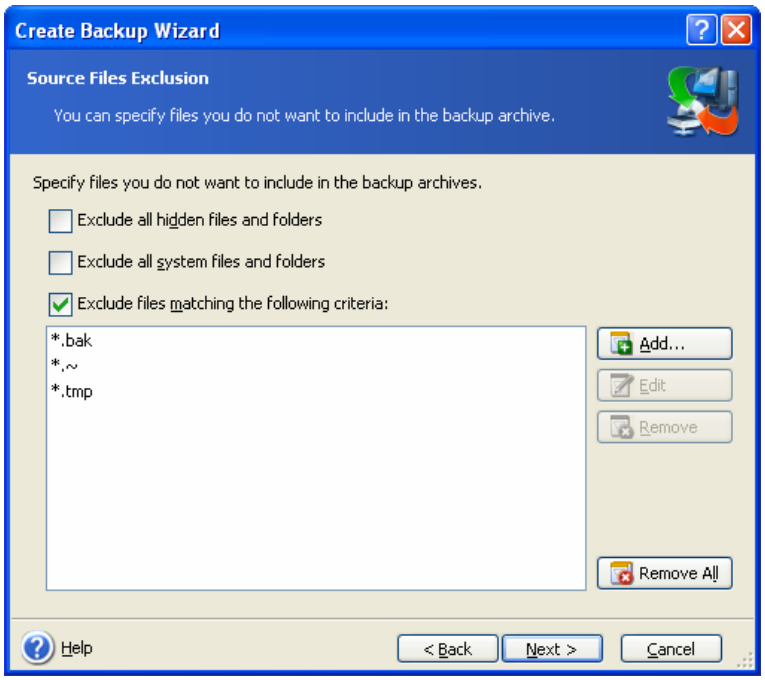
If you select a partition, disk or computer, and archive all its files, including system and hidden files, the bare-metal restore of that disk (partition, computer) still will not be possible. You also may not be able to boot the restored operating system. Therefore, it is recommended that you select only files and folders containing user data. To back up a disk or partition, use image backup.

5. Click **Next**.

Copyright © Acronis, Inc., 2000-2007

6. Set filters for the specific types of files you do not wish to back up. For example, you may want hidden and system files and folders, as well as files with **.~, .tmp and .bak** extensions, not to be stored in the archive.

You can also apply custom filters, using the common Windows masking rules. For example, to exclude all files with extension .exe, add ***.exe** mask. **My???.exe** mask will reject all .exe files with names consisting of five symbols and starting with “my”.



All of these settings will take effect for the current task. For information on how to set the default filters that will be called each time you create a file backup task, see *5.3.2 Source files exclusion*.

7. Click **Next**.

8. Select the name and location of the archive file.

If you are going to create a full backup, type the file name in the **File Name** line, or use the file name generator (a button to the right of the line). If you select an existing archive, it will be overwritten.

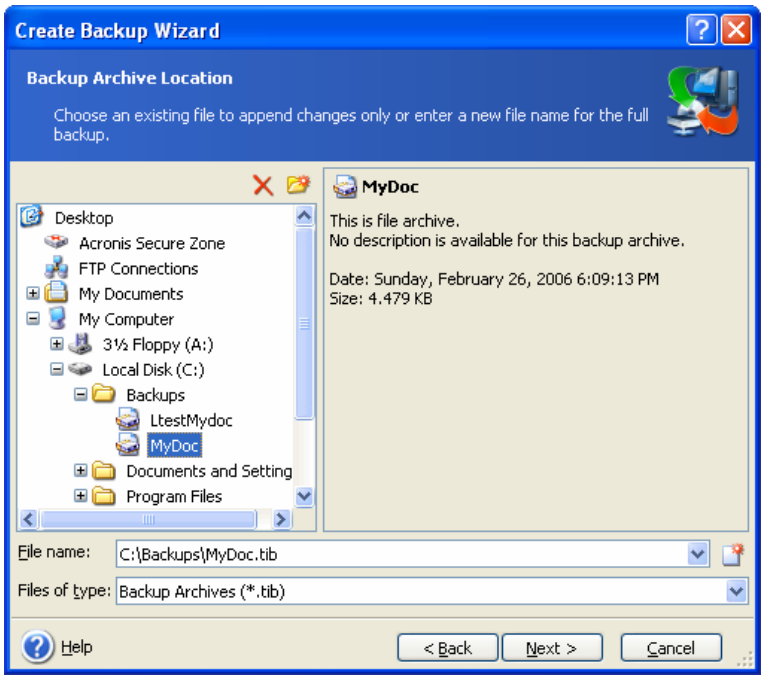
If you are going to create an incremental backup (see *3.2 Full, incremental and differential backup*), select the latest full or incremental backup you have.



In fact, if all incremental backup files are stored together, it doesn't matter which one you select, as the program will recognize them as a single archive. If you stored the files on several removable disks, you must provide the latest archive file; otherwise, restoration problems might occur.

If you are going to create a differential backup, select the full backup which will be a base, or any of the existing differential archives. Either way, the program will create a new differential archive file.

Copyright © Acronis, Inc., 2000-2007



The “farther” you store the archive from the original folders, the safer it will be in case of data damage. For example, saving the archive to another hard disk will protect your data if the primary disk is damaged. Data saved to a network disk, ftp-server or removable media will survive even if all your local hard disks are down. You can also use Acronis Secure Zone (see details in *3.3 Acronis Secure Zone*) for storing backups. In that case, you need not provide the file name.

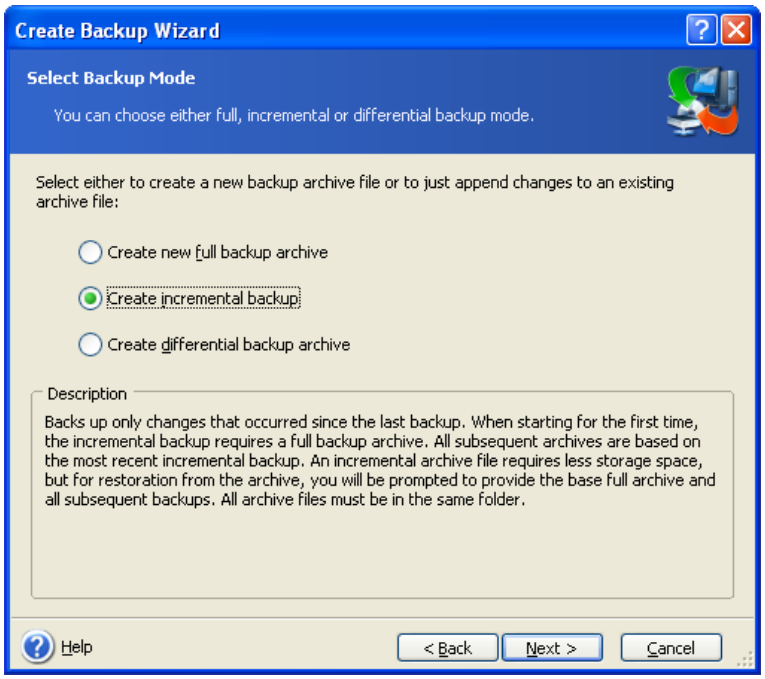


See notes and recommendations for supporting FTP server in *1.3.4 Supported storage media*.

9. Click **Next**.

10. Select whether you want to create a full, incremental or differential backup. If you have not backed up the selected files/folders yet, or the full archive seems too old to append incremental changes to it, choose full backup. Otherwise it is recommended that you create an incremental or differential backup (see *3.2 Full, incremental and differential backup*).

Copyright © Acronis, Inc., 2000-2007



11. Click **Next**.

12. Select the backup options (that is, backup file splitting, compression level, password protection, pre/post backup commands etc.). You may **Use default options** or **Set the options manually**. If the latter is the case, the settings will be applied only to the current backup task. Alternatively, you can edit the default options from the current screen. Then your settings will be saved as the defaults. See *5.3 Setting backup options* for more information.

13. Click **Next**.

14. Provide a comment for the archive. This can help prevent you from restoring the wrong files. However, you can choose not to make any notes. The backup file size and creation date are automatically appended to the description, so you do not need to enter this information.

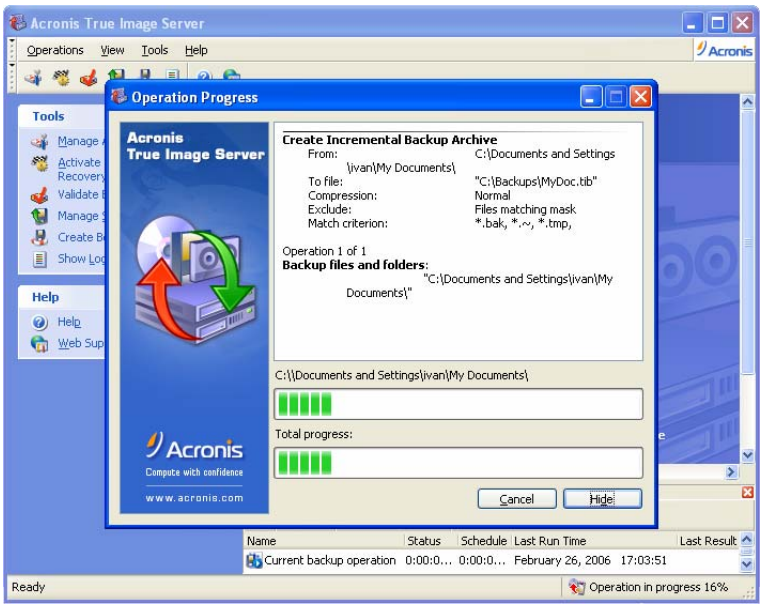
15. Click **Next**.

16. At the final step, the backup task summary is displayed. Up to this point, you can click **Back** to make changes in the created task. Clicking **Proceed** will launch the task execution.

17. The task will appear on the **Active tasks** pane of the main window. The task progress will be shown in a special window. You can stop the procedure by clicking **Cancel**.

You can also close the progress window by clicking **Hide**. The backup creation will continue, but you will be able to start another operation or close the main program window. In the latter case, the program will continue working in the background and will automatically close once the backup archive is ready. If you prepare some more backup operations, they will be queued after the current one.

Copyright © Acronis, Inc., 2000-2007





You may want to adjust the backup process priority. To do so, click on the process icon in the System Tray and select Low, Normal, or High priority from the menu that appears. For information on how to set the default priority, see *5.3.6 Backup performance*.



If you burn an archive to several removable media, be sure to number them, since you will have to insert them in order during the restoration.

18. You may want to see the log when the task is completed. To view the log, click the **Show Operation Logs** button on the toolbar.

5.2 Backing up disks and partitions (image backup)

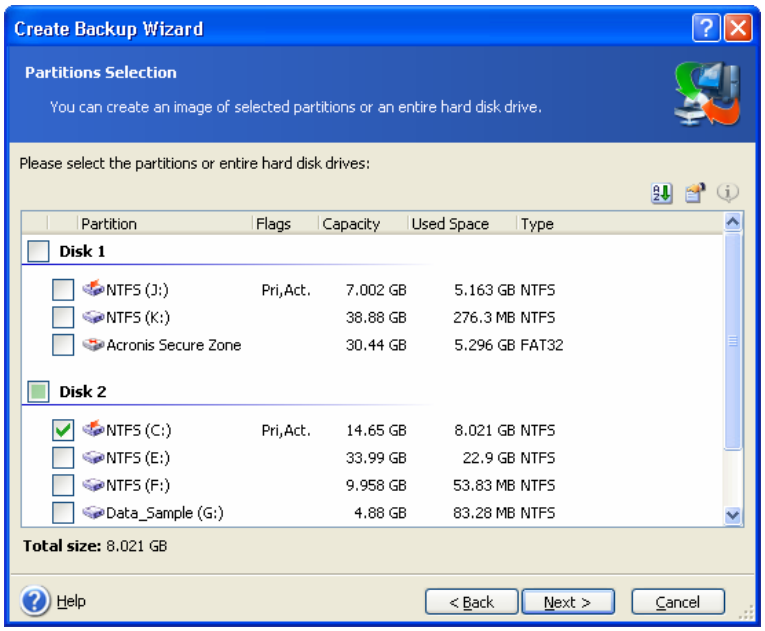
1. Invoke the **Create Backup Wizard** by clicking on the backup operation icon in the main program window.

2. Click **Next**.

3. Select **Backup disks** and click **Next**.

4. Select disks or partitions to back up. You can select a random set of disks and partitions.

Copyright © Acronis, Inc., 2000-2007



5. Click **Next**.

6. Select the name and location of the archive file.

If you are going to create a full archive, type the file name in the **File Name** line, or use the file name generator (a button to the right of the line). If you select an existing archive, it will be overwritten.

If you are going to create an incremental backup (see *3.2 Full, incremental and differential backup*), select the latest full or incremental backup you have.



In fact, if all incremental backup files are stored together, it doesn't matter which one you select, as the program will recognize them as a single archive. If you stored the files on several removable disks, you must provide the latest archive file; otherwise, restoration problems might occur.

If you are going to create a differential backup, select the full backup which will be a base, or any of existing differential archives. Either way, the program will create a new differential archive file.

The “farther” you store the archive from the original partition, the safer it will be in case of data damage. For example, saving the archive to another hard disk will protect your data if your primary disk is damaged. Data saved to a network disk, ftp-server or removable media will survive even if all your local hard disks are down. You can also use Acronis Secure Zone (see details in *3.3 Acronis Secure Zone*) for storing backups. In that case, you need not provide the file name.



See notes and recommendations for supporting FTP server in *1.3.4 Supported storage media*.

7. Click **Next**.

8. Select whether you want to create a full or incremental backup. If you have not backed up the selected disks/partitions yet, or the full archive seems too old to append incremental changes to it, choose full backup. Otherwise it is recommended that you create an incremental or differential backup (see *3.2 Full, incremental and differential backup*).

9. Click **Next**.

Copyright © Acronis, Inc., 2000-2007

10. Select the backup options (that is, backup file splitting, compression level, password protection, pre/post backup commands etc.). You may **Use default options** or **Set the options manually**. If the latter is the case, the settings will be applied only to the current backup task. Alternatively, you can edit the default options from the current screen. Then your settings will be saved as the defaults. See *5.3 Setting backup options* for more information.

11. Click **Next**.

12. Provide a comment for the archive. This can help prevent you from restoring the wrong disk/partition. However, you can choose not to make any notes. The backup file size and creation date are automatically appended to the description, so you do not need to enter this information.

13. Click **Next**.

14. At the final step, the backup task summary is displayed. Up to this point, you can click **Back** to make changes in the created task. Clicking **Proceed** will launch the task execution.

15. The task will appear on the **Active tasks** pane of the main window. The task progress will be shown in a special window. You can stop the procedure by clicking **Cancel**.

You can also close the progress window by clicking **Hide**. The backup creation will continue, but you will be able to start another operation or close the main program window. In the latter case, the program will continue working in the background and will automatically close once the backup archive is ready. If you prepare some more backup operations, they will be queued after the current.



You may want to adjust the backup process priority. To do so, click on the process icon in the System Tray and select Low, Normal, or High priority from the menu that appears. For information on how to set the default priority, see *5.3.6 Backup performance*.



If you burn an archive to several removable media, be sure to number them, since you will have to insert them in order during the restoration.

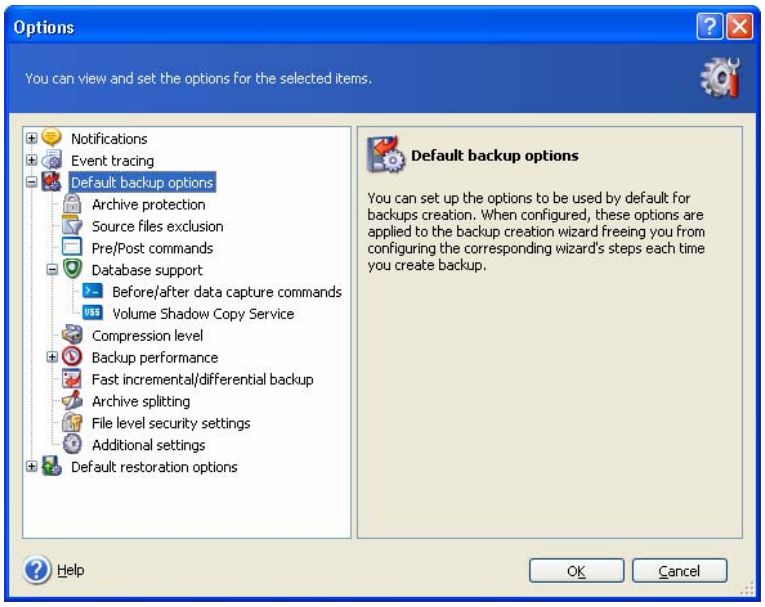
16. You may want to see the log when the task is completed. To view the log, click the **Show Operation Logs** button on the toolbar.

5.3 Setting backup options

To view or edit the default backup options, select **Tools -> Options -> Default Backup Options** from the main program menu.

You can edit the default (or set the temporary) backup options while creating a backup task as well.

Copyright © Acronis, Inc., 2000-2007



5.3.1 Archive protection

The preset is **no password**.

An archive can be protected with a password. To protect the archive from being restored by anybody except you, enter a password and its confirmation into the text fields. A password should consist of at least eight symbols and contain both letters (in the upper and lower cases preferably) and numbers to make it more difficult to guess.

If you try to restore data from a password-protected archive, or append an incremental/differential backup to such an archive, Acronis True Image Server will ask for the password in a special window, allowing access only to authorized users.

5.3.2 Source files exclusion

By default, **all files from the selected folders will be included into the archive**.

You can set default filters for the specific types of files you do not wish to back up. For example, you may want hidden and system files and folders, as well as files with **.~, .tmp and .bak** extensions, not to be stored in the archive.

You can also apply custom filters, using the common Windows masking rules. For example, to exclude all files with extension .exe, add ***.exe** mask. **My???.exe** mask will reject all .exe files with names consisting of five symbols and starting with “my”.

This option is effective for file/folders backup only. When creating a disk/partition image, you cannot filter out any files.

5.3.3 Pre/post commands

You can specify commands or batch files to be automatically executed before and after the *backup procedure*. For example, you may want to remove some tmp files from the disk before starting backup or configure a third-party antivirus product to be started each time before the backup starts. Click **Edit** to open the **Edit Command** window where you can easily input the command, its arguments and working directory or browse folders to find a batch file.

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

Copyright © Acronis, Inc., 2000-2007

Unchecking the **Do not perform operations until the commands execution is complete** box, checked by default, will permit the backup process to run concurrently with your commands execution.

5.3.4 Database support

Database servers, such as MS SQL Server and MS Exchange, prove to be troublesome to backup, partially due to open files and indexes and partially due to rapid data changes. Therefore it is usually recommended that the database be suspended just before the backup (data capture) moment. Provided all transactions are completed by the moment of data capture, the database, when recovered, will be ready to access immediately after recovery.

1. Volume Shadow Copy Service

Microsoft Volume Shadow Copy Service (VSS) provides the infrastructure for backup on running systems by keeping up coordination between user applications that update data on disk and backup applications. VSS is available in Microsoft Windows XP and Microsoft Windows Server 2003 operating systems.

If your database is compatible with **Microsoft Volume Shadow Copy Service (VSS)**, then checking the **Enable VSS support** box in **Database support** window will ensure completion of all transactions before the backup process starts. The examples of VSS-aware databases are Exchange, Oracle, SQL Server.

2. Before/after data capture commands

However, VSS is not available in server operation systems older than **Windows 2003 Server**, and not all databases support VSS. In these cases, the transactions completion can be ensured with executing batch files or scripts that pause the appropriate Windows services and automatically resume them after data capture.

An example of a batch file, suspending the Windows services for MS Exchange:

```
net stop msexchangesa /y /y
net stop "Microsoft Exchange Routing Engine"
```

An example of a batch file, resuming the Windows services for MS Exchange:

```
net start "Microsoft Exchange System Attendant"
net start "Microsoft Exchange Event"
net start "Microsoft Exchange IMAP4"
net start "Microsoft Exchange MTA Stacks"
net start "Microsoft Exchange POP3"
net start "Microsoft Exchange Routing Engine"
```

Create batch files in any text editor (for example, name it 'pause_services.bat' and 'resume_services.bat'). Use **Edit** buttons to the right of **Before data capture command** and **After data capture command** fields, to open the **Edit Command** window where you can browse folders to find the respective batch files or scripts. A single command can be specified in the same window along with its arguments and working directory.

It is critical to note that these commands, as opposed to **Backup commands** above, will be executed before and after *data capture* process, which takes seconds, while the entire backup procedure may take quite long time. Therefore, the database idle time will be minimal.

 Copyright © Acronis, Inc., 2000-2007

Before/after data capture commands can also be used for purposes different from suspending the database, especially if VSS support is enabled. You may want to suspend an application other than a database, for example. The commands execution and the VSS actions will be sequenced as follows:

"before" commands -> VSS Suspend -> data capture -> VSS Resume -> "after" commands.

Unchecking the **Do not perform operations until the commands execution is complete** box, checked by default, will permit the backup process to run concurrently with your commands execution.

5.3.5 Compression level

The preset is **Normal**.

If you select **None**, the data will be copied without any compression, which may significantly increase the backup file size. However, if you select **Maximum** compression, the backup will take longer to create.

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

Generally, it is recommended that you use the default **Normal** compression level. You might want to select **Maximum** compression for removable media to reduce the number of blank disks required.

5.3.6 Backup performance

The three options below might have a more or less noticeable effect on the backup process speed. This depends on overall system configuration and physical characteristics of devices.

1. Backup process priority

The preset is **Low**.

The priority of any process running in a system determines the amount of CPU usage and system resources allocated to that process. Decreasing the backup priority will free more resources for other CPU tasks. Increasing the backup priority may speed up the backup process due to taking resources from the other currently running processes. The effect will depend on total CPU usage and other factors.

2. HDD writing speed

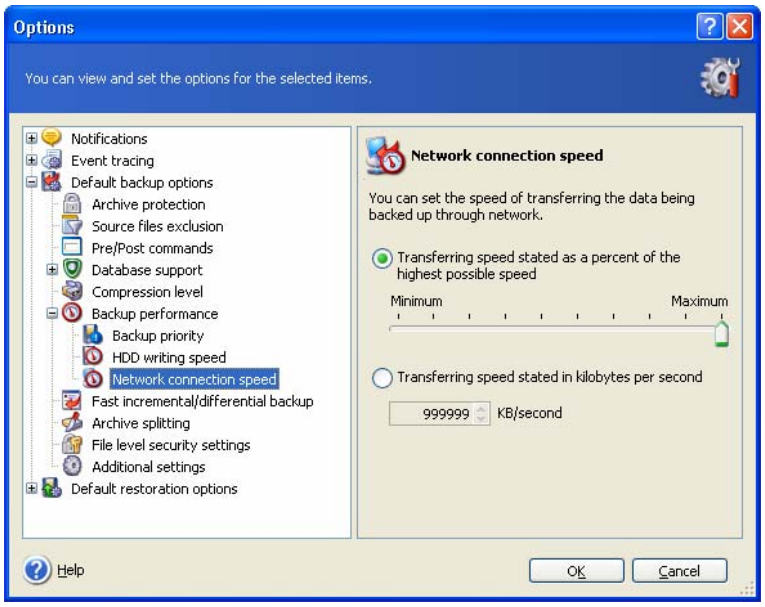
The preset is **Maximum**.

Backing up in the background to an internal hard disk (for example, to Acronis Secure Zone) may slow other programs' performance because of the large amounts of data transferred to the disk. You can limit the hard disk usage by Acronis True Image Server to a desired level. To set the desired HDD writing speed for data being backed up, drag the slider or enter the writing speed in kilobytes per second.

3. Network connection speed

The preset is **Maximum**.

Copyright © Acronis, Inc., 2000-2007



If you frequently backup data to network drives, think of limiting the network usage used by Acronis True Image Server. To set the desired data transfer speed, drag the slider or enter the bandwidth limit for transferring backup data in kilobytes per second.

5.3.7 Fast incremental/differential backup

The preset is **Use fast incremental/differential backup**.

Incremental/differential backup captures only changes in data occurred since the last backup. To speed up the backup process, Acronis True Image Server determines whether the file has changed by file size and the date/time when the file was last saved. Disabling this feature will make the program compare the entire file contents to that stored in the archive.

This option relates only to disk/partition (image) backup.

5.3.8 Archive splitting

Sizeable backups can be split into several files that together make the original backup. A backup file can be split for burning to removable media or saving on an FTP server (data recovery directly from an FTP server requires the archive to be split into files no more than 2GB in size).

The default setting – **Automatic**. With this setting, Acronis True Image Server will act as follows.

When backing up to the hard disk: If the selected disk has enough space and its file system allows the estimated file size, the program will create a single archive file.

If the storage disk has enough space, but its file system does not allow the estimated file size, Acronis True Image Server will automatically split the backup into several files.



FAT16 and FAT32 file systems have a 4GB file size limit. At the same time, the existing hard drive's capacity may reach as much as 2 TB. Therefore, an archive file might easily exceed this limit, if you are going to back up the entire disk.

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 click **Back** and select another disk.

Copyright © Acronis, Inc., 2000-2007

When backing up to a diskette, CD-R/RW or DVD±R/RW: Acronis True Image Server will ask you to insert a new disk when the previous one is full.

Alternatively, you can select **Fixed size** and enter the desired file size or select it from the drop-down list. The backup will then be split into multiple files of the specified size. That comes in handy when backing up to a hard disk with a view to burning the archive to CD-R/RW or DVD±R/RW later on.



Creating images directly on CD-R/RW or DVD±R/RW might take considerably more time than it would on a hard disk.

5.3.9 File-level security settings

Preserve files' security settings in archives

By default, files and folders are saved in the archive with their original Windows security settings (i.e. permissions for read, write, execute and so on for each user or user group, set in file **Properties -> Security**). If you restore a secured file/folder on a computer without user, specified in the permissions, you may not be able to read or modify this file.

To completely eliminate this kind of problem, you can disable preserving files' security settings in archives. Then the restored files/folders will always inherit the permissions from the folder to which they are restored (parent folder or disk, if restored to the root).

Alternatively, you can disable files' security settings during restoration, even if they are available in the archive (see *6.4.5 File-level security* settings below). The result will be the same.

In archives, store encrypted files in decrypted state

The default setting – **disabled**.

If you do not use the encryption feature available in Windows 2003 Server and Windows XP operating systems, simply ignore this option. (Files/folders encryption is set in **Properties -> General -> Advanced Attributes -> Encrypt contents to secure data**).

Check the option if there are encrypted files in the backup and you want them to be accessed by any user after restore. Otherwise, only the user who encrypted the files/folders will be able to read them. Decryption may also be useful if you are going to restore encrypted files on another computer.

These options relate only to file/folders backup.

5.3.10 Media components

The preset is **disabled**.

When backing up to removable media, you can make this media bootable by writing to it additional components. Thus, you will not need a separate rescue disk.

Choose the basic components, necessary for boot and restoring data, on the **General** tab.

The **Acronis One-Click Restore** is a minimal addition to the image archive, stored on removable media, allowing one-click disk recovery from this archive. This means that at boot from the media and clicking "restore" all the data contained in the image will be silently restored.



Because one-click approach does not imply user selections, like selecting partitions to restore, Acronis One-Click Restore always restores the entire disk. Therefore, if your disk consists of several partitions and you are planning to use Acronis One-Click Restore, all the

partitions must be included into the image. Any partitions which are missing from the image will be lost.

If you want more functionality during restoration, write a standalone version of **Acronis True Image Server** to the rescue disk. Then you will be able to configure the restore task using Restore Data Wizard, use Acronis Snap Restore or Acronis Universal Restore etc.

Under **Advanced** tab you can select full, safe or both Acronis True Image Server loader version. The safe version does not have USB, PC card or SCSI drivers and is useful only in case the full version does not load. If you have other Acronis products, such as Acronis Disk Director Suite, installed on your computer, the bootable versions of these programs' components will be offered as **Advanced** as well.

In case you check **Do not place additional components if there is no free space** box, the program will try to write at least Acronis True Image Server to media, short of space.

5.3.11 Additional settings

1. Validate backup archive upon operation completion

The preset is **disabled**.

When enabled, the program will check integrity of the just created or supplemented archive immediately after backup.



To check archive data integrity you must have all incremental and differential backups belonging to the archive and the initial full backup. If any of successive backups is missing, validation is not possible.

2. Overwrite data on a tape without user confirmation

The preset is **disabled**.

A full backup, when created on a tape drive, overwrites all data stored on the tape (see *3.8 Backing up to tape drive* for more information). In this situation, Acronis True Image Server will warn that you are about to lose data on the tape. To disable this warning, check the middle box.

3. Ask for first media while creating backup archives on removable media

The preset is **enabled**.

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 be not possible if the user is away, because the program will wait for pressing **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 task can run unattended.

 Copyright © Acronis, Inc., 2000-2007

Chapter 6. Restoring the backup data

6.1 Restore under Windows or boot from CD?

As mentioned above (see *2.3 Running Acronis True Image Server*), Acronis True Image Server can be run in several ways. We recommend that you first try to restore data running Acronis True Image Server under Windows, because this method provides more functionality. Boot from the bootable media or use the Startup Recovery Manager (see *3.4 Acronis Startup Recovery Manager)* only if Windows does not load.

The boot CD from which you loaded the program does not keep you from using other CDs with backups. Acronis True Image Server is loaded entirely into RAM, so you can remove the bootable CD to insert the archive disk.



Be careful! Disk letters in standalone Acronis True Image Server might sometimes differ from the way Windows identifies drives. For example, the D: drive identified in the standalone Acronis True Image Server might correspond to the E: drive in Windows.

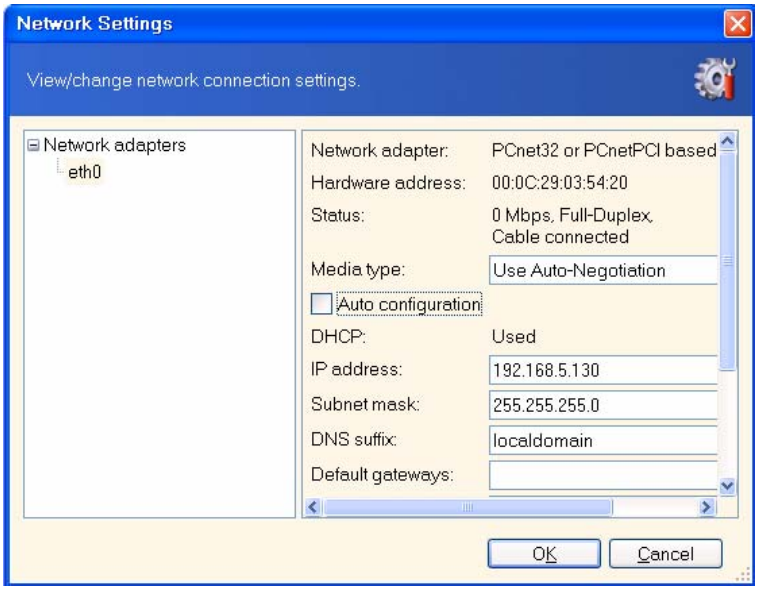


If a backup image is located on bootable media, you might have a choice of using Acronis One-Click Restore. This operation always restores the entire physical disk. Therefore, if your disk consists of several partitions, the partitions which are missing from the image will be lost. Please make sure that the image contains all disk partitions or you do not need the partitions that are not imaged before using Acronis One-Click Restore. For more information on Acronis One-Click Restore see *5.3.10 Media components*.

6.1.1 Network settings in rescue mode

When booted from removable media, RIS server or by Startup Recovery Manager, Acronis True Image Server may not detect the network. Such might be the case if there is no DHCP server in your network or your computer address was not identified automatically for some reason.

To enable connection, specify network settings manually in the window, available at **Tools -> Options -> Network adapters.**



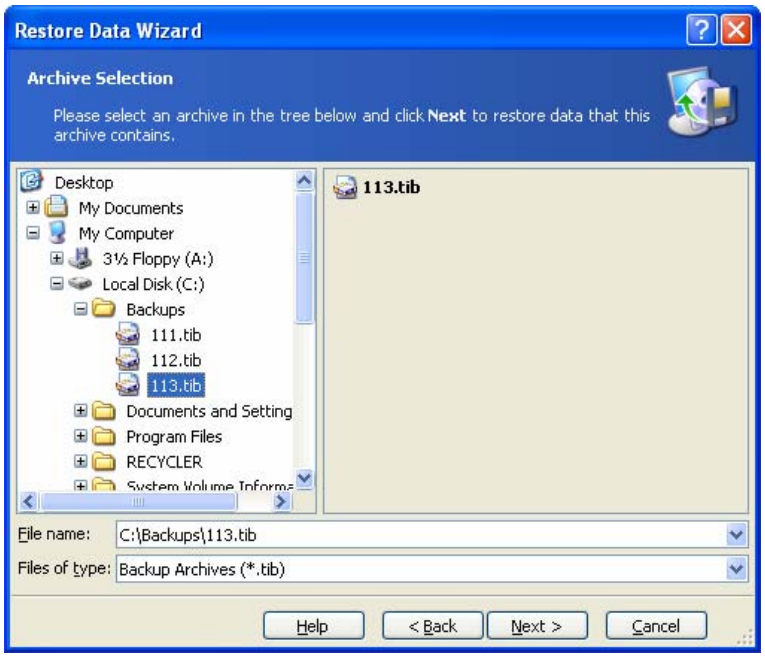
6.2 Restoring files and folders from file archives

Here we describe how to restore file/folders from a file backup archive. You can restore the desired files/folders from a disk/partition image as well. To do so, mount the image (see *Chapter 11. Mounting an image as a virtual drive*) or start the image restoration and select **Restore specified files or folders** (see *6.3 Restoring disks/partitions or files from images*).

1. Invoke the **Restore Data Wizard** by clicking on the restore operation icon in the main program window.

2. Click **Next**.

3. Select the archive. If the archive is located in Acronis Secure Zone, select it to choose the archive on the next step.



If the archive is located on removable media, e.g. CD, first insert the last CD and then insert disks in reverse order when Restore Data Wizard prompts.

Data recovery directly from an FTP server requires the archive to consist of files no more than 2GB in size. If you suspect that some of the files may be larger, first copy the entire archive (along with the initial full backup) to a local hard disk or network share disk. See notes and recommendations for supporting FTP server in *1.3.4 Supported storage media*.

If you added a comment to the archive, it will be displayed to the right of the drives tree. If the archive was protected with a password, Acronis True Image Server will ask for it. The comment and the **Next** button will be unavailable until you enter the correct password.

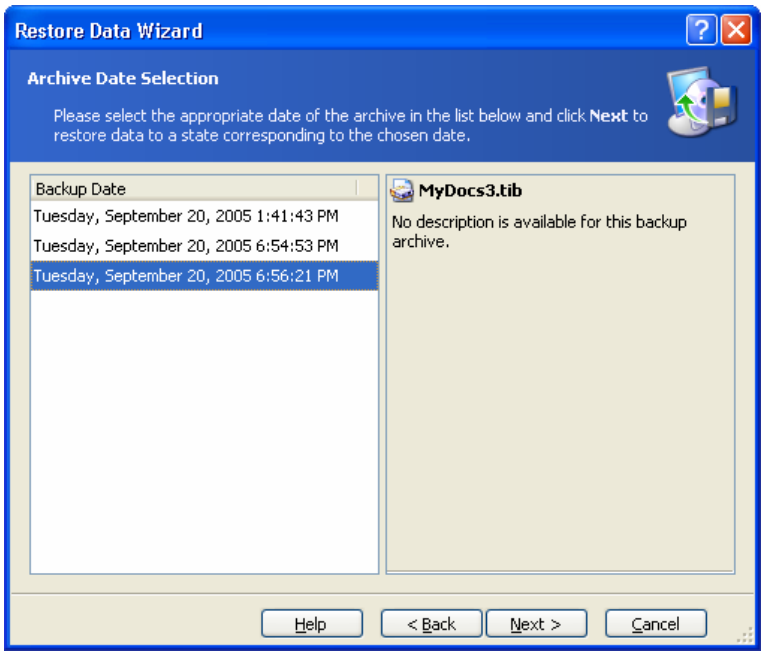
4. Click **Next**.

5. If the selected archive contains incremental backups, Acronis True Image Server will suggest that you select one of successive incremental backups by date/time of its creation. Thus, you can roll back the files/folders state to a certain date.

To restore data from an incremental backup, you must have all previous incremental backups and the initial full backup. If any of successive backups is missing, restoration is not possible.

To restore data from a differential backup, you must have the initial full backup as well.

 Copyright © Acronis, Inc., 2000-2007

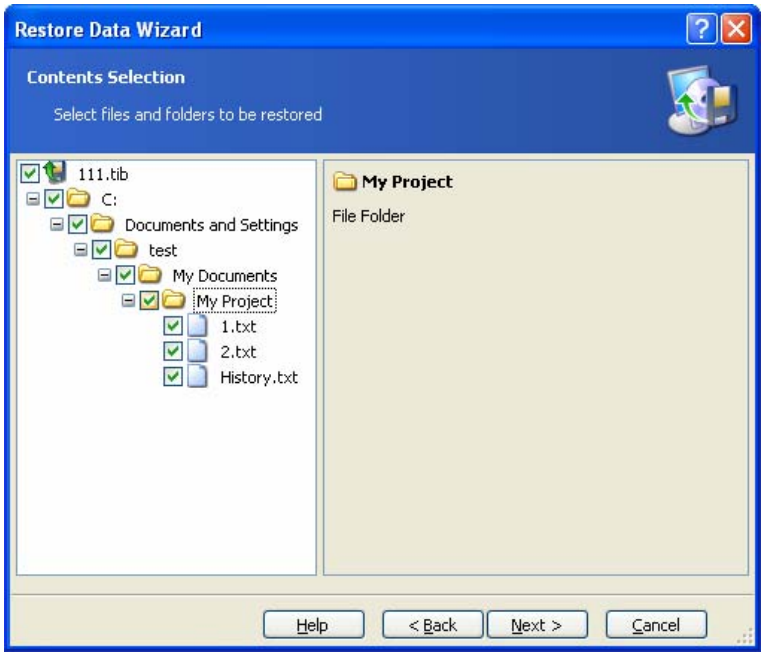


6. Click **Next**.

7. Select a folder on your computer where you want to restore selected folders/files (a target folder). You can restore data to their original location or choose another folder, if necessary.

8. Click **Next**.

9. Select files and folders to restore. You can choose to restore all data or browse the archive contents and select the desired folders or files.



10. Click **Next**.

11. Select the options for the restoration process (that is, pre/post restoration commands, restoration process priority, file-level security settings etc.). You may **Use default options** or **Set the options manually**. If the latter is the case, the settings will be applied only to the current restore task. Alternatively, you can edit the default options from the current screen. Then your settings will be saved as default. See *6.4 Setting restore options* for more information.

Copyright © Acronis, Inc., 2000-2007

12. Click **Next**.

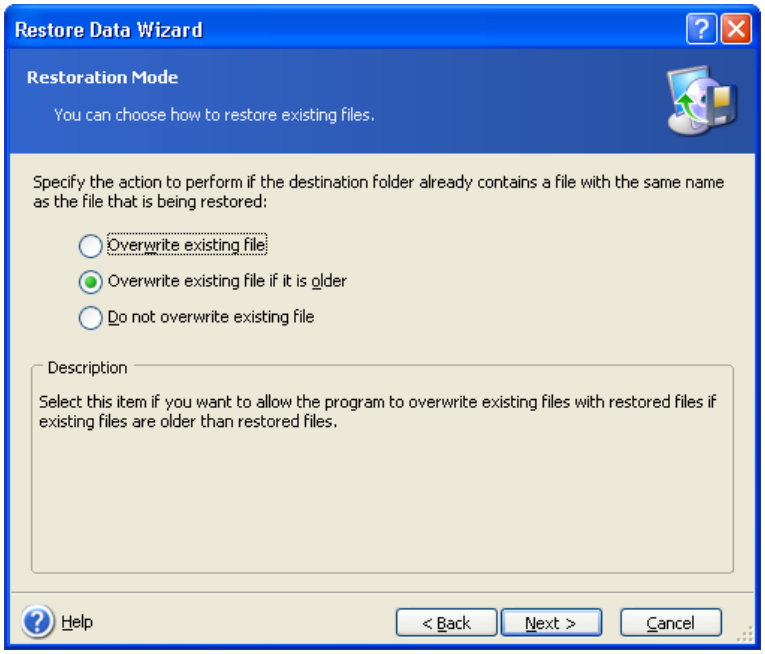
13. Set filters for the specific types of files that are not to be restored. For example, you may want hidden and system files and folders, as well as files with **.~, .tmp and .bak** extensions, not to be restored from the archive.

You can also apply custom filters, using the common Windows masking rules. For example, to exclude all files with extension .exe, add ***.exe** mask. **My???.exe** mask will reject all .exe files with names consisting of five symbols and starting with "my".

All of these settings will take effect for the current task. How to set the default filters that will be called each time you restore data, see *6.4.1 Files to exclude from restoration*.

14. Click **Next**.

15. The next selection allows you to keep useful data changes made since the selected backup was created. Choose what to do if the program finds in the target folder a file with the same name as in the archive.



Overwrite existing file – this will give the archived file unconditional priority over the file on the hard disk.

Overwrite existing file if it is older – this will give the priority to the most recent file modification, whether it be in the archive or on the disk

Do not overwrite existing file – this will give the file on the hard disk unconditional priority over the archived file.

16. At the final step, the restoration summary is displayed. Up to this point, you can click **Back** to make changes in the created task. Clicking **Proceed** will launch the task execution.

17. The task will appear on the **Active tasks** pane of the main window. The task progress will be shown in a special window. You can stop the procedure by clicking **Cancel**. Please keep in mind that the aborted procedure still may cause changes in the destination folder.

6.3 Restoring disks/partitions or files from images

To restore a partition (disk) from an image, Acronis True Image Server must obtain **exclusive access** to the target partition (disk). This means no other applications can access

 Copyright © Acronis, Inc., 2000-2007

it at that time. If you receive a message stating that the partition (disk) can not be blocked, close applications that use this partition (disk) and start over. If you can not determine which applications use the partition (disk), close them all.

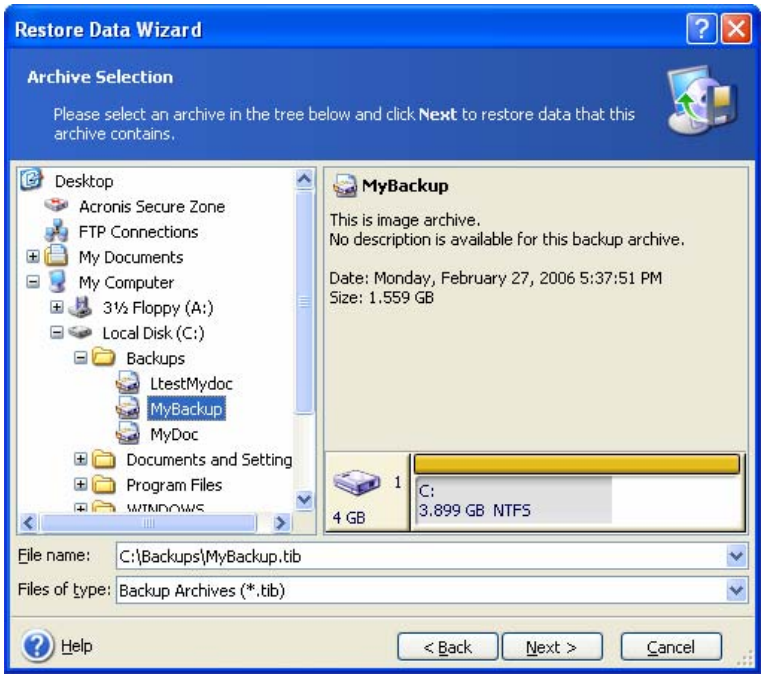
6.3.1 Starting the Restore Data Wizard

1. Invoke the **Restore Data Wizard** by clicking on the restore operation icon in the main program window.

2. Click **Next**.

6.3.2 Archive selection

1. Select the archive. If the archive is located in Acronis Secure Zone, select it to choose the archive at the next step.



If the archive is located on removable media, e.g. CD, first insert the last CD and then insert disks in reverse order when Restore Data Wizard prompts.

Data recovery directly from an FTP server requires the archive to be split into files no more than 2GB in size. If you suspect that some of the files may be larger, first copy the entire archive (along with the initial full backup) to a local hard disk or network share disk. See notes and recommendations for supporting FTP server in *1.3.4 Supported storage media*.

If you added a comment to the archive, it will be displayed to the right of the drives tree. If the archive was protected with a password, Acronis True Image Server will ask for it. The partitions layout, the comment and the **Next** button will be unavailable until you enter the correct password.

2. Click **Next**.

3. If the selected archive contains incremental backups, Acronis True Image Server will suggest that you select one of successive incremental backups by its creation date/time. Thus, you can roll back the disk/partition state to a certain date.

Copyright © Acronis, Inc., 2000-2007

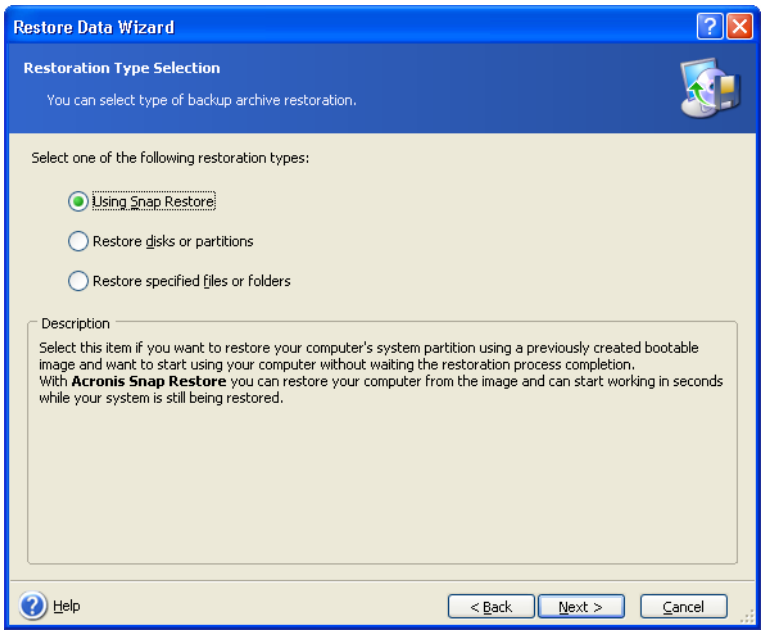
To restore data from an incremental backup, you must have all previous incremental backups and the initial full backup. If any of successive backups is missing, restoration is not possible.

To restore data from a differential backup, you must have the initial full backup as well.

4. Click **Next**.

6.3.3 Restoration type selection

1. Select what you want to restore:



Restore specified files or folders

With this selection, you will be further offered to select where to restore selected folders/files (original or new location), choose files/folders to be restored and so on. These steps look like those in file archive restore. However, watch your selection: if you are to restore files instead of disk/partition, uncheck the unnecessary folders. Otherwise you will restore a lot of excessive files. Then you will be taken directly to Restoration Summary screen (*6.3.13 Restoration summary and executing restoration*).

Restore disks or partitions

Having selected a usual way of disks/partitions recovery, you will have to make all settings described below.

Using Snap Restore

When restoring a system disk/partition image (except for Windows Vista images) from Acronis Secure Zone, you will have the third choice – to use **Acronis Snap Restore**. Having selected this option, you will proceed directly to the summary window (*6.3.13 Restoration summary and executing restoration*). In a few seconds after pressing **Proceed** the computer will reboot to the restored system. Log in and start work – no more reboots or other actions are required. For more about Acronis Snap Restore, see *3.5 Acronis Snap Restore*.

When performing Snap Restore, the current Acronis True Image Server version always restores the entire system disk. Therefore, if your disk consists of several partitions, the partitions which are missing from the image will be lost. Please make sure that the image contains all disk partitions or you do not need the partitions that are not imaged before using Acronis Snap Restore.

Copyright © Acronis, Inc., 2000-2007

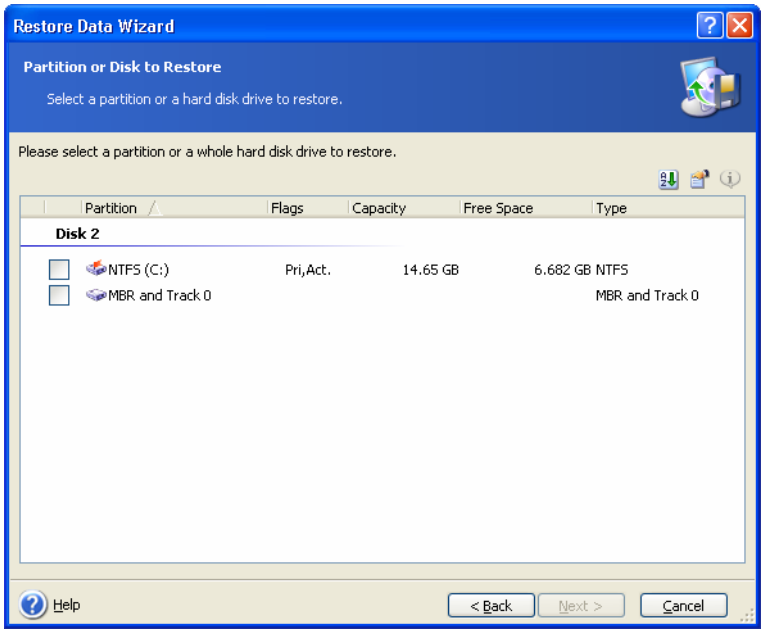
However, you can choose an ordinary way of restoration for that image. This will allow you to make changes to the restored partition that would not be possible when using Acronis Snap Restore.

Finally, if you are not going to recover the system, but only want to repair damaged files, select **Restore specified files or folders**.

2. Click **Next**.

6.3.4 Selecting a disk/partition to restore

1. The selected backup can contain images of several partitions or even disks. Select which disk/partition to restore.



Disks and partitions images contain a copy of track 0 along with MBR (Master Boot Record). It appears in this window in a separate line. You can choose whether to restore MBR and track 0 by checking the respective box. Restore MBR if it is critical to your system boot.

2. Click **Next**.

6.3.5 Selecting a target disk/partition

1. Select a target disk or partition where you want to deploy the selected image. You can restore data to its initial location, to another disk/partition or to an unallocated space. The target partition should be at least the same size as the uncompressed image data.

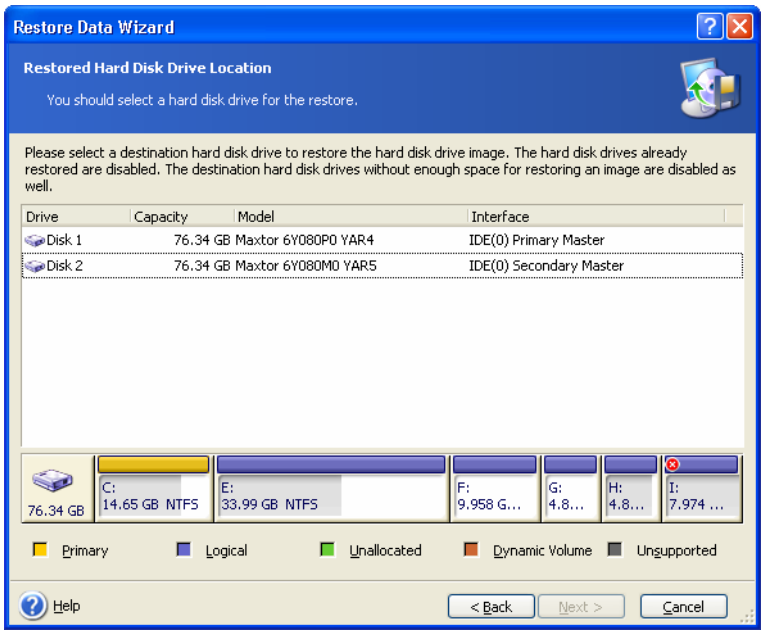


All the data stored on the restored partition will be replaced by the image data, so be careful and watch for non-backed-up data that you might need.

2. Click **Next**.

3. When restoring an entire disk, the program will analyze the target disk structure to see if the disk is free.

Copyright © Acronis, Inc., 2000-2007



If there are partitions on the target disk, you will be prompted by the **Nonempty Destination Hard Disk Drive** window stating that the destination disk contains partitions, perhaps with data.

You will have to select between:

- **Yes, I want to delete all the partitions on the destination hard disk before restoring** – all existing partitions will be deleted and all their data will be lost.
- **No, I do not want to delete partitions** – no existing partition will be deleted, discontinuing the recovery operation. You will only be able to cancel the operation or return to select another disk.

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

To continue, select the first choice and click **Next**. You will be taken directly to step *6.3.10 Restoring several disks or partitions at once*.

6.3.6 Changing the restored partition type

1. When restoring a partition, you can change its type, though it is not required in most cases.

To illustrate why you might need to do this, let's imagine that both the operating system and data were stored on the same primary partition on a damaged disk.

If you are restoring a system partition to the new (or the same) disk and want to load an operating system from it, you will select **Active**.

If you restore a system partition to another hard disk with its own partitions and OS, most probably you will need only the data. In this case, you can restore the partition as **Logical** to access the data only.

By default, the original partition type is selected.

Selecting **Active** for a partition without an installed operating system could prevent your server from booting.

Copyright © Acronis, Inc., 2000-2007

2. Click **Next**.

6.3.7 Changing the restored partition file system

1. Though seldom required, you can change the partition file system during its restoration. Acronis True Image Server can make the following file system conversions: **FAT 16 -> FAT 32, Ext2 -> Ext3**. For partitions with other native file systems this option is not available.



Let us imagine you are to restore a partition from an old, low-capacity FAT16 disk to a newer disk. FAT16 would not be effective and might even be impossible to set on the high-capacity hard disk. That's because FAT16 supports partitions up to 4GB, so you will not be able to restore a 4GB FAT16 partition to a partition that exceeds that limit without changing the file system. It would make sense here to change the file system from FAT16 to FAT32.

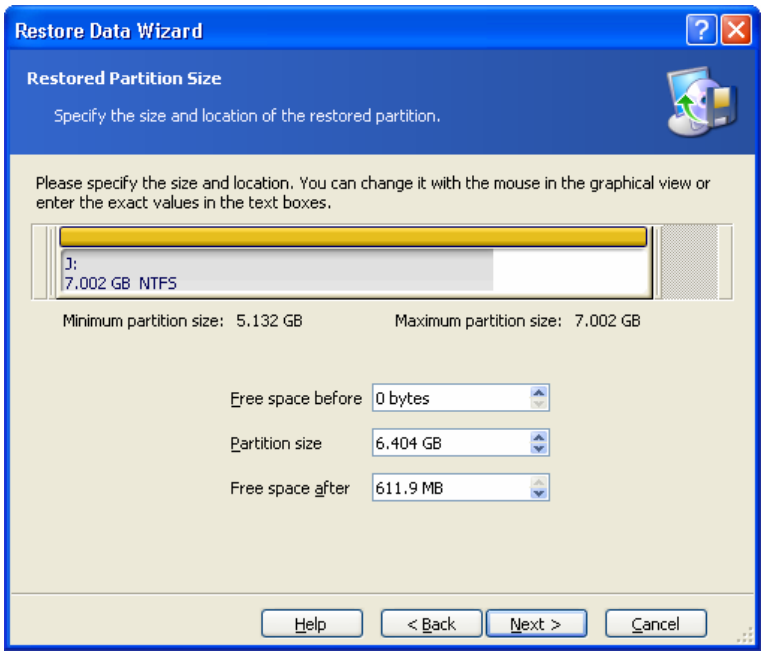
However, keep in mind that not all operating systems support FAT32. MS-DOS, Windows 95 and Windows NT 3.x, 4.x do not support FAT32 and will not be operable after you restore a partition and change its file system. These can be normally restored on a FAT16 partition only.

2. Click **Next**.

6.3.8 Changing the restored partition size and location

1. You can resize and relocate a partition by dragging it or its borders with a mouse or by entering corresponding values into the appropriate fields.

Using this feature, you can redistribute the disk space between partitions being restored. In this case, you will have to restore the partition to be reduced first.





These changes might be useful if you are to copy your hard disk to a new high-capacity one by creating its image and restoring it to a new disk with larger partitions.

2. Click **Next**.

6.3.9 Assigning a letter to the restored partition

1. Acronis True Image Server will assign an unused letter to a restored partition. You can select the desired letter from a drop-down list. If you set the switch to **No**, no letters will be assigned to the restored partition, hiding it from OS.

You should not assign letters to partitions inaccessible to Windows, such as to those other than FAT and NTFS.

2. Click **Next**.

6.3.10 Restoring several disks or partitions at once

1. During a single session, you can restore several partitions or disks, one by one, by selecting one disk and setting its parameters first and then repeating these actions for every partition or disk to be restored.

If you want to restore another disk (partition), select **Yes, I want to restore another partition or hard disk drive**. Then you will return to the partition selection window (6.3.4) again and will have to repeat the above steps. Otherwise, don't set this switch.

2. Click **Next**.

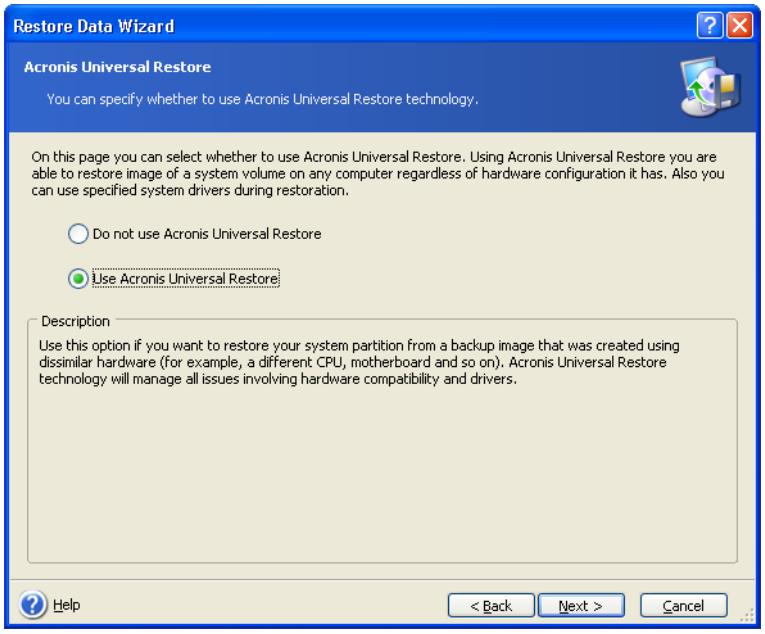
6.3.11 Using Acronis Universal Restore

Acronis Universal Restore is an add-on to Acronis True Image Server. It is purchased separately and installed from a separate setup file. The following is for Acronis True Image Server installations including Acronis Universal Restore.



The Acronis Universal Restore option does not work if the image contains dynamic disks and volumes.

1. Using Acronis Universal Restore will help you create a bootable system clone on a different hardware (for more information see *3.6 Acronis Universal Restore*). Choose this when restoring a system disk to a computer with other processor, motherboard or mass storage device than in the imaged system.



2. Click **Next**.

Copyright © Acronis, Inc., 2000-2007

3. If the target hardware has a specific mass storage controller (such as a SCSI, RAID, or Fibre Channel adapter) for the hard disk, you can install the appropriate driver manually, bypassing the automatic driver search-and-install procedure.

Use this option only if the automatic search-and-install procedure was unsuccessful.

Acronis Universal Restore uses three sources for drivers:

- the driver repository - a folder or folders on a network drive or CD specified in restore options. If you have not specified the driver repository in advance, you can do it at next step.

- the mass storage device driver specified by the user at the current step

- the Windows default driver storage folders (in the image being restored).

The program will find the most suitable drivers of all available drivers and install them into the restored system. However, the driver defined by the user, will have the priority. It will be installed, with appropriate warnings, even if the program finds the better driver.



When restoring the system to a virtual machine that uses SCSI hard drive controller, be sure to specify SCSI drivers for virtual environment in the **Specifying Mass Storage Drivers** window. Use drivers bundled with your virtual machine software or download the latest drivers versions from the software manufacturer website.

4. Click **Next**.

6.3.12 Setting restore options

1. Select the options for the restoration process (that is, pre/post restoration commands, restoration process priority etc.). You may **Use default options** or **Set the options manually**. If the latter is the case, the settings will be applied only to the current restore task. Alternatively, you can edit the default options from the current screen. Then your settings will be saved as default. See *6.4 Setting restore options* for more information.

2. Click **Next**.

6.3.13 Restoration summary and executing restoration

1. At the final step, the restoration summary is displayed. Up to this point, you can click **Back** to make changes in the created task. If you click **Cancel**, no changes will be made to disk(s). Clicking **Proceed** will launch the task execution.

2. The task will appear on the **Active tasks** pane of the main window. The task progress will be shown in a special window.

You can stop the procedure by clicking **Cancel**. However, it is critical to note that the target partition will be deleted and its space unallocated – the same result you will get if the restoration is unsuccessful. To recover the “lost” partition, you will have to restore it from the image again.

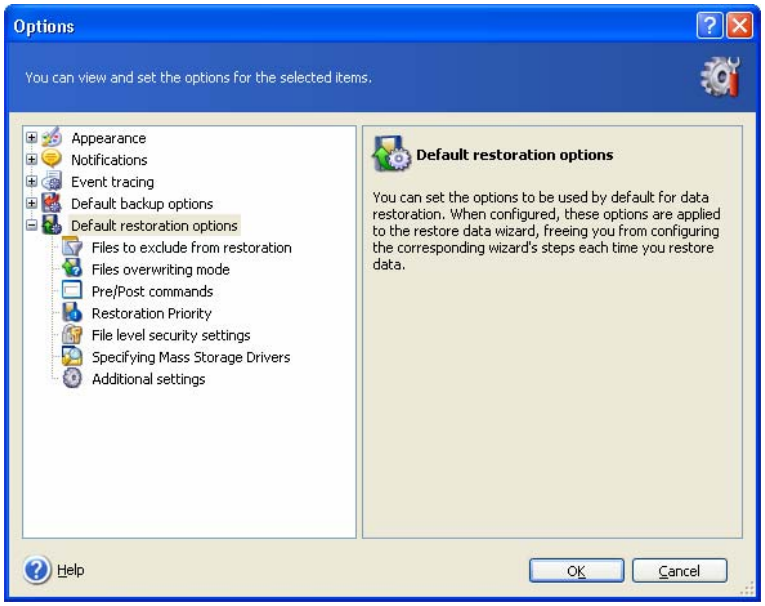
If Acronis Universal Restore finds no HAL or mass storage device drivers compatible with the new hardware in all available sources, you will be prompted to browse network share drive, floppy disk or CD to select missing drivers. On starting Windows, it will initialize a common procedure for installing new hardware. At this point, you will be able to specify drivers for devices, if Windows cannot find them automatically.

Copyright © Acronis, Inc., 2000-2007

6.4 Setting restore options

To view or edit the default restore options, select **Tools -> Options -> Default Restoration Options** from the main program menu.

You can edit the default (or set the temporary) restore options while creating a restore task as well.



6.4.1 Files to exclude from restoration

The preset is **Restore all files**.

You can set the default filters for the specific types of files that are not to be restored. Use the common Windows masking rules. For example, to exclude all files with extension .exe, add ***.exe** mask. **My???.exe** mask will reject all .exe files with names, consisting of five symbols and starting with “my”.

This option is effective only when restoring files from file/folders archives. When restoring files from a disk/partition image, you cannot filter out any files.

6.4.2 Files overwriting mode

This option allows you to keep useful data changes made since the backup being restored was done. Choose what to do if the program finds in the target folder a file with the same name as in the archive.

Overwrite existing file – this will give the archived file unconditional priority over the file on the hard disk.

Overwrite existing file if it is older – this will give the priority to the most recent file modification, whether it be in the archive or on the disk.

Do not overwrite existing file – this will give the file on the hard disk unconditional priority over the archived file.

This option is effective only when restoring files from file/folders archives.

6.4.3 Pre/post commands

You can specify commands or batch files to be automatically executed before and after the restore procedure. Click **Edit** to open the **Edit Command** window where you can easily

 Copyright © Acronis, Inc., 2000-2007

input the command, its arguments and working directory or browse folders to find a batch file.

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

Unchecking the **Do not perform operations until the commands execution is complete** box, checked by default, will permit the restore procedure to run concurrently with your commands execution.

6.4.4 Restoration priority

The preset is **Low**.

The priority of any process running in a system determines the amount of CPU usage and system resources allocated to that process. Decreasing the restoration priority will free more resources for other CPU tasks. Increasing of restoration priority may speed up the restore process due to taking resources from the other currently running processes. The effect will depend on total CPU usage and other factors.

6.4.5 File-level security settings

The preset is **Restore files with their security settings**.

If the files’ security settings were preserved during backup (see *5.3.9 File-level security settings*), you can choose whether to restore files’ security settings or let the files inherit the security settings of the folder where they will be restored.

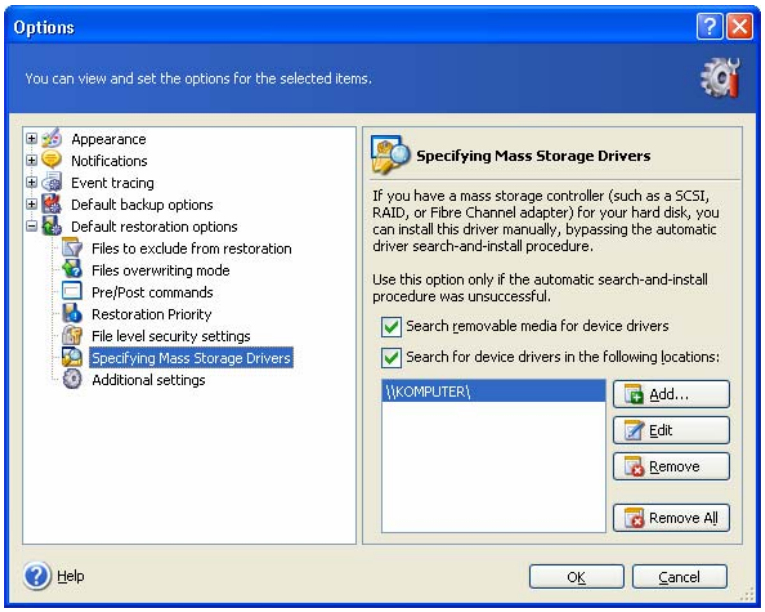
This option is effective only when restoring files from file/folders archives.

6.4.6 Specifying mass storage drivers

This option appears only in those computers’ options, where Acronis Universal Restore is installed.



Acronis Universal Restore is an option to Acronis True Image Server. It should be purchased separately and installed from a separate setup file. For more information see *3.6 Acronis Universal Restore*.



Here you can specify a path to the driver repository on a network drive or CD where Acronis Universal Restore will search for drivers at restoring a system disk on dissimilar hardware. If several paths are specified, the program will scan all locations and choose the most suitable driver.

6.4.7 Additional settings

1. You can choose whether to restore files' date and time from the archive or assign the files the current date and time.

2. Before data is restored from the archive, Acronis True Image Server can check its integrity. If you suspect that the archive might have been corrupted, select **Validate backup archive before restoration**.



To check archive data integrity you must have all incremental and differential backups belonging to the archive and the initial full backup. If any of successive backups is missing, validation is not possible.

3. Having restored a disk/partition from an image, Acronis True Image Server can check the integrity of the file system. To do so, select **Check file system after restoration**.



Verification of the file system is available only when restoring disk/partitions under Windows and for FAT16/32 and NTFS file systems.

 Copyright © Acronis, Inc., 2000-2007

Chapter 7. Scheduling tasks

Acronis True Image Server allows you to schedule periodic backup tasks. Doing so will give you peace of mind, knowing that your data are safe.

You can create more than one independently scheduled task. For example, you can back up your current project daily and back up the application disk once a week.

All the scheduled tasks appear in the **Active Tasks** area of the main window. You can start, stop, edit, delete and rename the scheduled tasks.

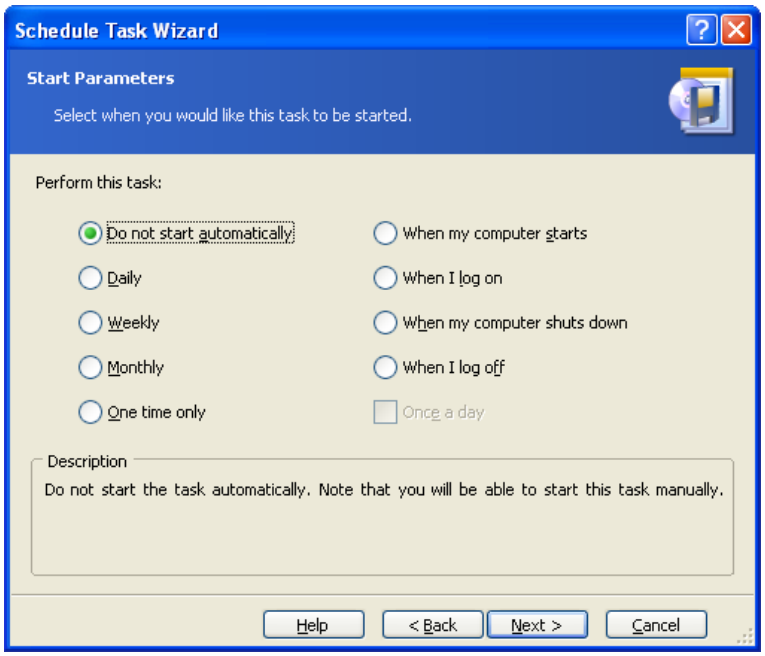
7.1 Creating scheduled tasks

1. To invoke the **Schedule Task Wizard**, click on its icon on the **Active Tasks** toolbar or select **Operations -> Schedule Task** from the main menu.

2. Click **Next**.

3. Configure a backup task in the usual way (see *Chapter 5. Creating backup archives*). If you choose to create the backup archive on a network drive, you will have to enter a user name and a password for network access.

4. Set the task execution periodicity.



- **Do not start automatically** – the task will be saved, but not launched automatically. You will be able to launch it later by clicking the start button on the Active Tasks pane
- **Daily** – the task will be executed once a day or once in several days
- **Weekly** – the task will be executed once a week or once in several weeks on the selected day
- **Monthly** – the task will be executed once a month on the selected day
- **One time only** – the task will be executed once at the specified time and day
- **When my computer starts** – the task will be executed at every OS startup
- **When I log on** – the task will be executed each time the current user logs in to the OS

Copyright © Acronis, Inc., 2000-2007

- **When my computer shuts down** – the task will be executed before every server shutdown or reboot
- **When I log off** – the task will be executed each time the current user logs off of the OS.



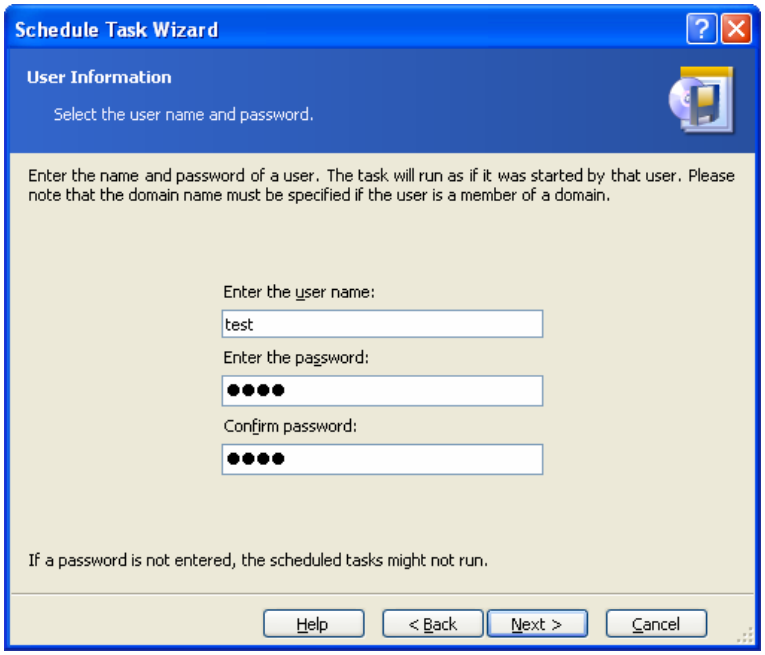
Some of these options might be disabled depending on the operating system.

5. Click **Next**.

6. Specify the task start time and other schedule parameters, according to the selected periodicity (see 7.1.1 - 7.1.4).

7. Click **Next**.

8. Next you will have to specify the name of the user who owns the executed task; otherwise no scheduled execution will be available.



In the upper field, enter a user name. Enter a password twice in two fields below.

9. At the final step, the task configuration is displayed. Up to this point, you can click **Back** to make changes in the created task. If you click **Cancel**, all settings will be lost. Click **Finish** to save the task.

10. The task schedule and default name appear on the **Active tasks** pane of the main window. You are prompted to rename the task just now. If you do not want to do so, press the **Esc** key.

7.1.1 Setting up daily execution

If you select daily execution, set the Start time and days on which you want to execute the task:

- **Every day**
- **Weekdays**
- **Every x days** – once in several days (specify the interval).

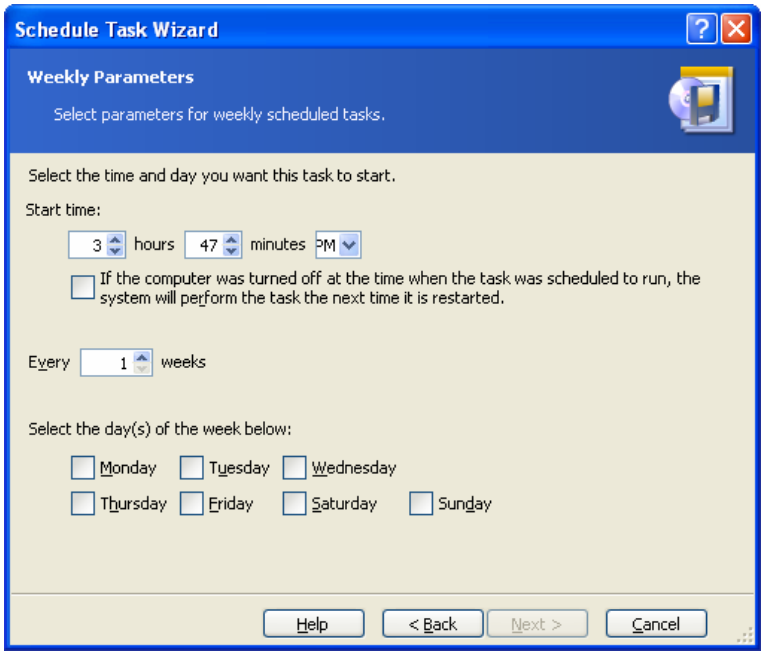
Copyright © Acronis, Inc., 2000-2007



If the computer is off when the scheduled time comes, the task won't be performed, but you can force the missed task to launch at the next system startup by checking a box under the **Start time** fields.

7.1.2 Setting up weekly execution

If you select weekly execution, set the **Start time**, specify the task execution periodicity in the **Every x weeks** box (every week, every two weeks, etc.) and check the days on which to execute the task.



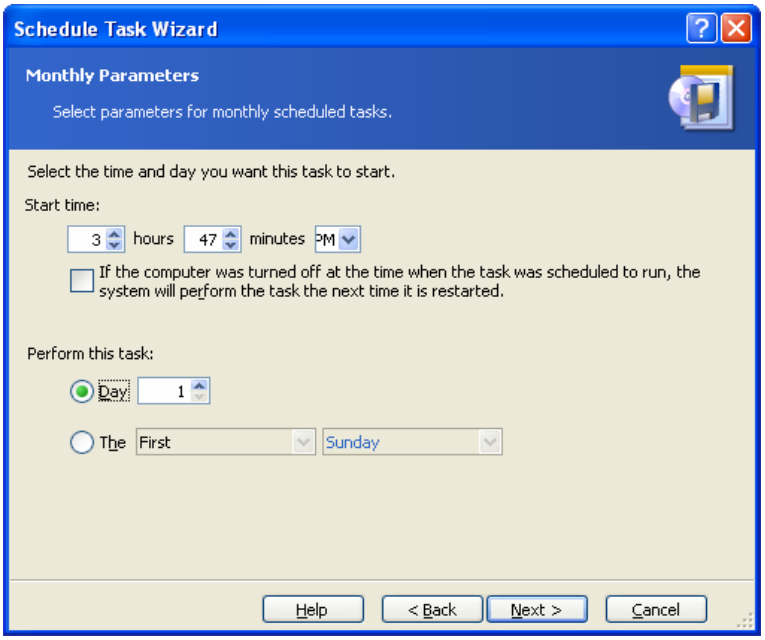
If the computer is off when the scheduled time comes, the task won't be performed, but you can force the missed task to launch at the next system startup by checking a box under the **Start time** fields.

Copyright © Acronis, Inc., 2000-2007

7.1.3 Setting up monthly execution

If you select monthly execution, set the **Start time** and days on which to execute the task:

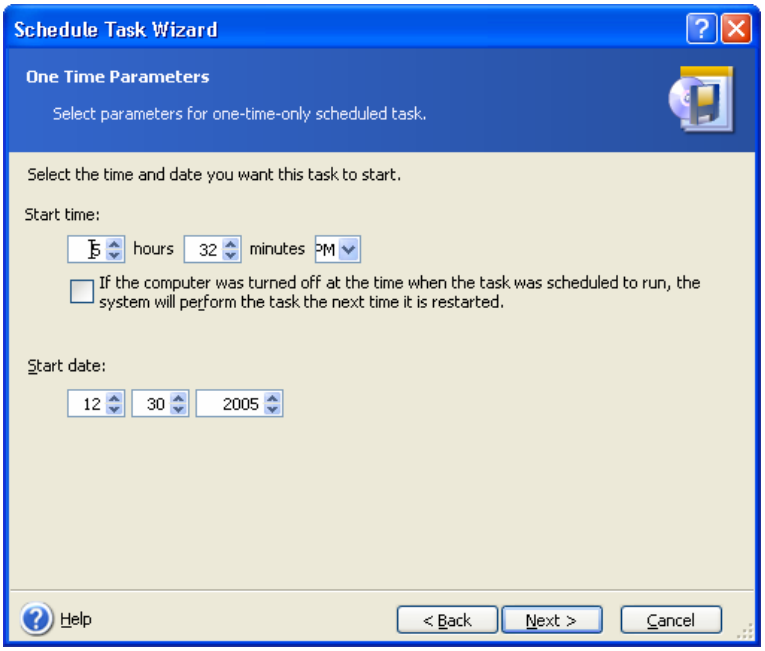
- **Day** – on the specified date
- **The <specify a day>** – on the specified day (e.g. on second Tuesday or fourth Friday); select this from the drop-down lists.



If the computer is off when the scheduled time comes, the task won't be performed, but you can force the missed task to launch at the next system startup by checking a box under the **Start time** fields.

7.1.4 Setting up one-time execution

If you select the one-time execution, set the **Start time** and date on which to execute the task:



Copyright © Acronis, Inc., 2000-2007

If the computer is off when the scheduled time comes, the task won't be performed, but you can force the missed task to launch at the next system startup by checking a box under the **Start time** fields.

7.2 Managing scheduled tasks

The task Status, Schedule, Last Run Time and Last Result are shown on the **Active tasks** pane of the main window. To view the other task details, right-click on its name.

There are two ways of changing the task parameters. Editing allows you to change any task parameters. This is performed in the same way as creation, however, the earlier selected options will be set, so you have to enter only the changes. To edit a task, select it and click **Edit the Selected Task** on the **Active tasks** toolbar.

If you want to change only periodicity and/or start time, click **Schedule the Selected Task** on the **Active tasks** toolbar. Then you will have to perform only scheduling steps, leaving the backup settings the same.

To delete a task with confirmation, select it and click **Delete the Selected Task** on the **Active tasks** toolbar.

To rename a task, select it, click **Rename the Selected Task** on the **Active tasks** toolbar, enter the new task name and press Enter.

Copyright © Acronis, Inc., 2000-2007

Chapter 8. Managing Acronis Secure Zone

The Acronis Secure Zone is a hidden partition for storing archives on the computer system itself. It is necessary for using Acronis Startup Recovery Manager. For more information about these functions, see *3.3 Acronis Secure Zone* and *3.4 Acronis Startup Recovery Manager*.

When you click **Manage Acronis Secure Zone** in the menu, the program searches for the zone on all local drives. If a zone is found, the wizard will offer to manage it (resize or change the password) or delete. If there is no zone, you'll be prompted to create it.

If the Acronis Secure Zone is password-protected, the proper password must be entered before any operation can take place.

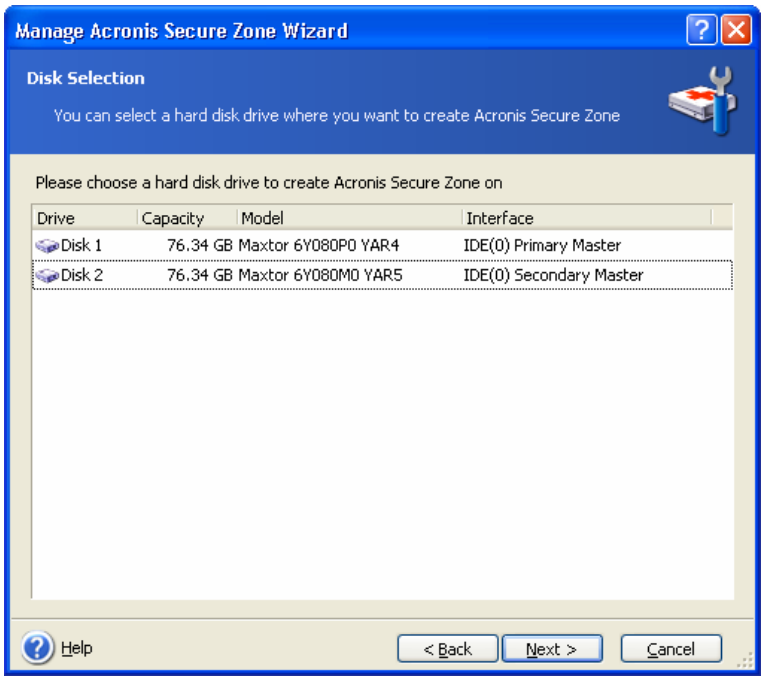
8.1 Creating Acronis Secure Zone

Acronis Secure Zone can be located on any internal disk. It is created using unallocated space, if available, or at the expense of free space on a partition. Partition resizing may require a reboot.

A computer can have only one secure zone. To create a zone on another disk, you must first delete an existing zone.

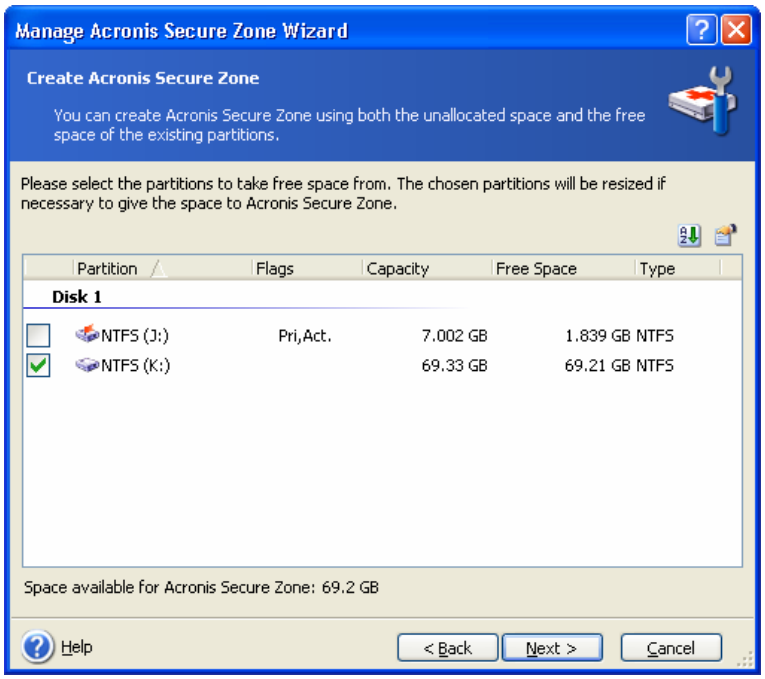
1. Before creating a zone, you may want to estimate its size. To do so, start a backup and select all data you are going to copy into it. At the **Set Backup Options** step, choose **Set the options manually**, then set the compression level. You will see the estimated full backup size (for disk/partition backup) or the approximate compression ratio (for file-level backup) with which you can calculate the estimated full backup size. Multiply this by about 1.5 to be able to create incremental or differential backups.

2. If there are several disks installed, select one on which to create Acronis Secure Zone.

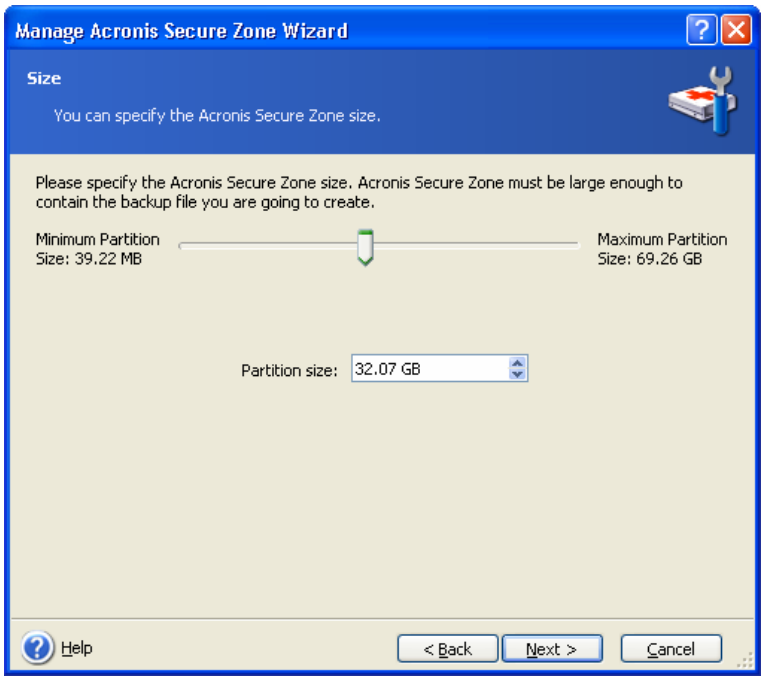


3. Select the partitions from which space will be used to create the zone.

Copyright © Acronis, Inc., 2000-2007



4. In the next window, enter the Acronis Secure Zone size or drag the slider to select any size between the minimum and maximum ones.



The minimum size is about 35MB, depending on the geometry of the hard disk. The maximum size is equal to the disk's unallocated space plus the total free space on all partitions selected at the previous step.

When creating the zone, the program will first use the unallocated space. If there is not enough unallocated space, the selected partitions will be decreased. Partition resizing may require a reboot.



Please keep in mind that reducing a system partition to the minimum size might prevent your operating system from booting.

Copyright © Acronis, Inc., 2000-2007

5. You can set a password to restrict access to the zone. The program will ask for the password at any operation relating to it, such as data backup and recovery, mounting images or validating archives on the zone, rescue boot with the F11 key, resizing and deleting the zone.



Acronis True Image Server repair or update will not affect the password. However, if the program is removed and then installed again while keeping the Acronis Secure Zone on the disk, the password to the zone will be reset.

6. After this, you will be prompted to activate Acronis Recovery Manager, which will enable you to start Acronis True Image Server at boot time by pressing F11 key. Or, you can activate this feature later from the main program window.

7. Then you will see a list of operations to be performed on partitions (disks).

After you click **Proceed**, Acronis True Image Server will start creating the zone. Progress will be reflected in a special window. If necessary, you can stop zone creation by clicking **Cancel**. However, the procedure will be canceled only after the current operation is finished.

Acronis Secure Zone creation might take several minutes or more. Please wait until the whole procedure is finished.

8.2 Resizing Acronis Secure Zone

1. When prompted by the wizard, select **Manage Acronis Secure Zone**.

2. Select to increase or decrease the zone. You might need to increase it to provide more space for archives. The opposite situation might arise if either partition lacks free space.

3. Select partitions from which free space will be used to increase Acronis Secure Zone or that will receive free space after the zone is reduced.

4. Enter the new size of the zone or drag the slider to select the size.

When increasing the Acronis Secure Zone, the program will first use unallocated space. If there is not enough unallocated space, the selected partitions will be decreased. Resizing of the partitions may require a reboot.



Please keep in mind that reducing a system partition to the minimum size may prevent your operating system from booting.

When reducing the zone, any unallocated space, if the hard disk has it, will be allocated to the selected partitions along with the space freed from the zone. Thus, no unallocated space will remain on the disk.

5. Next you will see a list of briefly described operations to be performed on partitions (disks).

After you click **Proceed**, Acronis True Image Server will start resizing the zone. Progress will be reflected in a special window. If necessary, you can stop the procedure by clicking **Cancel**. However, the procedure will be canceled only after the current operation is finished.

Zone resizing can take several minutes or longer. Please wait until the whole procedure is finished.

8.3 Changing the password for Acronis Secure Zone

To change or remove the password for Acronis Secure Zone you will have to delete the zone and create it again with the new password or without a password.

 Copyright © Acronis, Inc., 2000-2007

8.4 Deleting Acronis Secure Zone

1. When prompted by the wizard, select **Remove Acronis Secure Zone**.

2. Select the partitions to which you want to add the space freed from the zone. If you select several partitions, the space will be distributed proportionally to each partition.

3. Next, you will see a list of briefly described operations to be performed on partitions (disks).

After you click **Proceed**, Acronis True Image Server will start deleting the zone. Progress will be reflected in the opened window. If necessary, you can stop the procedure by clicking **Cancel**. However, the procedure will be canceled only after the current operation is finished.

Zone deletion might take several minutes or more. Please wait until the whole procedure is finished.



Acronis Secure Zone deletion will automatically disable Acronis Startup Recovery Manager if it is activated and destroy all backups stored in the zone.

Copyright © Acronis, Inc., 2000-2007

Chapter 9. Creating bootable media

9.1 Creating Acronis rescue media

You can run Acronis True Image Server on a bare metal or on a crashed computer that cannot boot. You can even back up disks on a non-Windows computer, copying all its data sector-by-sector into the backup archive. To do so, you will need bootable media with the standalone Acronis True Image Server version.

If you purchased the boxed product, you already have such a bootable CD, because the installation CD contains, besides the program installation files, the Acronis True Image Server standalone bootable version.

If you purchased Acronis True Image Server on the Web, you can create bootable media using the Bootable Media Builder. For this, you will need a CD-R/RW blank, DVD±R/RW blank, several formatted diskettes (the wizard will tell you the exact number), or any other media your server can boot from, such as a Zip drive.

Acronis True Image Server also provides the ability to create an ISO image of a bootable disk on the hard disk. If there is a Microsoft RIS server in your local network, an IT administrator can save the bootable data on this server as well. Then any networked computer will be able to boot Acronis True Image Server from the RIS package.

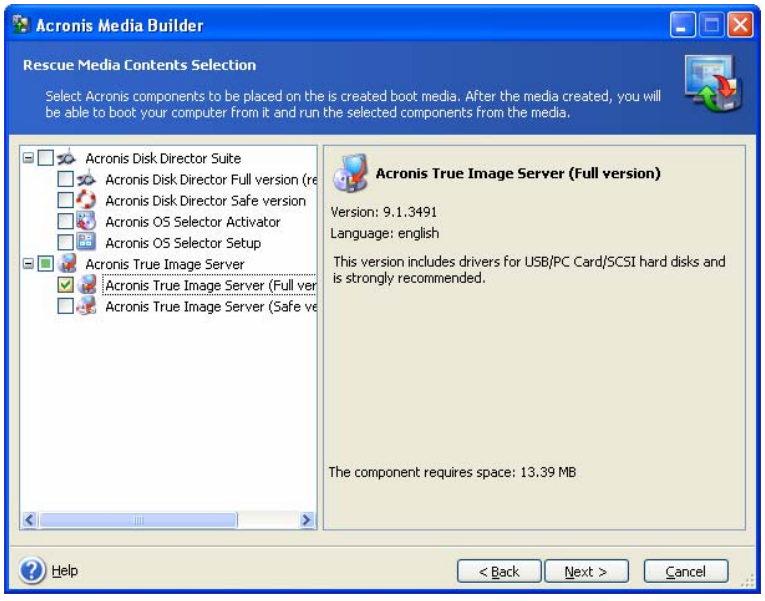
If you have other Acronis products, such as Acronis Disk Director Server, installed on your computer, you can include standalone versions of these programs on the same bootable disk as well.



If you have chosen not to install the Bootable Media Builder during Acronis True Image Server installation, you will not be able to use this feature.

1. Click **Create Bootable Rescue Media** on the toolbar or the sidebar, or select **Create Bootable Rescue Media** from the **Tools** menu. You can also run the Bootable Rescue Media Builder without loading Acronis True Image Server by selecting **Programs -> Acronis -> True Image -> Bootable Rescue Media Builder** from the **Start menu**.

2. Select which components of Acronis programs you want to place on the bootable media.



 Copyright © Acronis, Inc., 2000-2007

Acronis True Image Server offers the following components:

- **Acronis True Image Server full version**

Includes support of USB, PC Card and SCSI interfaces along with the storage devices connected via them, and therefore is highly recommended.

- **Acronis True Image Server safe version**

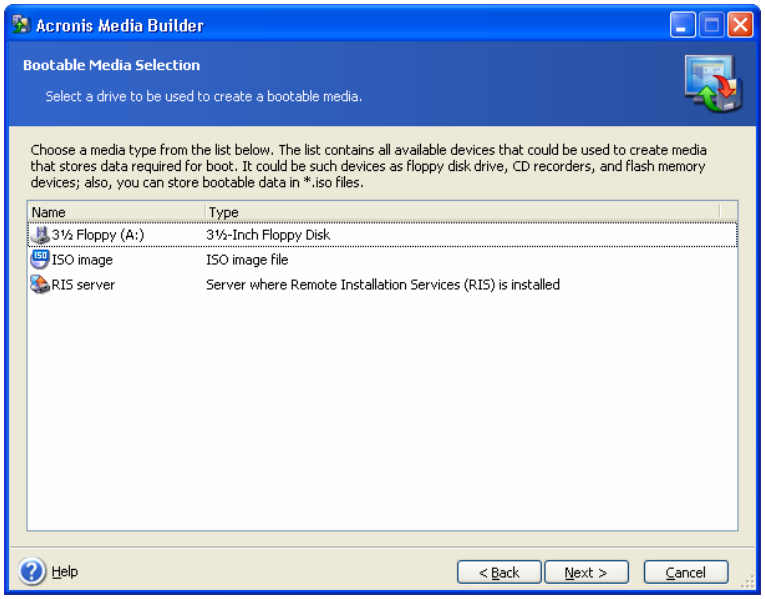
Does not include USB, PC Card, or SCSI drivers. Recommended for use in case of problems with running Full version

To find more about components of other Acronis products, see the respective user guides.

3. Select the type of bootable media (CD-R/RW, DVD±R/RW or 3.5" diskettes) to create. If your BIOS has this feature, you can create other bootable media such as removable USB flash drives. You can also choose to create a bootable disk ISO image or save bootable data on the RIS server.



When using 3.5" diskettes, you will be able to write on a diskette (or a set of the diskettes) only one component at a time (for example, Acronis True Image Server). To write another component, start Bootable Media Builder once again.



4. If you are creating a CD, DVD, diskettes or any removable media, insert the blank disk so the program can determine its capacity. If you chose to create a bootable disk ISO image, specify the ISO file name and the folder in which to place it. If you chose to save bootable data on a RIS server, specify the server and provide the user name and password to access it.

5. Next, the program will calculate how many blank disks are required (in case you have not chosen ISO or RIS) and give you time to prepare them. When you are finished, click **Proceed**.

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

9.2 Creating Win PE ISO with Acronis True Image Server

Windows Preinstallation Environment (Win PE) is a minimal Windows system based on the Windows XP Professional and the Windows Server 2003 kernels. Win PE is commonly used by OEMs and corporations for deployment, test, diagnostic and system repair purposes. Using Acronis True Image Server in Windows Preinstallation Environment allows combination

Copyright © Acronis, Inc., 2000-2007

of Acronis True Image Server and Win PE facilities and therefore provides more functionality than using only-Acronis bootable media. The Acronis Universal Restore add-on to Acronis True Image Server, if installed, will also be included in the ISO image.

To add the Acronis True Image Server plug-in to your Win PE distribution:

1. Make sure that **Acronis Bart PE plug-in** is installed on the computer (the default path is \Program Files\Acronis\TrueImageServer\BartPE). If not, run Acronis True Image Server setup file, choose **Modify** and install the Acronis Bart PE plug-in.

Acronis Win PE ISO Builder locates the Acronis Bart PE plug-in using the registry key **HKEY_LOCAL_MACHINE\SOFTWARE\Acronis\TrueImageServer\ Settings\BartPE,** created at the time of installation. If you moved the Bart PE plug-in to another folder after installation, change the key accordingly. If the above key is missing, the builder does not work.

2. Insert your Win PE distribution CD into the media drive of the computer. If you have a distribution copy on the hard disk, trace the exact path to it. The distribution files must be unpacked and allocated in a separate folder.

3. Select Programs -> Acronis ->Acronis True Image Server -> Acronis Win PE ISO Builder.

4. Specify a source folder for building Win PE ISO, i.e. the media drive with Win PE distribution or a folder with the distribution copy.

5. Locate a folder where you want to create Win PE ISO and provide the name for the ISO file.

6. Check your settings in the summary screen and click **Proceed**.

7. Use any third-party tool that will burn ISO images to CD or DVD.

 Copyright © Acronis, Inc., 2000-2007

Chapter 10. Other operations

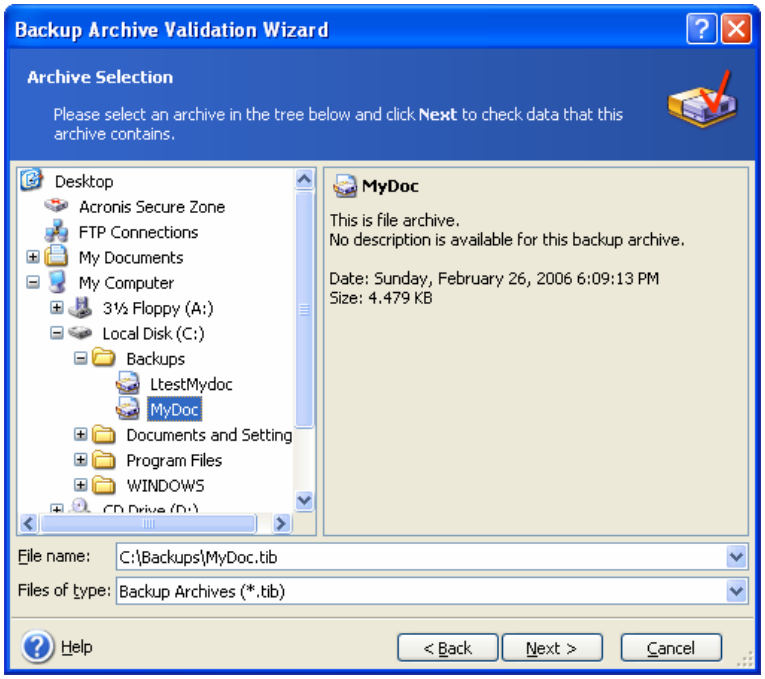
10.1 Validating backup archives

To be certain that your archives are not damaged, you can check their integrity.

1. To invoke the **Backup Archive Validation Wizard**, select **Validate Backup Archive** in the main window or in the **Tools** group or click **Validate Backup Archive** on the toolbar.

2. Click **Next**.

3. Select the archive to validate. The Acronis Secure Zone can be selected only as a whole because all its contents is considered as a single archive.



4. Click **Next**.

5. Clicking **Proceed** will launch the validation procedure. After the validation is complete, you will see the results window. You can cancel checking by clicking **Cancel**.

To check data from an archive containing incremental backups, you must have all incremental backup files and the initial full backup. If any successive backups are missing from the archive, the validation is not possible.

To check data from a differential backup, you must have the initial full backup as well.

However, if you created several differential or both incremental and differential backups based on the same full backup (and therefore, in the same folder), you will need ALL of these successive backups to validate the archive.

10.2 Operation results notification

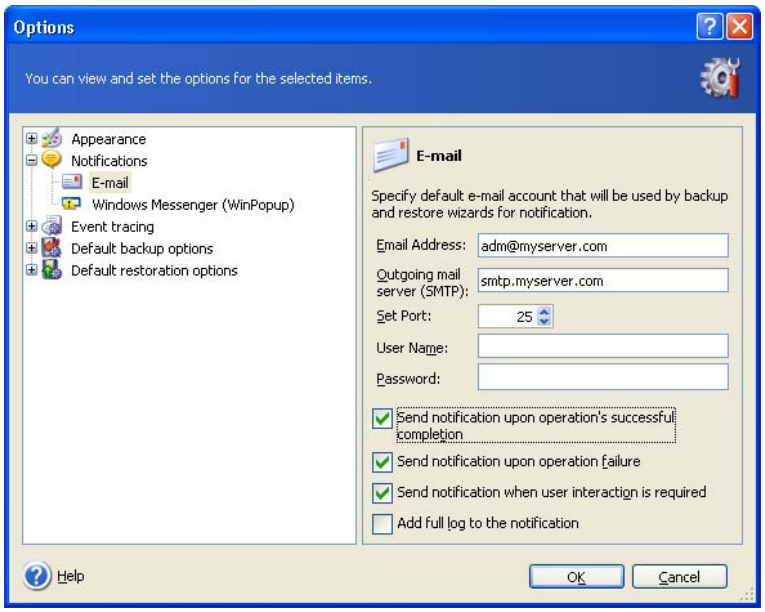
Sometimes a backup or restore procedure can last for 30 minutes or more. Acronis True Image Server can notify you when it is finished using the WinPopup service or via e-mail. The program can also duplicate messages issued during the operation or send you the full operation log after operation completion.

By default all notifications are **disabled**.

Copyright © Acronis, Inc., 2000-2007

10.2.1 Email notification

To set up e-mail notification, select **Tools -> Options -> Notifications -> E-mail**:



Provide the email address to which notifications will be sent and the outgoing SMTP server name. A user name and a password might also be needed if the SMTP server requires authentication.

Below in this window you can choose whether you want to get notifications:

- when the operation is completed successfully (check **Add full log to the notification** to add the full operation log to the message)

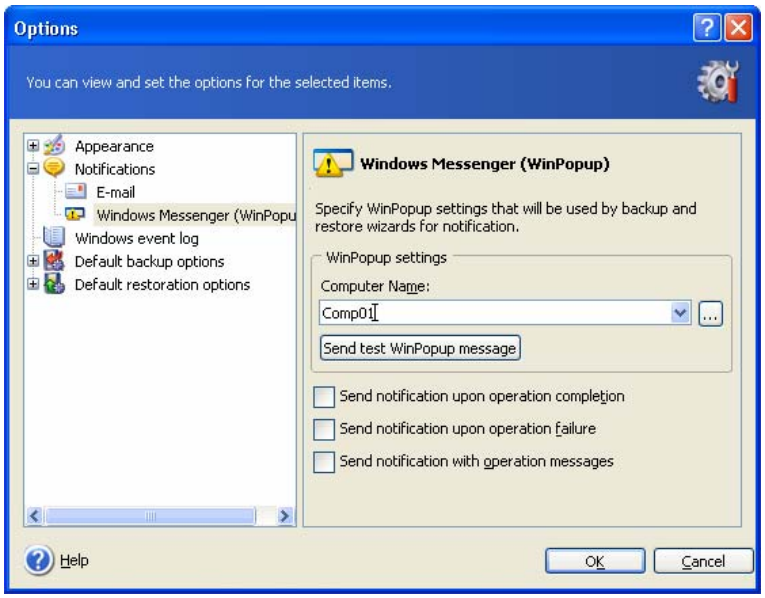
- when the operation failed (check **Add full log to the notification** to add the full operation log to the message)

- during the operation when user interaction is required.

10.2.2 WinPopup notification

To set up WinPopup notification, select **Tools -> Options -> Notifications -> Windows Messenger (WinPopup)**:

Copyright © Acronis, Inc., 2000-2007



Provide the name of the computer to which notifications will be sent.

Below in this window you can choose whether you want to get notifications:

- when the operation is completed successfully

- when the operation failed

- during the operation when user interaction is required.

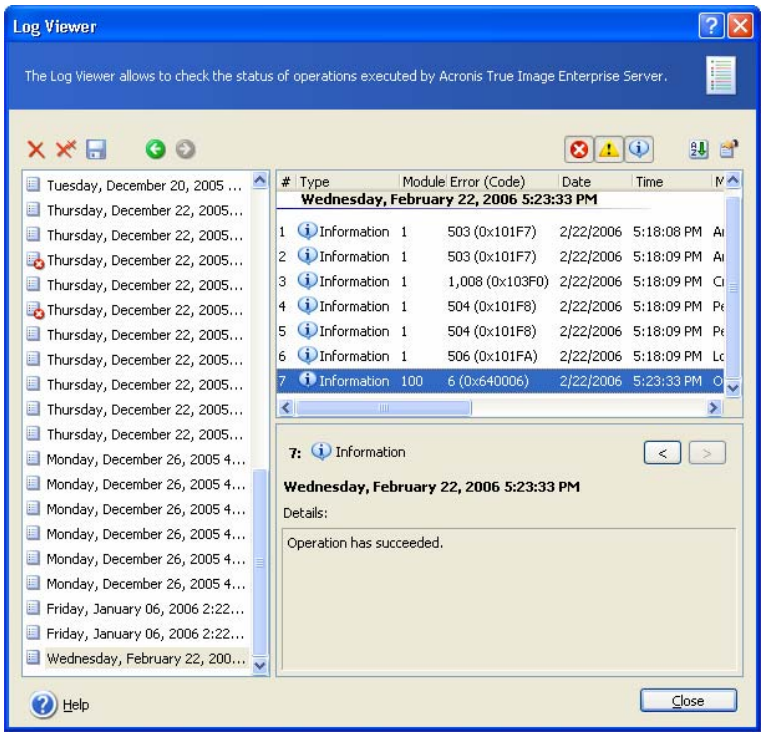
10.3 Viewing logs

Acronis True Image Server allows users to view its working logs. They can provide information about scheduled backup tasks results, including reasons for failure, if any.

To invoke the log window, select **Show log** on the toolbar or from the **Tools** menu.

The log browsing window contains two panes: the left one features the log list, while the right one shows selected log contents.

Copyright © Acronis, Inc., 2000-2007



The left panel can contain up to 50 logs. If there are more, you can browse the list using the **More** and **Less** buttons with the left and right arrows.

To delete a log, select it and click **Delete**.

If any step was terminated by an error, the corresponding log will be marked with a red circle with a white cross inside.

The right window features the list of steps contained in the selected log. The three buttons to the right control message filters: the white cross in the red circle filters error messages, the exclamation sign in a yellow triangle filters warnings, and the “i” in the blue circle filters information messages.

To select columns (step parameters) to display, right-click the headers line or left-click the **Choose Details** button. Then check the desired parameters.

To sort messages by a particular parameter, click its header (click again to reverse order) or the **Arrange Icons by** button (the second from the right) and select the desired parameter.

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

10.4 Event tracing

10.4.1 Windows event log

You can choose whether to store event log messages issued by Acronis True Image Server to Windows Event Log (to see this log, run **eventvwr.exe** or select **Control Panel -> Administrative tools -> Event Viewer -> Application**).

The default setting – **Do not save messages**

To change this setting, select **Tools -> Options -> Windows event log**.

An additional choice is available between recording **All events, Warnings and Errors**, or **Errors only**.

 Copyright © Acronis, Inc., 2000-2007

10.4.2 SNMP notifications

You can choose whether to send event log messages issued by Acronis True Image Server to computers, running SNMP (Simple Network Management Protocol) management applications.

The default setting – **Do not send messages to SNMP clients**

Having chosen **Send messages to SNMP clients**, specify a name or IP address of the client computer. Otherwise messages will be sent to all SNMP clients found in the local network.

An additional choice is available between sending **All events, Warnings and Errors**, or **Errors only** messages.

Acronis True Image Server provides the following SNMP objects to SNMP management applications:

1.3.6.1.4.1.24769.100.200.1.0 - string identifying a type of occurred event (Information, Warning, Error)

1.3.6.1.4.1.24769.100.200.2.0 - string containing text description of occurred event (it looks identically to messages published by Acronis True Image Server in its log).

10.5 Managing System Restore

Microsoft Windows System Restore tool, available in Windows XP and Windows 2003 Server operating systems, is used to undo harmful changes to the system without losing recently changed or created user data. To run the System Restore tool or find out more about it, select **Start -> Programs -> Accessories -> System Tools -> System Restore**. (Please be aware that the older Windows Server versions do not feature System Restore, therefore, under these operating systems **Manage System Restore** tool is unavailable.)

If you run Acronis True Image Server regularly, this feature in your operating system is redundant. You can turn it off, freeing up to 12% of your hard disk space, directly from Acronis True Image Server.

1. To invoke the **System Restore Management Wizard**, click the **Manage System Restore** icon in the main program window.

2. Click **Next**.

3. Now you can turn on/off System Restore on all your hard disk(s) partitions at once or do it individually for each partition.



Note that you cannot turn off System Restore on the system disk (partition), yet keep it on other disks (partitions).

4. Click **Next**.

5. The program lists the configured changes. You can click **Back** to choose different settings. If you click **Cancel**, all new settings will be lost. Click **Proceed** to apply the changes.



If you turn off System Restore on any disk or partition, all previously created restore points for that disk (partition) will be deleted. Please make sure you do not need those restore points before proceeding.

Chapter 11. Mounting an image as a virtual drive

Acronis True Image Server can **mount partition images as virtual drives**, thus letting you access them as though they were physical drives. This 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.

Please keep in mind that, though both file archives and disk/partition images have a default ".tib" extension, only **partition images** can be mounted. If you want to view file archive contents, use the Restore Data Wizard (see *6.2 Restoring files and folders from file archives*, steps 1-9).

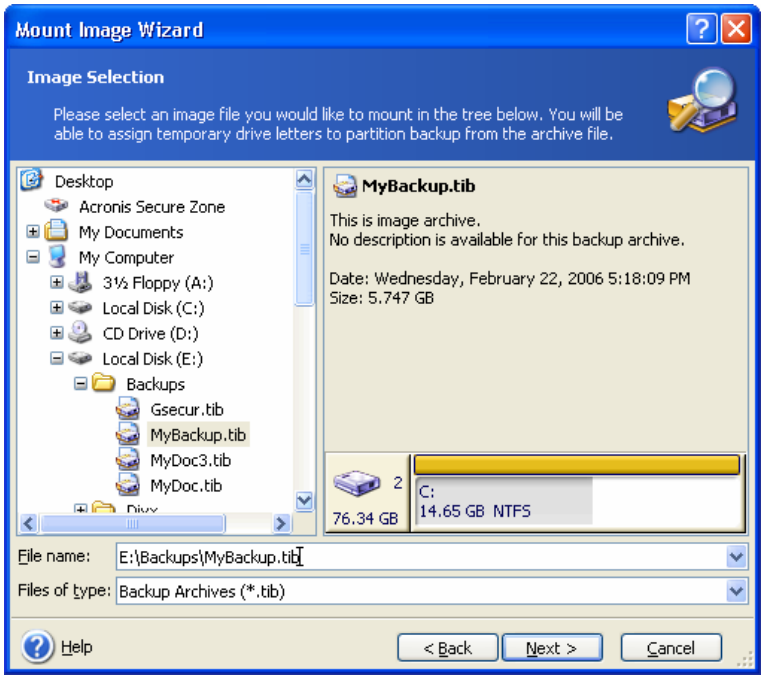
The current version of Acronis True Image Server can mount an image archive only if all its volumes reside in the same directory. If your archive spans several CD-R/RW discs and you wish to mount the image, you should copy all volumes to a hard disk drive or network drive.

11.1 Mounting an image

1. Invoke the **Mount Image Wizard** by clicking on the **Mount Image** operation icon in the main program window.

2. Click **Next**.

3. Select the archive from the drives tree. If the archive is located in Acronis Secure Zone, select it to choose the archive at the next step.



If you added a comment to the archive, it will be displayed to the right of the drives tree. If the archive was protected with a password, Acronis True Image Server will ask for it. Neither

Copyright © Acronis, Inc., 2000-2007

the partitions layout, nor the **Next** button will be enabled until you enter the correct password.

4. Click **Next**.

5. If you selected an archive containing incremental images, Acronis True Image Server will suggest that you select one of the successive incremental images by its creation date/time. Thus, you can explore the partition state to a certain moment.



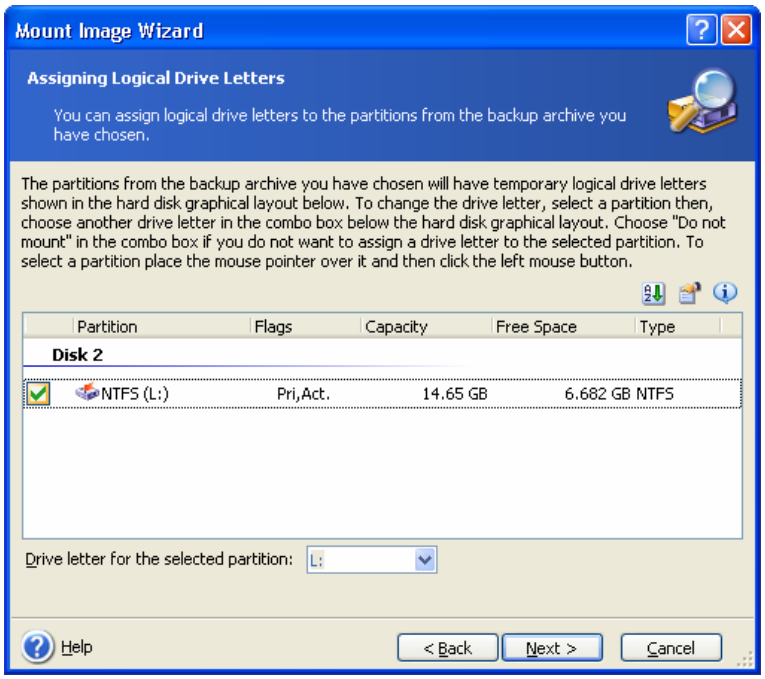
To mount an incremental image, you must have all previous incremental images and the initial full image. If any of the successive images are missing, mounting is not possible.

To mount a differential image, you must have the initial full image as well.

6. Click **Next**.

7. Select a partition to mount as a virtual disk. (Note that you cannot mount the entire disk.)

You can also select a letter to be assigned to the virtual disk from the **Drive letter** drop-down list. If you do not want to assign a letter to the virtual drive, select **Do not assign**.



8. Click **Next**.

9. Select whether you want to mount image in **Read-only** or **Read/Write** mode.

10. Click **Next**.

11. If you select **Read/Write** mode, the program assumes that the connected image will be modified, and creates an incremental archive file to capture the changes. It is strongly recommended that you list the forthcoming changes in the comment to this file.

12. The program displays a summary containing a single operation. Click **Proceed** to connect the selected partition image as a virtual disk.

13. After the image is connected, the program will run Windows Explorer, showing its contents. Now you can operate with files or folders as if they were located on a real disk.

You can connect multiple partition images. If you want to connect another partition image, repeat the procedure.

Copyright © Acronis, Inc., 2000-2007

11.2 Unmounting an image

We recommend that you unmount the virtual disk after all necessary operations are finished, as keeping up virtual disks takes considerable system resources. If you do not, the virtual disk will disappear after your server is turned off.

To disconnect the virtual disk, click **Unmount Image** and select the disk to unmount. You can also unmount the disk in Windows Explorer by right-clicking on its icon and selecting **Unmount**.

 Copyright © Acronis, Inc., 2000-2007

Chapter 12. Transferring the system to a new disk

12.1 General information

Sooner or later any computer user finds out that the hard disk is too small. If you just don't have space for more data, you can add another disk just for data storage as described in the following chapter.

However, 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. In this case, you have to transfer the system to a higher-capacity hard disk.

To transfer the system, you must first install the disk in the server. If a server doesn't have a bay for another hard disk, you can temporarily install it in place of your CD-ROM. If that is not possible, you can clone a hard disk by creating its image and restoring it to a new hard disk with larger partitions.

There are two transfer modes available: automatic and manual.

In the automatic mode, you will only have to take some simple actions to transfer all the data, including partitions, folders and files, to a newer disk, making it bootable if the original disk was bootable.

There will be only one difference between these disks – partitions on the newer disk will be larger. Everything else, including the installed operating systems, data, disk labels, settings, software and everything else on the disk, will remain the same.



This is the only result available in the automatic mode. The program can only duplicate the original disk layout to the new one. To obtain a different result, you will have to answer additional questions about cloning parameters.

The manual mode will provide more data transfer flexibility.

1. You will be able to select the method of partition and data transfer:

- as is
- new disk space is proportionally distributed between the old disk partitions
- new disk space is distributed manually

2. You will also be able to select operations to perform on the old disk:

- leave partitions (and data!) on the old disk
- remove all information from the old disk
- create new partitions on the old disk (and remove all the older information)



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 using the appropriate operating system tools.

12.2 Security

Please note the following: if the power goes out 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.

Copyright © Acronis, Inc., 2000-2007

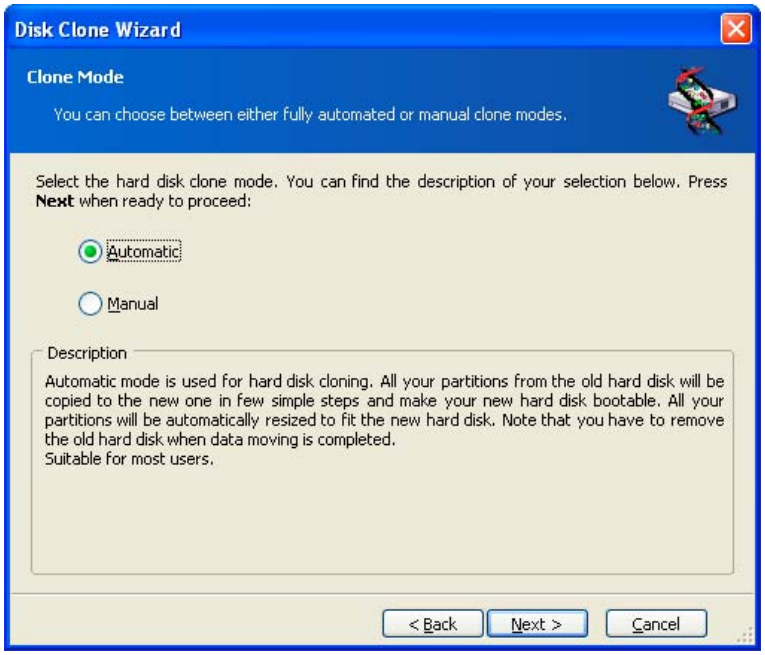
No data will be lost because the original disk is only being read (no partitions are changed or resized) until data transfer is completed.

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 server boots up from it and all applications work.

12.3 Executing transfers

12.3.1 Selecting Clone mode

You will see the **Clone mode** window just after the welcome window.



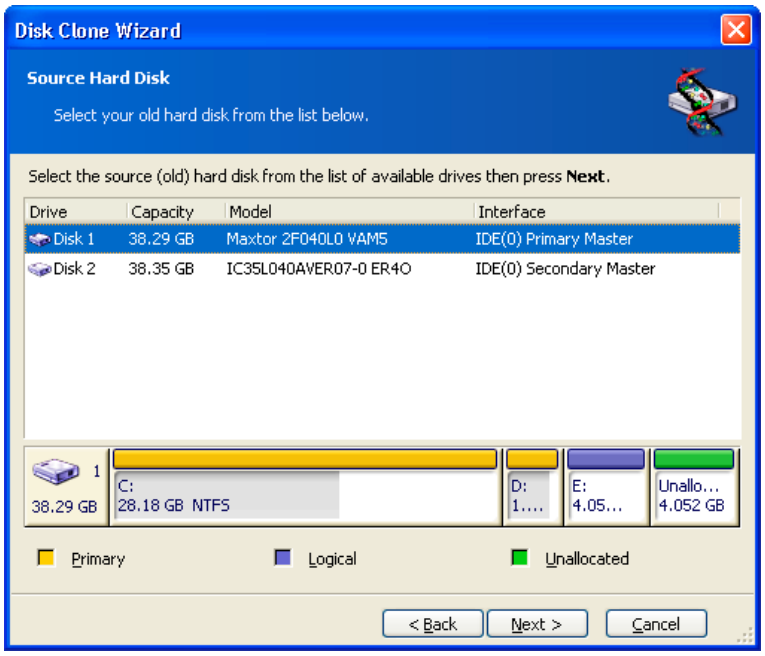
We recommend using automatic mode in most cases. The manual mode can be useful if you need to change the disk partition layout.

If the program finds two disks, one partitioned and another unpartitioned, it will automatically recognize the source disk as the partitioned disk and the destination disk as the unpartitioned disk, so the next two steps will be bypassed.

12.3.2 Selecting source disk

If the program finds several partitioned disks, it will ask you which is the source (i.e. the older data disk).

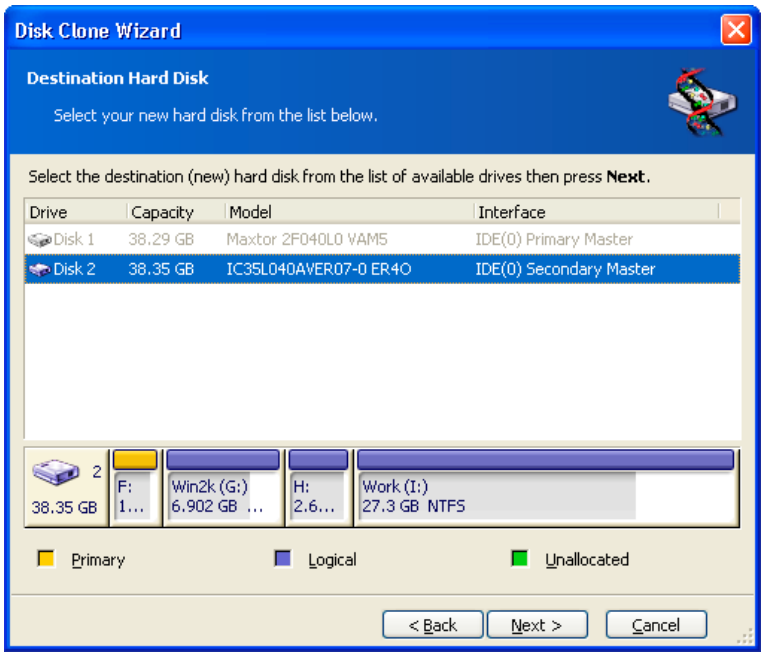
Copyright © Acronis, Inc., 2000-2007



You can determine the source and destination using the information provided in this window (disk number, capacity, label, partition and file system information).

12.3.3 Selecting destination disk

After you select the source disk, you have to select the destination where the disk information will be copied.



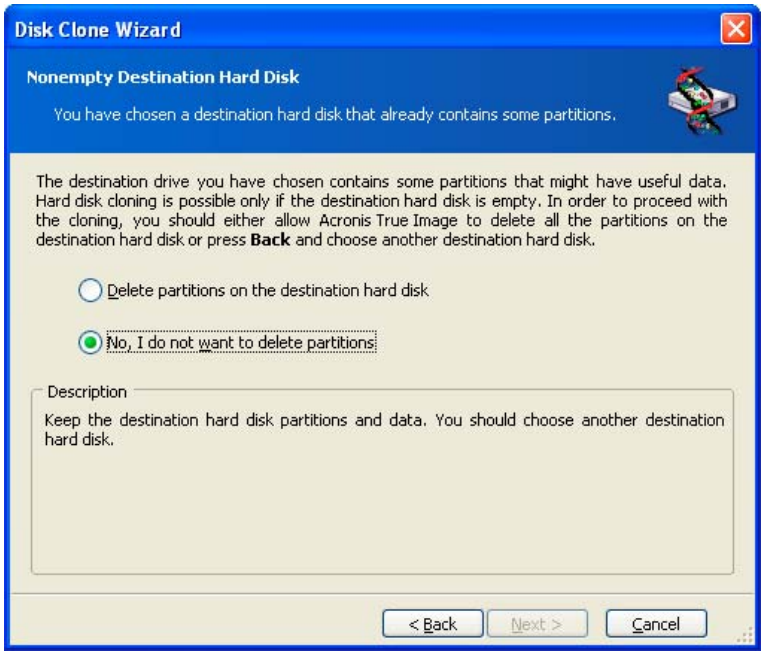
The previously selected source becomes grayed-out and disabled for selection.

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

Copyright © Acronis, Inc., 2000-2007

12.3.4 Partitioned destination disk

At this point, the program checks to see if the destination disk is free. If not, you will be prompted by the **Nonempty Destination Hard Disk** window stating that the destination disk contains partitions, perhaps with data.



You will have to select between:

- **Delete partitions on the destination hard disk** – all existing partitions will be deleted during cloning and all their data will be lost.
- **No, I do not want to delete partitions** – no existing partition will be deleted, discontinuing the cloning operation. You will only be able to cancel this operation and return to select another disk.

To continue, select the first choice and click **Next**.

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.**

12.3.5 Old and new disk partition layout

If you selected the automatic mode before, the program will ask you for nothing further. You will see the window graphically illustrating information (as rectangles) 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. Partition types — primary, logical — and unallocated space are marked with different colors.

Next you will see the cloning summary.

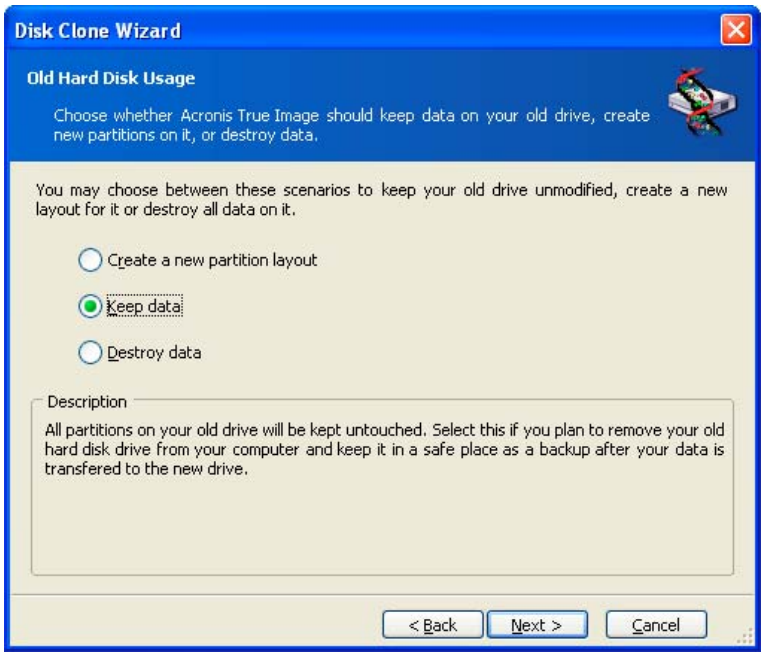
12.3.6 Old disk data

If you selected the manual mode, the program will ask you what to do with the old disk:

- **Create a new partition layout** – All existing partitions and their data will be deleted (but they will also be cloned to the new disk, so you won't lose them)

 Copyright © Acronis, Inc., 2000-2007

- **Keep data** – leave the old disk partitions and data intact
- **Destroy data** – destroy all data on the old disk.



If you are going to sell or give away your old disk, we recommend that you make sure you destroyed the data on it.

If you are going to keep it for data storage, you can create a new partition layout on it. In this case, the disk will be ready right after cloning is complete.

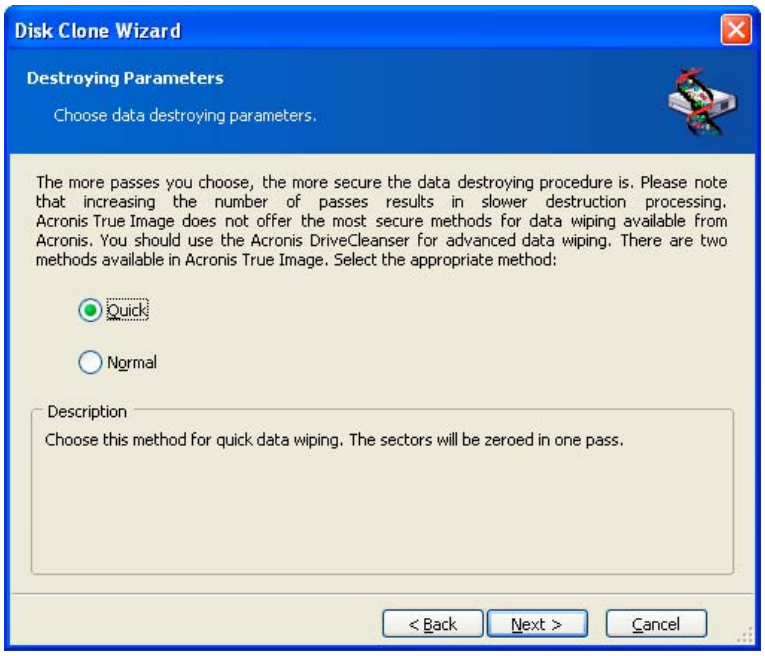
To protect yourself from unforeseen consequences, it would be better to leave the old disk data intact, as you will be able to delete it later.

12.3.7 Destroying the old disk data

If you elected to destroy the old disk data in the previous step, you will have to select the destruction method now:

- **Quick** – quick one-pass destruction
- **Normal** – multipass destruction

Copyright © Acronis, Inc., 2000-2007



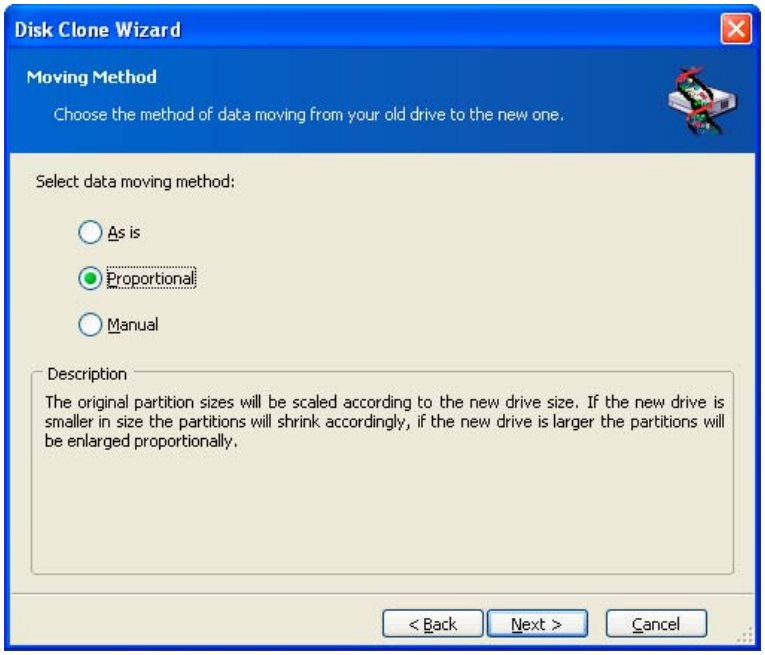
The second method takes more time, but makes it impossible to recover data afterwards, even with special equipment.

The first method is less secure, but is still suitable for most cases.

12.3.8 Selecting partition transfer method

Acronis True Image Server will offer you the following data transfer methods:

- **As is**
- **Proportional** – the new disk space will be proportionally distributed among cloned partitions
- **Manual** – you will specify the 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

 Copyright © Acronis, Inc., 2000-2007

unallocated. Further, 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 inexpedient, as they leave much unallocated space on the new disk. Using the "as is" method, Acronis True Image Server 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 old disk partitioning window, or the disk partition layout window (see below).

12.3.9 Partitioning the old disk

If you selected **Create a new partition layout** earlier in the process, it is now time to repartition your old disk.

During this step, you will see the current disk partition layout. Initially, the disk has unallocated space only. This will change when you create new partitions.

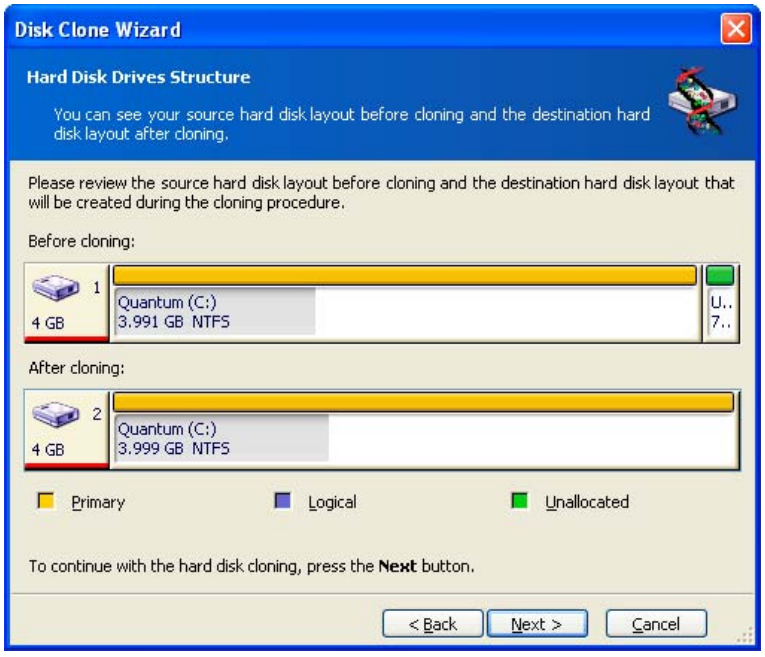
Having completed the required steps, you will add a new partition. To create another one, simply repeat those steps.

If you make a mistake, click **Back** to redo.

After you create the necessary partitions, uncheck the **Create new partition in unallocated space** box and click **Next**.

12.3.10 Old and new disk partition layouts

In the next window, you will see rectangles indicating the source hard disk, including its partitions and unallocated space, as well as the new disk layout.



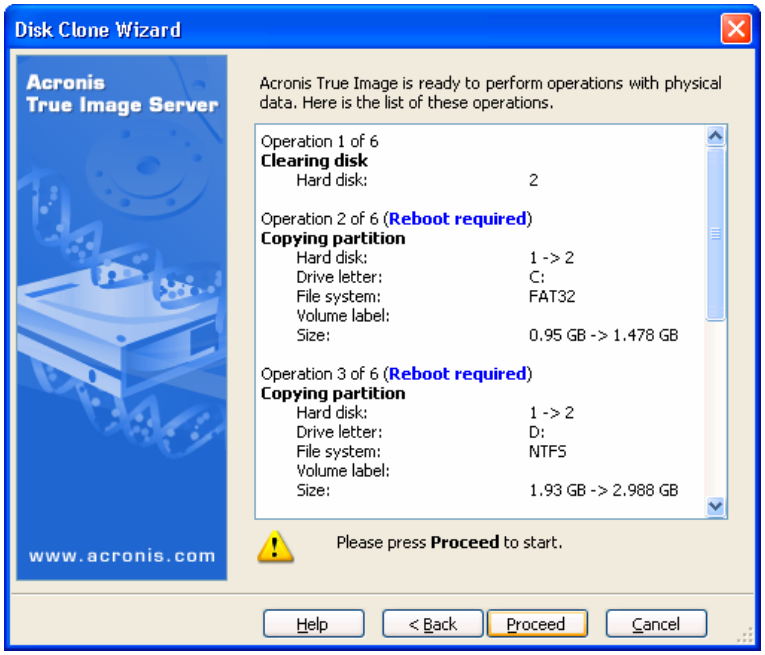
Along with the hard disk number, you will also see disk capacity, label, partition and file system information. Different partition types, including primary, logical and unallocated space are marked with different colors.

Copyright © Acronis, Inc., 2000-2007

If you selected manual partition creation earlier, the partition layout will look different. This partitioning method is described below.

12.3.11 Cloning summary

In the next window, you will see a list of briefly described operations to be performed on the disks.



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.

Cloning a non-system disk or a disk containing an operating system, but one that is not currently active, will proceed without reboot. After you click **Proceed**, Acronis True Image Server 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 operation is complete, you will see the results message.

12.4 Cloning with manual partitioning

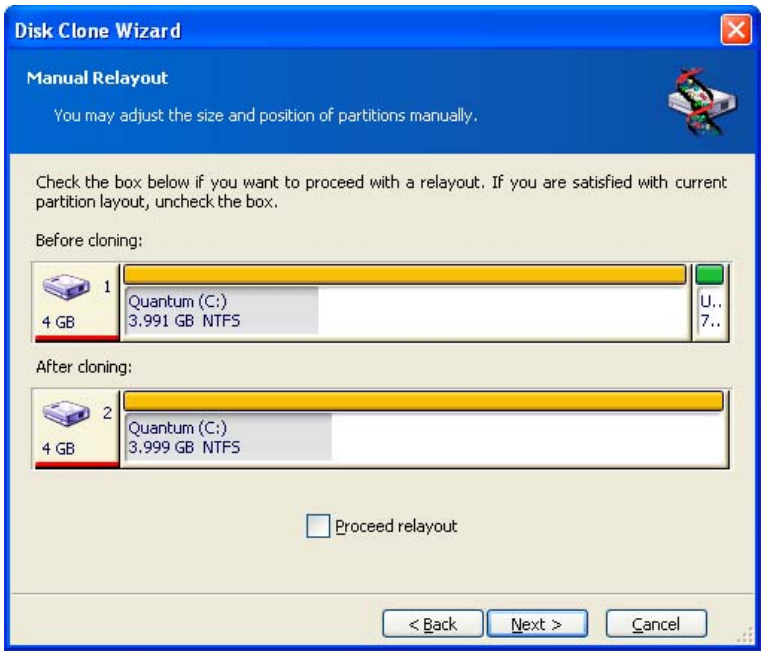
12.4.1 Old and new disk partition layouts

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

In the next window, you will see 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 will see disk capacity, label, partition and file system information. Different partition types, including primary, logical and unallocated space are marked with different colors.

Copyright © Acronis, Inc., 2000-2007



To resize either partition, check the **Proceed relayout** box. If you are satisfied with the partition layout shown, uncheck this box (if checked). Clicking **Next**, you will proceed to the cloning summary window.



Be careful! Clicking **Back** in this window will reset all size and location changes that you've selected, so you will have to specify them again.

First, select a partition to resize. It will be underlined in red.

Resize and relocate it on the next step.

You can do this by entering values to **Unallocated space before, Partition size, Unallocated space after** fields, by dragging partition borders or the partition itself.

If the cursor turns to 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 to 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 **Next**. You will be taken two steps back to the partition layout. You might have to perform some more resizing and relocation before you get the layout you need.

Copyright © Acronis, Inc., 2000-2007

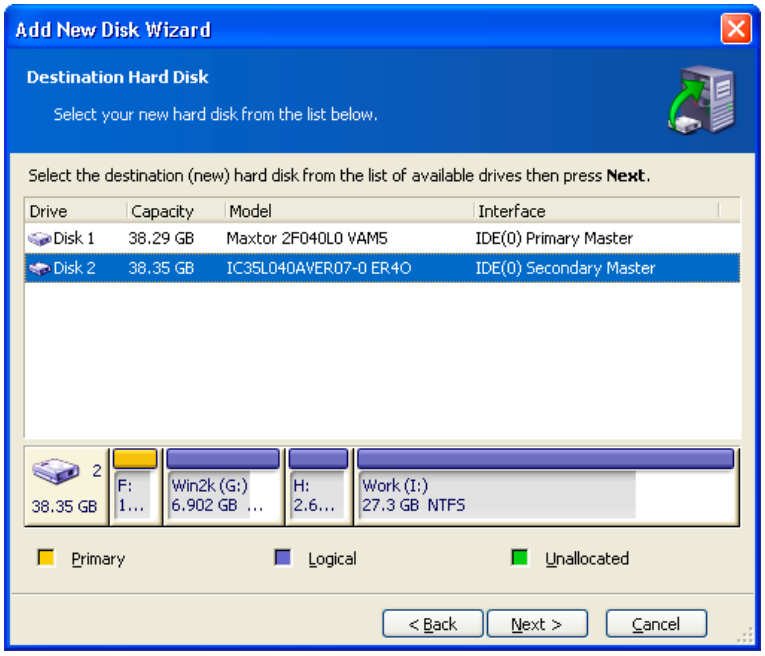
Chapter 13. Adding a new hard disk

If you don't have enough space for your data, 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 server has space for another disk, it would be easier to add a data disk drive than to clone a system one.

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

13.1 Selecting a hard disk

Select the disk that you've added to the server.





This window might be bypassed if the program detects the new disk itself. In this case, you will immediately proceed to the new partition creation.

If there are any partitions on the new disk, they must be deleted first.

Select **Delete partitions on the destination hard disk** and click **Next** to continue.

13.2 Creating new partitions

Next you will see the current partition layout. Initially, all disk space will be unallocated. This will change after you add new partitions.

To create a partition, select **Create new partition in unallocated space** and click **Next** to perform steps required by the partition creation wizard.

You will be prompted to set the new partition location and size. You can do this by both entering values to **Unallocated space before, Partition size, Unallocated space after** fields, by dragging partition borders or the partition itself.

If the cursor turns to 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 size. If the cursor turns to four arrows, it is pointed at the partition, so you can move it to the left or right (if there is

Copyright © Acronis, Inc., 2000-2007

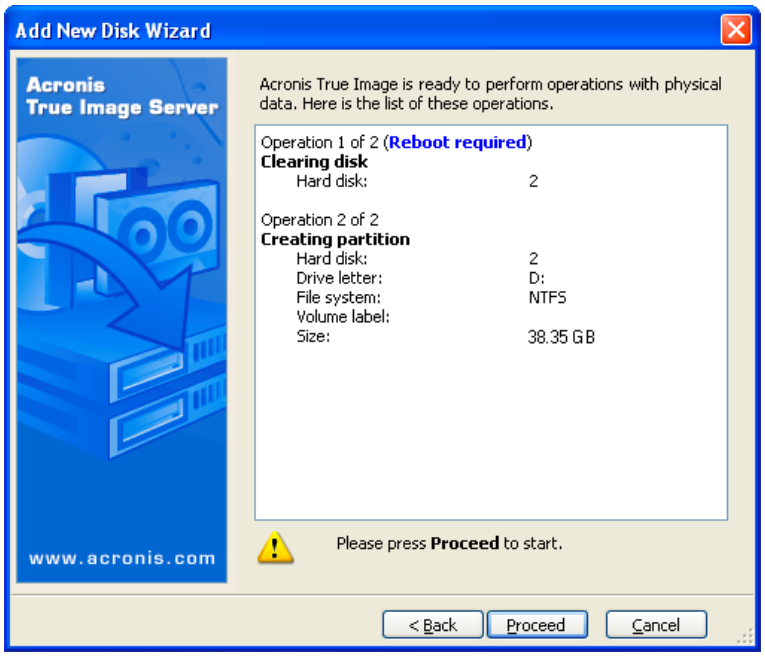
unallocated space near it). Having provided the new partition location and size, you can input a label for the new partition.

If you make a mistake at partitioning, click **Back** to redo the process.

Finally, you will be taken back to the partition layout screen. Check the resulting partitions layout and start creating another partition or move on by unchecking **Create new partition in unallocated space** and clicking **Next**.

13.3 Disk add summary

The disk add summary contains a list of operations to be performed on disks.



After you click **Proceed**, Acronis True Image Server will start creating and formatting new partitions, 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 disk add procedure.

Copyright © Acronis, Inc., 2000-2007

Chapter 14. Command-line mode and scripting

Acronis True Image Server supports the command-line mode and enables backup automation by executing XML scripts.

The command-line mode functionality is somewhat limited as compared to the GUI mode. You will not be able to perform operations that require reboot of the system, such as restore a system partition or clone system drive. These operations can be done through the GUI only.

As for scripting, it is intended only for backup.

14.1 Working in the command-line mode

An administrator might need a console interface in some situations. Acronis True Image Server supports this mode with **TrueImageCmd.exe** utility. The file is located in a folder where Acronis True Image Server has been installed, by default it is

C:\Program Files\Acronis\TrueImageServer.

14.1.1 Supported commands

TrueImageCmd has the following format:

```
trueimagecmd /command /option1 /option2…
```

Commands may be accompanied with options. Some options are common for most trueimagecmd commands, other are specific for individual commands. Below is a list of supported commands and compatible options.

Command	Common Options	Specific Options
create Creates an image of specified disks and partitions	/filename:[file name] /password:[password] /asz /net_user:[username] /net_password:[password] /incremental /differential /compression:[0…9] /split:[size in MB] /oss_numbers /reboot /log:[file name]	/harddisk:[disk number] /partition:[partition number] /file_partition:[partition letter] /raw /progress:[on|off]
filebackup Backs up specified files and folders	/filename:[file name] /password:[password] /asz /net_user:[username] /net_password:[password] /incremental /differential /compression:[0…9] /split:[size in MB] /reboot /log:[file name]	/include:[names] /exclude_names:[names] /exclude_masks:[masks] /exclude_system /exclude_hidden
deploy Restores disks and partitions from an image	/filename:[file name] /password:[password] /asz /index:N /net_user:[username] /net_password:[password] /oss_numbers /reboot /log:[file name]	/harddisk:[disk number] /partition:[partition number] /target_harddisk:[disk number] /target_partition:[partition number] /file_partition:[partition letter] /start:[start sector] /fat16_32 /size:[partition size in sectors] /type:[active|primary|logical] /preserve_mbr

 Copyright © Acronis, Inc., 2000-2007

		When using the Acronis Universal Restore option:
		`/ur_path:[path]`
		`/ur_username:[user]`
		`/ur_password:[pwd]`
		`/ur_driver:[inf-filename]`

filerestore
Restores files and folders from a file archive
	`/filename:[file name]`
	`/password:[password] /asz`
	`/index:N`
	`/net_user:[username]`
	`/net_password:[password]`
	`/reboot /log:[file name]`
		`/target_folder:[target folder]`
		`/overwrite:[older|never|always]`
		`/restore_security:[on|off]`
		`/original_date:[on|off]`

verify
Verifies the archive data integrity
	`/filename:[file name]`
	`/password:[password] /asz`
	`/net_user:[username]`
	`/net_password:[password]`
	`/reboot /log:[file name]`	

list
Lists available drives and partitions. With the `filename` option, lists the image contents
	`/password:[password]`
	`/index:N /asz`
	`/net_user:[username]`
	`/net_password:[password]`
		`/filename:[file name]`

explore
Connects an image as a virtual drive
	`/filename:[file name]*`
	`/password:[password] /asz`
	`/index:N`
	`/net_user:[username]`
	`/net_password:[password]`
	`/log:[file name]`
	*for a split image, the name of the last created file
		`/partition:[partition number]`
		`/letter:X`

unplug Disconnects the image connected as a virtual drive		`/letter:X /letter:all`

asz_create
Creates the Acronis Secure Zone on the selected drive
	`/oss_numbers /reboot`
	`/log:[file name]`
		`/harddisk:X`
		`/partition:[partition number]`
		`/size:[ASZ size in sectors]`
		`/asz_activate`

asz_activate Activates Acronis Startup Recovery Manager.	`/password:[password]`	
asz_content Displays the Acronis Secure Zone size, free space and contents	`/password:[password]`	

asz_delete Deletes the Acronis Secure Zone	/password:[password] /oss_numbers /reboot /log:[file name]	/partition:[partition number]
clone Clones a hard disk	/reboot	/harddisk:[disk number] /target_harddisk:[disk number]
help Shows usage		

14.1.2 Common options (options common for most trueimagecmd commands)

Option	Description	Archive location
Access to archives		
/filename:[file name]	Archive name	Other than ASZ
/password:[password]	Specify the password for the archive (if required)	Other than ASZ
	Specify the password for the ASZ (if required)	ASZ
/asz:[number of archive]	Addresses to Acronis Secure Zone and selects the archive (a full backup with or without increments). To get the archive number, use /asz_content	ASZ
/index:N N = Number of the backup in an archive: 1 = basic full backup 2 = 1st increment... and so on 0 (default) = latest increment	Selects a backup in a sequence of incremental backups inside the archive. To get a backup index from ASZ, use /asz_content	Any
/net_user:[username]	Specify a user name for network drive access	Network drive
/net_password:[password]	Specify a password for network drive access	Network drive
Backup options		
/incremental	Set the backup type to incremental. If not specified or there is no basic full backup, a full backup will be created	Any
/differential	Set the backup type to differential. If not specified or there is no basic full backup, a full backup will be created	Any

Copyright © Acronis, Inc., 2000-2007

/compression:[0…9]	Specify the data compression level. It ranges from 0 to 9 and is set to 3 by default	Any
/split:[size in MB]	Split the backup into parts of the specified size	Other than ASZ
General options		
/oss_numbers	Declares that numbers of partitions in the `/partition` option are adjusted for MBR partition table rather than be simple ascending numbers. This means that primary partitions have numbers 1-1, 1-2, 1-3 (and 1-4 if there are not logical partitions on the disk) and logical partitions numbers start with 1-4. For example, if the disk has one primary and two logical partitions, their numbers can appear as follows: `/partition:1-1,1-2,1-3` or `/oss_numbers /partition:1-1,1-4,1-5`	Any
/reboot	Reboot the server after the operation is completed	Any
/log:[file name]	Create a log file of the current operation with the specified file name	Any

14.1.3 Specific options (options specific for individual trueimagecmd commands)

Option	Description
create	
`/harddisk:[disk number]`	Specifies the hard disks to include into the image file by numbers. The list of available hard disks is provided by the `/list` command. An image may contain data of more than one hard disk. In that case, separate disk numbers by commas, e.g.: `/harddisk:1,3`

`/partition:[partition number]`	Specifies the partitions to include into the image file by numbers. The list of available partitions is provided by `/list`. Partition numbers are specified as <disk number>-<partition number>, e.g.:
	`/partition:1-1,1-2,3-1`
	Dynamic volumes are specified by letters, e.g.:
	`/partition:C,E`

`/file_partition:[partition letter]`	Specifies the partition where the image file will be stored (by letter or number). This option is used with `/filename:[file_name]`. In that case the file name must be specified without drive letter or root folder. For example: `/file_partition:D /filename:"\1.tib"`

`/raw`	Use this option to create an image of a disk (partition) with unrecognized or unsupported file system. This will copy all disk/partition contents sector-by-sector. Without this option only the sectors containing useful system and user data are imaged.
`/progress:[on | off]`	Shows/hides the progress information (percent completed). It is shown by default.
filebackup	
`/include:[names]`	Files and folders to be included in the backup (semicolon separated). For example: `/include:E:\Workarea\MyProject`
`/exclude_names:[names]`	Files and folders to be excluded from the backup (semicolon separated). For example: `/exclude_names:E:\Workarea\MyProject\111.doc;E:\Workarea\MyProject\Old`
`/exclude_masks:[masks]`	Applies masks to select files to be excluded from the backup. Use the common Windows masking rules. For example, to exclude all files with extension .exe, add ***.exe** mask. **My???.exe** mask will reject all .exe files with names consisting of five symbols and starting with "my". `/exclude_masks:*.txt;111.*`
`/exclude_system`	Excludes all system files from the backup.
`/exclude_hidden`	Excludes all hidden files from the backup.
deploy	
`/file_partition:[partition letter]`	Specifies the partition where the image file is stored (by letter or number). This option is used with /filename:file_name. In this case the file name must be specified without drive letter or root folder. For example: `/file_partition:D /filename:"\1.tib"`
`/harddisk:[disk number]`	Specifies the hard disks to restore by numbers.
`/partition:[partition number]`	Specifies the partitions to restore by numbers.
`/target_harddisk:[disk number]`	Specifies the hard disk number where the image will be restored.
`/target_partition:[partition number]`	Specifies the target partition number for restoring a partition over the existing one. If the option is not specified, the program assumes that the target partition number is the same as the partition number specified with the `/partition` option.
`/start:[start sector]`	Sets the start sector for restoring a partition to the hard disk unallocated space.
`/size:[partition size in sectors]`	Sets the new partition size (in sectors).
`/fat16_32`	Enables the file system conversion from FAT16 to FAT32 if the partition size after recovery is likely to exceed 2GB. Without this option, the recovered partition will inherit the file system from the image.

Copyright © Acronis, Inc., 2000-2007

`/type:[active | primary | logical]`	Sets the restored partition active, primary or logical, if possible (for example, there cannot be more than four primary partitions on the disk.) Setting a partition active always sets it primary, while a partition set primary may stay inactive. If the type is not specified, the program tries to keep the target partition type. If the target partition is active, the restored partition is set active. If the target partition is primary, and there are other primary partitions on the disk, one of them will be set active, while the restored partition becomes primary. If no other primary partitions remain on the disk, the restored partition is set active. When restoring a partition on unallocated space, the program extracts the partition type from the image. For the primary partition, the type will be set as follows: - if the target disk is the 1st according to BIOS and it has not other primary partitions, the restored partition will be set active - if the target disk is the 1st according to BIOS and there are other primary partitions on it, the restored partition will be set logical - if the target disk is not the 1st, the restored partition will be set logical.
`/preserve_mbr`	When restoring a partition over an existing one, the target partition is deleted from the disk along with its entry in the target disk MBR. Then, with the `/preserve_mbr` option, the restored partition's entry will occupy the upper empty position in the target disk MBR. Thus, the target disk MBR is preserved. If not specified, the restored partition's entry will occupy the same position as in the source disk MBR saved in the image. If the position is not empty, the existing entry will be moved to another position.
The following options are available when using the Acronis Universal Restore add-on to Acronis True Image Server. For more information see *3.6 Acronis Universal Restore*.	

`/ur_path:[path]`
`/ur_username:[user]`
`/ur_password:[pwd]`
	Specifies using Acronis Universal Restore and the path to the drivers storage.

`/ur_driver:[inf-filename]`	Specifies using Acronis Universal Restore and the mass-storage driver to be installed.
filerestore	
`/target_folder:[target folder]`	Specifies a folder where folders/files will be restored (a target folder). If not specified, the original path is re-created from the archive.
`/overwrite:[older | never | always]`	This option allows you to keep useful data changes made since the backup being restored was done. Choose what to do if the program finds in the target folder a file with the same name as in the archive: `older` – this will give the priority to the most recent file modification, whether it be in the archive or on the disk. `never` – this will give the file on the hard disk unconditional priority over the archived file. `always` – this will give the archived file unconditional priority over the file on the hard disk. If not specified, the files on the disk will `always` be replaced with the archived files.

/restore_security:[on | off]	Specifies whether to restore files' security attributes (default) or the files will inherit the security settings of the folder where they will be restored.
/original_date:[on | off]	Specifies whether to restore files' original date and time from the archive or assign the current date and time to the restored files. If not specified, the current date is assigned.
list	
/filename:[file_name]	With this option, the image contents is displayed. When listing image contents, partition numbers may not coincide with those in the drives/partitions list, if the image does not contain all the disk partitions. For example, if the image contains partitions 2-3 and 2-5, they will be listed as 2-1 and 2-2. If the deploy /partition command cannot find a partition in the image by its physical number, use /partition:<number in the image> /target_partition:<physical number of the target partition> keys. For the above example, to restore partition 2-5 to its original place use: /partition:2-2 /target partition:2-5.
explore	
/partition:[partition number]	Specifies a list of partitions to be mounted as virtual drives. Without this option, all partitions stored in the image will be mounted. To obtain the partition number for this option, list the image contents with the /list/filename command and use the number from the Idx column.
/letter	Assigns letters to the mounted drives. This option is used with /partition option only.
unplug	
/letter:X	Specifies the virtual disk to be disconnected by letter.
/letter:all	Disconnects all virtual drives.
asz_create	
/harddisk:X	Specifies the hard disk number where the Acronis Secure Zone will be created.
/partition:[partition number]	Specifies partitions from which free space will be taken for Acronis Secure Zone.
/size:[ASZ size in sectors]	Sets the Acronis Secure Zone size (in sectors). If not specified, is set as an average between the maximal (using unallocated space and free space on all the listed partitions) and minimal values.
/asz_activate	Activates the Acronis Startup Recovery Manager. The option will not take effect if the system partition is resized during Acronis Secure Zone creation. In that case, use the separate /asz_activate command.
asz_activate	
/password:[password]	Sets a password for the Acronis Secure Zone.

 Copyright © Acronis, Inc., 2000-2007

asz_delete	
/partition:[partition number]	Specifies partitions to which free space will be added after the Acronis Secure Zone is deleted. If you specify several partitions, the space will be distributed proportionally to each partition's size.
clone	
/harddisk:[disk number]	Specifies a source hard disk which will be cloned to the new hard disk.
/target_harddisk:[disk number]	Specifies the target hard disk number where the source hard disk will be cloned.

14.1.4 trueimagecmd.exe usage examples

1. Image disks and partitions

```
trueimagecmd /create /filename:"C:\Test\1.tib" /partition:2-1,1-3
```

- This will create an image named 1.tib of the partitions 2-1 and 1-3. The image will be saved to the C:\Test\ folder.

```
trueimagecmd /create /asz /partition:2-1,1-3
```

- This will create an image of the partitions 2-1 and 1-3 in the Acronis Secure Zone.

```
trueimagecmd /create /filename:"\Test\1.tib" /partition:2-1,1-3 /file_partition:3-1
```

- This will create an image named 1.tib of the partitions 2-1 and 1-3. The image will be saved in the folder \Test on partition 3-1.

```
trueimagecmd /create /filename:"C:\Test\1.tib"
/password:qwerty /harddisk:2 /reboot /raw /incremental
/compression:5 /split:640 /progress:off
```

- This will append an incremental image to the image named 1.tib of hard disk 2. The image will be saved to C:\Test\ folder, protected with password "qwerty", split into parts of 640MB, and contain all cluster data. Image compression level is 5. The server will be rebooted after the operation is completed.

2. Restore disks and partitions

```
trueimagecmd /deploy /filename:"C:\Test\1.tib" /partition:2-1
```

- This will restore partition 2-1 from image 1.tib.

```
trueimagecmd /deploy /filename:"C:\Test\1.tib"
/password:qwerty /harddisk:2
```

- This will restore hard disk 2 from image 1.tib, protected with password 'qwerty'.

```
trueimagecmd /deploy /filename:"C:\Test\1.tib" /partition:2-1
/target_partition:1-1
```

- This will restore partition 2-1, stored in image 1.tib, to partition 1-1.

```
trueimagecmd /deploy /filename:"C:\Test\1.tib" /partition:2-1
/target_harddisk:3 /start:63 /size:64000 /type:logical
```

- This will restore partition 2-1, stored in image 1.tib, to hard disk 3. A new logical partition will be created on disk 3 from 63 to 64000 sector.

```
trueimagecmd /deploy /filename:z:\Server30Cdrive.tib
/partition:1-1 /target_partition:2-1 /type:active
/password:123qwe
```

- This will restore partition 1-1, stored in image Server30Cdrive.tib, protected with password '123qwe', to partition 2-1. The restored partition will be of active type.

3. Back up files

```
trueimagecmd /filebackup /filename:E:\Backups\Myproject.tib
/include:D:\Workarea\MyProject /exclude_names:
D:\Workarea\MyProject\Old /exclude_hidden
```

- This will back up files from the MyProject folder residing in D:\Workarea, except for files in the Old subfolder and hidden files, to the file Myproject.tib and save this file in E:\Backups folder.

4. Restore files

```
trueimagecmd /filerestore /filename:E:\Backups\Myproject.tib
/original_date
```

- This will restore all files from E:\Backups\Myproject.tib to the original folder and assign the files the original date and time. Since the `/overwrite` option is not specified, the latest files modifications will be replaced with the original ones.

5. List

```
trueimagecmd /list
```

- This will list available partitions.

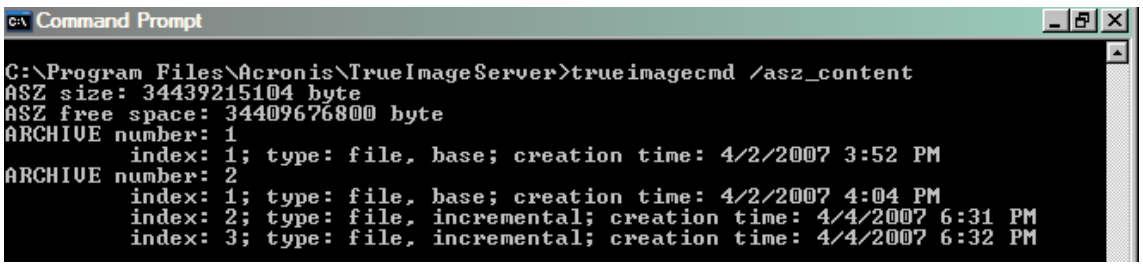
```
trueimagecmd /list /asz
```

- This will list contents of the latest image located in Acronis Secure Zone.

6. Acronis Secure Zone: listing contents and selecting backups

```
trueimagecmd /asz_content
```

- This will list the Acronis Secure Zone size, free space and contents.



In our example, the Acronis Secure Zone contains two archives. The older archive #1 consists of one full (base) file-level backup created on 4/2/2007 at 3:52. The second archive contains a base file-level backup with two increments. You can restore data from any backup as follows:

```
trueimagecmd /filerestore /asz:2 /index:2 /target_folder:e:
```

- This will restore files and folders from the backup created on 4/4/2007 at 6:31 PM with their original paths to the root of partition E.

Copyright © Acronis, Inc., 2000-2007

7. Clone

```
trueimagecmd /clone /harddisk:2 /target_harddisk:3
```

- Clone hard disk 2 to hard disk 3.

8. Explore image

```
trueimagecmd /explore /filename:\\myserver\backup\mybackup.tib
/net_user:john /net_password:qwerty
```

- This will connect all images, stored in file mybackup.tib on the network drive, as virtual drives.

14.1.5 Command-line mode usage under DOS

For use in the MS-DOS compatible environments Acronis True Image Server includes the **TrueImageCmdDos.exe** utility. It is located in a folder where Acronis True Image Server has been installed, by default it is C:\Program Files\Acronis\TrueImageServer.

14.2 Scripting

14.2.1 Script execution parameters

Scripts are executed by the **TrueImageTerminal.exe** utility located in the Acronis True Image Server installation folder (i.e. C:\Program Files\Acronis\TrueImageServer). This utility is also used to monitor backup progress.

TrueImageTerminal execution parameters:

TrueImageTerminal.exe [arguments]

Arguments include the following:

/help – outputs help information about TrueImageTerminal.exe parameters.

/progress – outputs progress of backup operations run either from Acronis True Image Server graphics user interface, or from the script.

/execute: [script file name] – executes a script. If there are several scripts to be executed, they are queued. An example for executing MyBackup.tis script:

```
TrueImageTerminal.exe /execute:C:\MyBackup.tis
```

/nowait – an optional script execution argument. Enables to terminate TrueImageTerminal before backup is finished. Example:

```
TrueImageTerminal /execute:C:\MyBackup.tis /nowait
```



By pressing **Ctrl+C** you can force backup progress output off and switch TrueImageTerminal to background operation.



You can terminate backup operation executed by TrueImageTerminal by pressing **Ctrl+B**.

14.2.2 Script structure

Scripts are written in the XML language and you can use the following tags:

Source. Specifies the partitions or disks to be imaged. Letters assigned to partitions must be used without colon. Disk numbers correspond to their system numbers. To create images of several partitions or disks, use the SOURCE tag for each of them, e.g.:

```
<source letter =″C″ />
<source letter =″D″ />
<source disk =″1″ />
<source disk =″2″ />
```

Target. Specifies the name and the location of an image file, e.g.:

```
<target file=“E:\Mybackup2.tib″ username=″username″
password=″password″ />
```

username and *password* parameters are optional. They are used to access networked resources.

As a target for the image files you can indicate CD-R/RW or tape drive.

Options. This tag can be used with a number of additional parameters:

Compression: specifies the backup compression level. Can be *None, Low, Normal, High*.

Incremental: specifies whether you need to create an incremental image file. If equal to ”false” (or “0”), a full image file will be created. If there is already a file with the name specified, it will be replaced without warnings. If equal to “true” (or “1”) and there is already a file with the name specified, an incremental image will be created. Otherwise the program will create a full image file. The default value for this parameter is “true”.

Description: adds a description to an image file. The comment must be a single string (though its length is not limited.)

Split: splits a large image file into a number of smaller files of the specified size, which can be provided in bytes, kilobytes, megabytes, etc.

Password: adds password protection to an image file.

14.2.3 Script usage examples

The following example illustrates the usage of a script to backup two partitions (logical drives), C and F. *mybackup2.tib* is specified as an incremental image file. High compression level is selected and the image is to be split into 650MB parts for recording to CD-R/RW media. Password protection will also be added. The entire script must be located between the *<backup>* and *</backup>* tags.

```
<? xml version="1.0" encoding="utf-8" ?>
<backup>
<source letter ="c" />
<source letter ="f" />
<target file="e:\mybackup2.tib" />
<options compression="high" incremental="true"
description="this is my backup" split="650 Mb" password="" />
</backup>
```

The script for backing up to tape (tapeN specifies the tapes numbers):

 Copyright © Acronis, Inc., 2000-2007

```
<? xml version="1.0" encoding="utf-8" ?>
<backup>
<source letter =”c” />
<source letter ="f" />
<target cdrw="\taperecorder\\\.\tape0|||” />
<target cdrw="\taperecorder\\\.\tape1|||” />
<options compression="high" incremental="true"
description="this is my backup" />
</backup>
```