



PARAGON Technologie GmbH, Systemprogrammierung

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PARAGON SYSTEM BACKUP 2010

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PRODUCT CONCEPT

PRIMARY AUDIENCE

Paragon System Backup is a disk imaging utility that is designed to help protect a standard Windows based computer from data loss and system failure. The key differentiators of the product are:

- Simplicity,
- Use of visual aids,
- The minimal user participation.

These qualities are crucial for an inexperienced user or those who feel strongly about the system and data protection issue, but are not willing to look into technical peculiarities – that’s the primary audience of System Backup.

PROTECTION MECHANISM

As you know most disk imaging utilities require several steps to go through in order to secure the system and data:

1. Specify a backup object (either an entire hard disk or separate partitions);
2. Set the backup parameters (an archive name, compression level, image splitting, OS auxiliary files processing, etc.);
3. Define the backup location (a local or network drive, physical partition (without drive letter assigned), secured on-disk partition or CD/DVD);
4. Set a timetable to update the backup on a regular basis and its type (full, differential, etc.).

System Backup however enables to cut it down to two simple steps:

1. Confirm creation of the Snapshot Storage, a place where the program considers it the best to store backup images or make your own choice (if there are several options);
2. Confirm the suggested timetable to update the backup on a regular basis or set your own one.

The primary objective is to minimize the user involvement in the whole process by focusing only on the most relevant options. At first sight this approach might indicate lack of flexibility, what advanced users really don’t like. Anyway System Backup leaves the possibility of manual operation with a number of handy wizards, but it’s optional for this kind of application.

Once it’s done, System Backup will keep automatically backing up the system and data on a regular basis and notify through the system tray if necessary to be ready to get everything back on track when a disaster strikes.

RECOVERY MECHANISM

Paragon System Backup puts up good when speaking about recovery of the system and data. Though it’s one of those operations that should be done manually, it’s quite easy to catch. Depending on the problem, you’ve got several options of taking the computer out of the crisis:

1. If some files have been lost by an accident, they can easily be retrieved from an existing snapshot;
2. If the operating system gives a trouble, you can either replace all the necessary system files from an existing snapshot to the system partition or restore the whole snapshot (more preferable for this kind of application);

3. If the operating system fails to boot, you can start up the computer with the Linux based bootable recovery environment embedded either in the on-disk snapshot storage or the system partition if an external USB device has been used as the snapshot storage (just press F1 at the system startup to activate it) and then again replace all the necessary system files from an existing snapshot to the system partition or restore the whole snapshot (more preferable for this kind of application). You can also use the Linux based Recovery CD for this purpose (just burn it with the Create Recovery CD Wizard). Moreover, every registered user may download an advanced WinPE 2.0 based version of the Recovery CD from the company's web site;
4. If the operating system fails to boot because of a damaged hard disk, you can start up the computer with the Recovery CD and then try to copy all data you need to an external storage device, a CD/DVD, or a network share. After replacing the failed hard disk with a new one, you can easily get your system and data back on track, providing you've got a previously made snapshot intact.

GETTING STARTED

RECOMMENDED TARGET ENVIRONMENT

Though System Backup can operate smoothly on different computer configurations, it's been designed for a particular target market. That's why the most of its potential can be demonstrated if the system meets the following requirements:

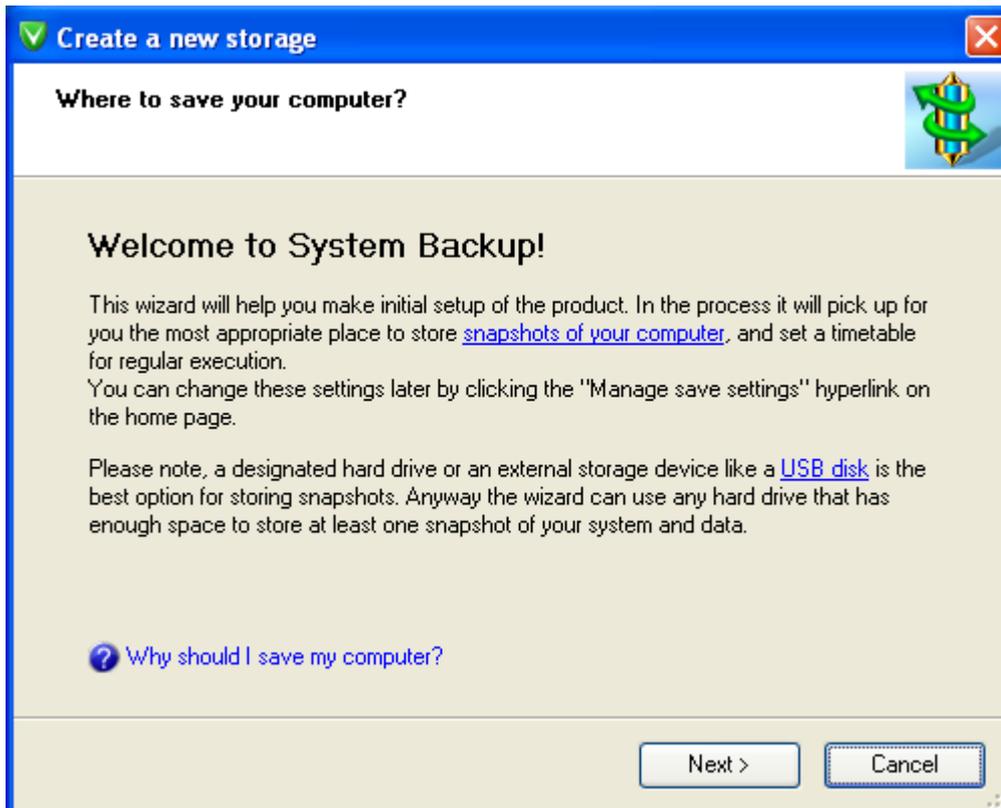
1. It's a Windows XP or Windows Vista based computer;
2. You are to be logged in as a system administrator (restriction of the Beta version);
3. There are no more than three partitions on the hard disk;
4. The last partition should have enough unused space to store all data of the disk;
5. If you've got an external USB storage device, the capacity of which exceeds the amount of data of the system hard disk – then req. **3** and **4** become irrelevant.

INSTALLATION

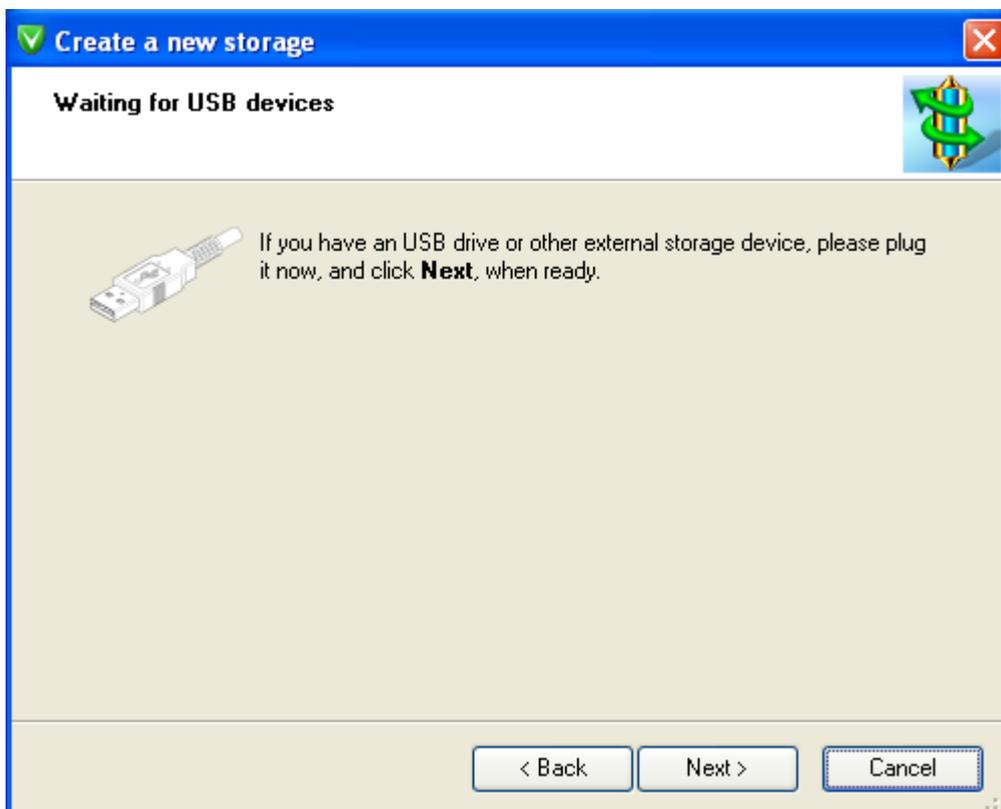
The setup utility is compiled with the InstallShield SDK, hence it contains the standard user interface and set of installation steps. Once the installation procedure is completed you need to restart the system to activate a system driver that will enable to make hard disk snapshots in the background.

FIRST START

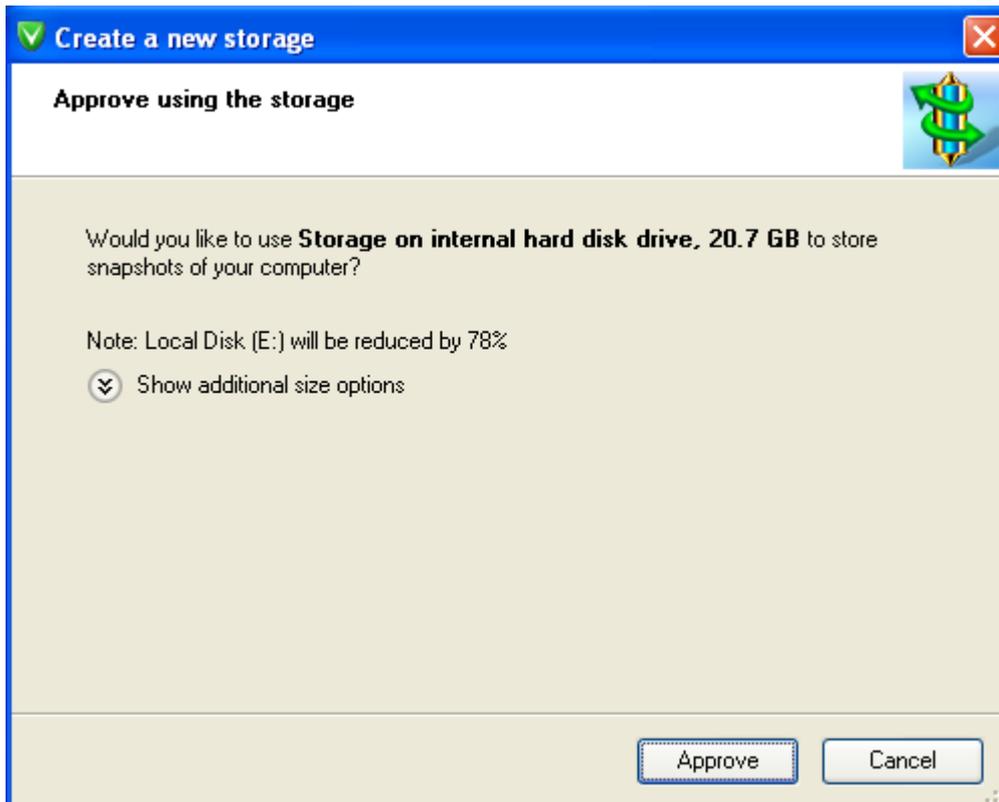
After the system restart, System Backup will automatically offer to set up the product. It's an operation you should certainly agree to, otherwise making no sense to continue.



If you've got an external USB storage device, please plug it in now. Anyway the program will prompt you to do that.

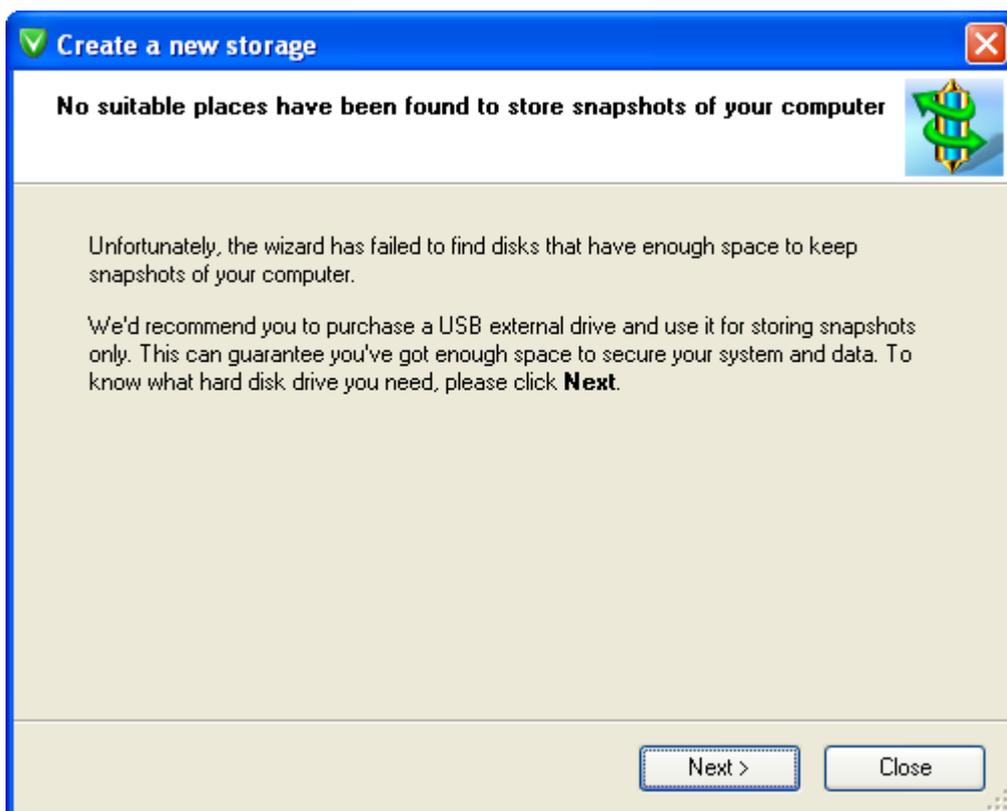


The program will analyze the disk system and then consider the most appropriate place to store backup images. Anyway you're free to see results of that analysis and make your own choice (if there are several options).

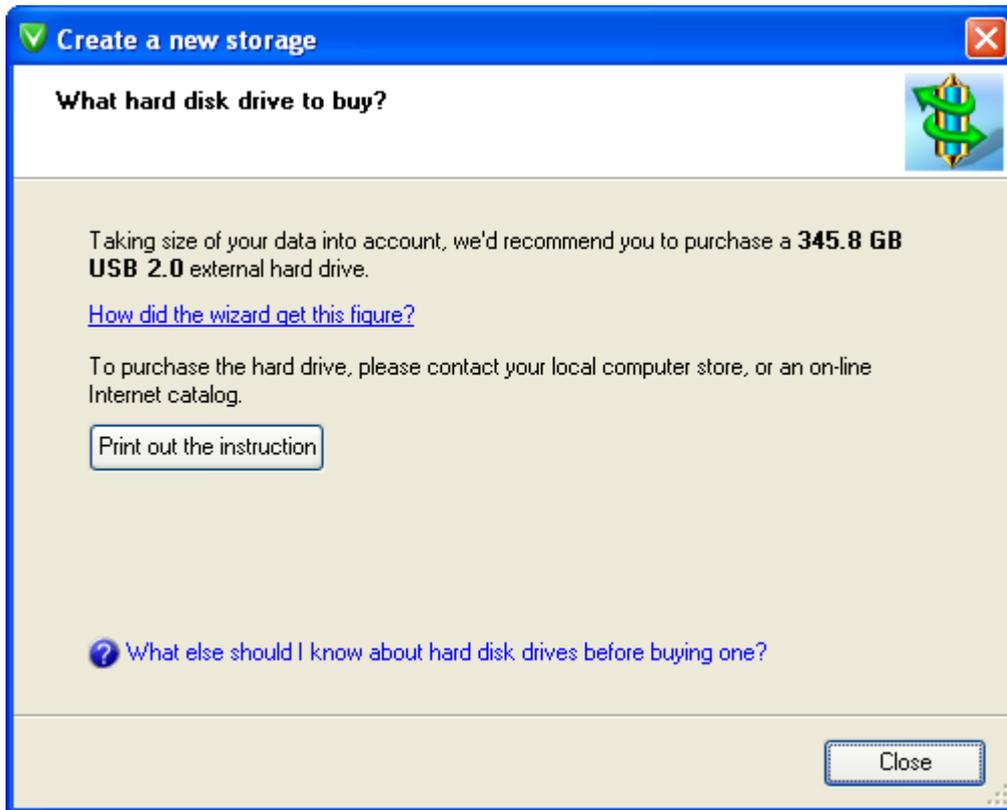


Please note that on the recommended target environment, System Backup will suggest creating the on-disk snapshot storage by taking some free space from the last on-disk partition. If you do have an external USB storage device, the capacity of which exceeds the amount of data of the system hard disk, it will certainly offer to use it as providing a higher level of security.

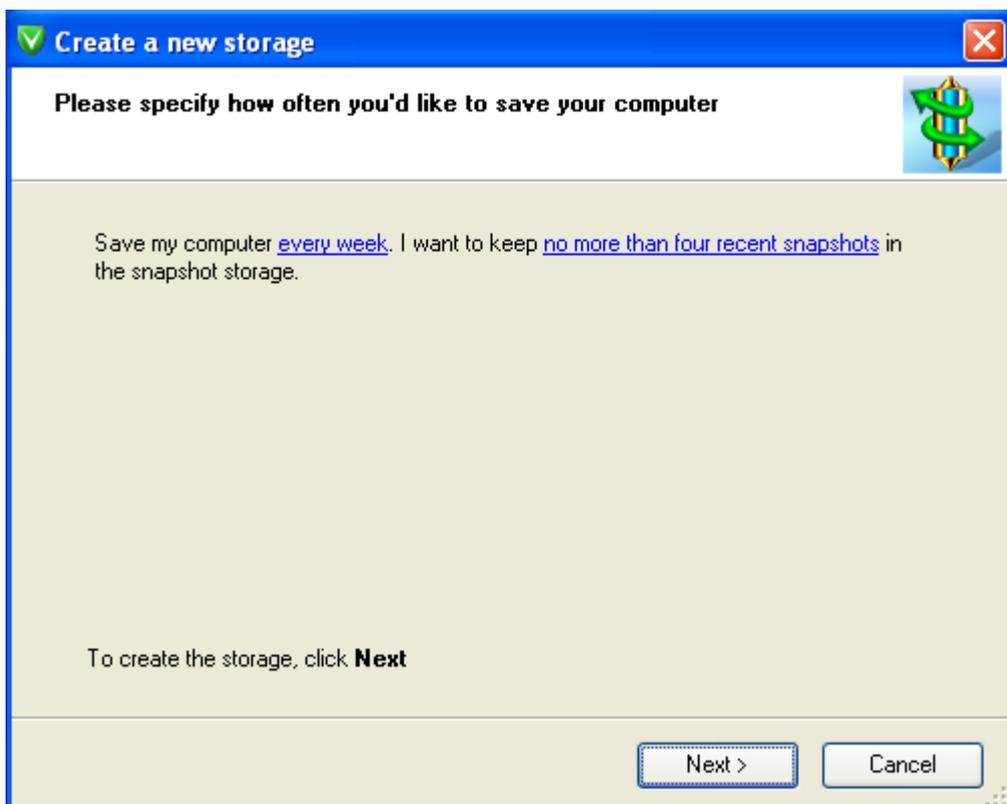
Depending on the configuration however, the program may even state that you don't have enough space to keep snapshots of your computer.



In this case it will offer to print out a detailed instruction on all the necessary technical characteristics of the required storage device to buy it at a local computer store. Anyway, it's a stub track.

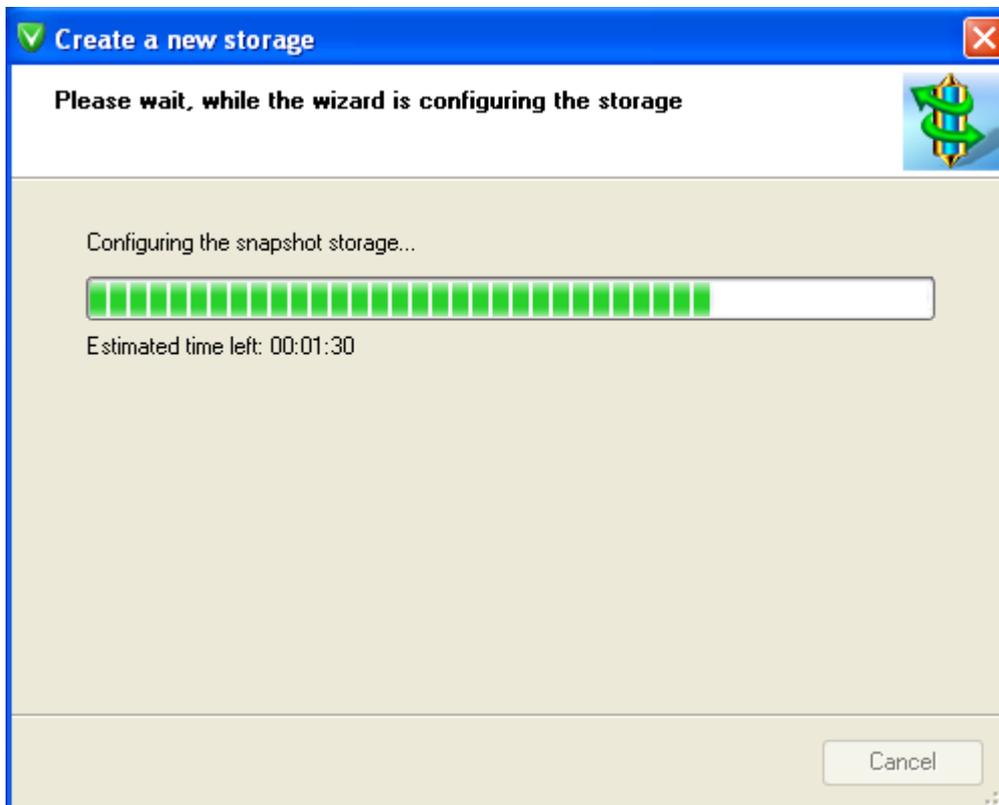


If System Backup has found a place to create the snapshot storage (a 100% guarantee on the recommended target environment), you will need to approve it and then confirm the suggested timetable to update the backup on a regular basis (every week by default) or set your own.

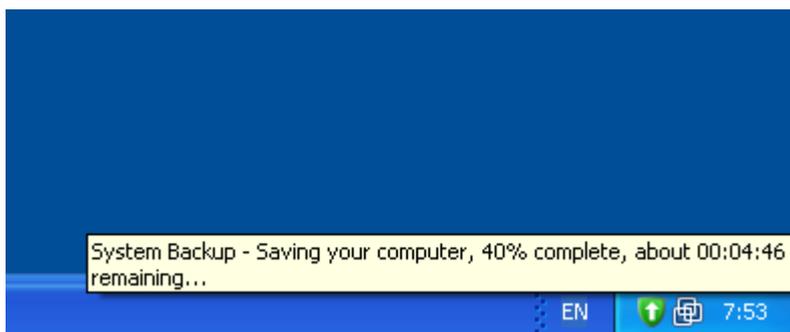


That's basically it to make the program create the snapshot storage. If you've got only one partition on the disk, the program will require the system restart to accomplish the operation as it has to do with resize of the system partition. In our case, there's no need of the system restart as we've got two partitions.

One more thing – any partition that has been resized with System Backup will be automatically checked for the file system integrity during the next system restart. Please don't worry, it's done on purpose.



Once the snapshot storage is ready to use, the program will make an initial snapshot of your hard disk and keep automatically updating it according to the set timetable (every week by default).



Please note however that no operation will automatically be accomplished if the program console is open, as it's assumed that you're in the process of making modifications. Besides if you use the system date shift to force update of the backup, please take into account the fact that System Backup inquires the system date every hour or once a USB device has been plugged in. That's why if you want the program to quickly detect change of the system date, please plug in a USB thumb drive or an external hard drive.

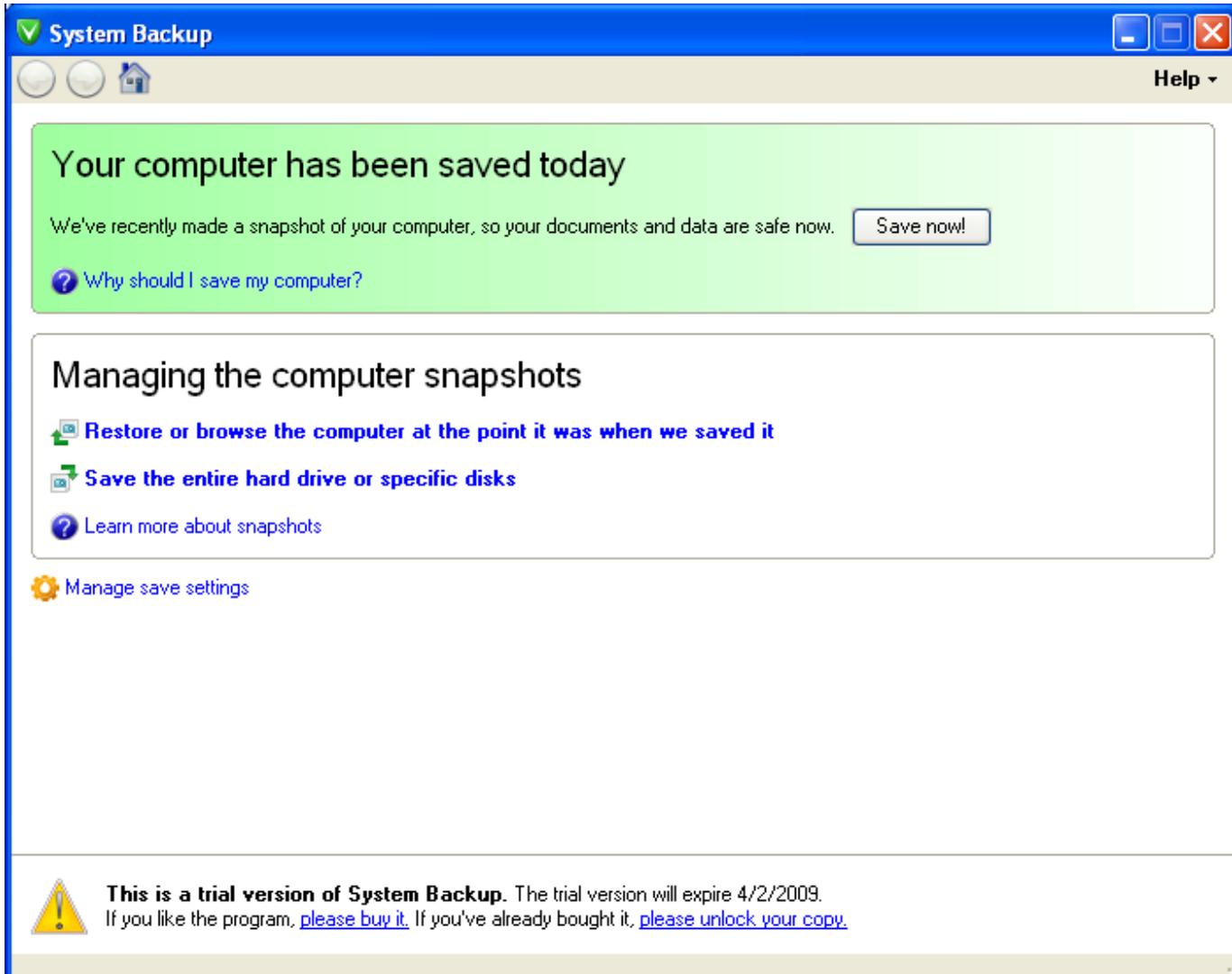
BUILDING RECOVERY CD

Though Paragon System Backup embeds the Linux based bootable recovery environment in the on-disk snapshot storage or the system partition if an external USB device has been used as the snapshot storage (just press F1 at the system startup to activate it), it's recommended to build the Recovery CD as soon as possible to provide a higher level of security. As we've already mentioned, there are two types of it:

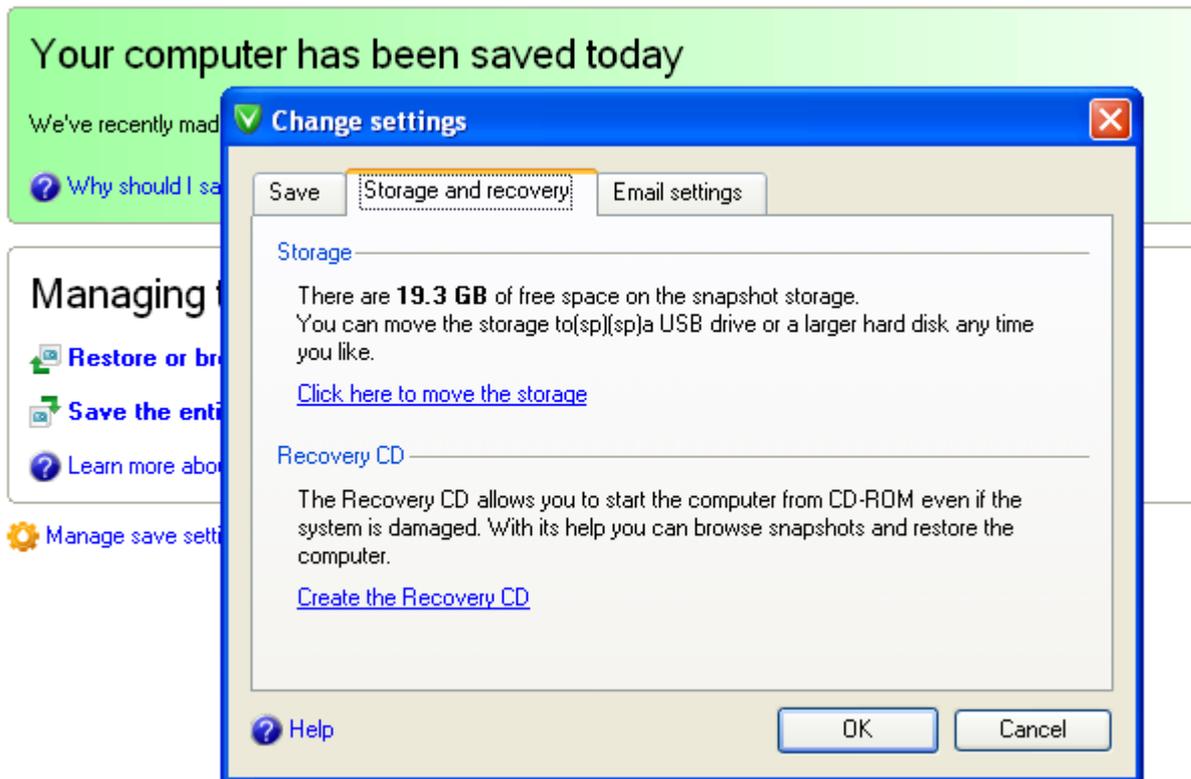
- Linux based Recovery CD;
- WinPE 2.0 based Recovery CD (available only for the registered users).

Both can be made with the Create Recovery CD Wizard any time you like:

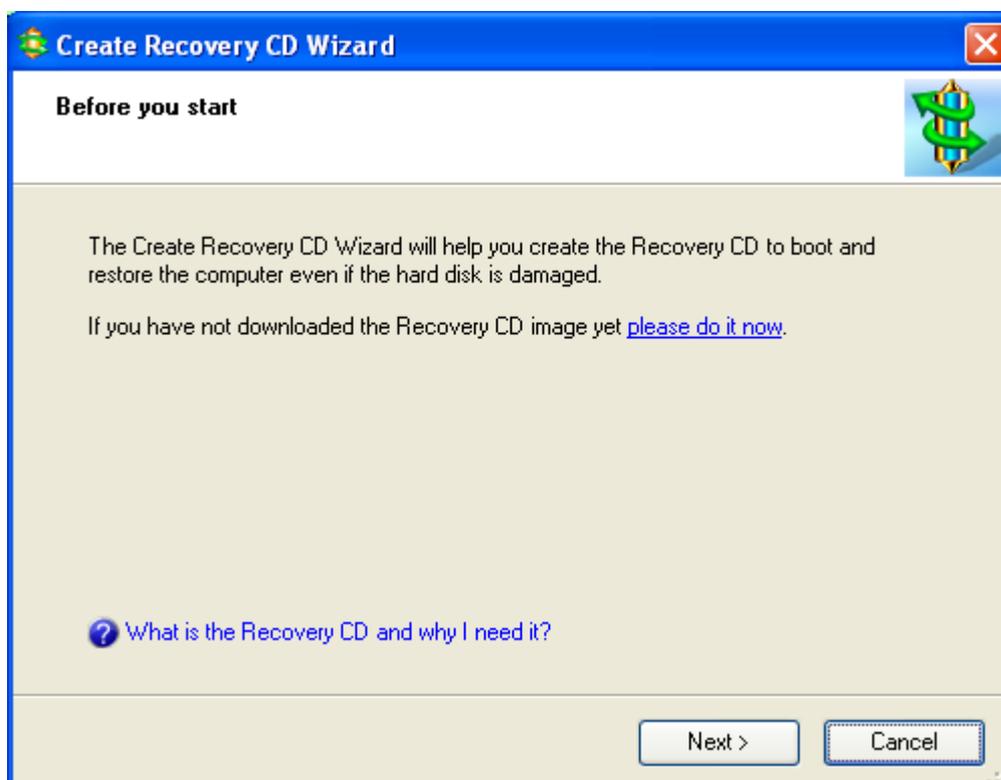
1. Double click on the System Backup console in the system tray to open it;



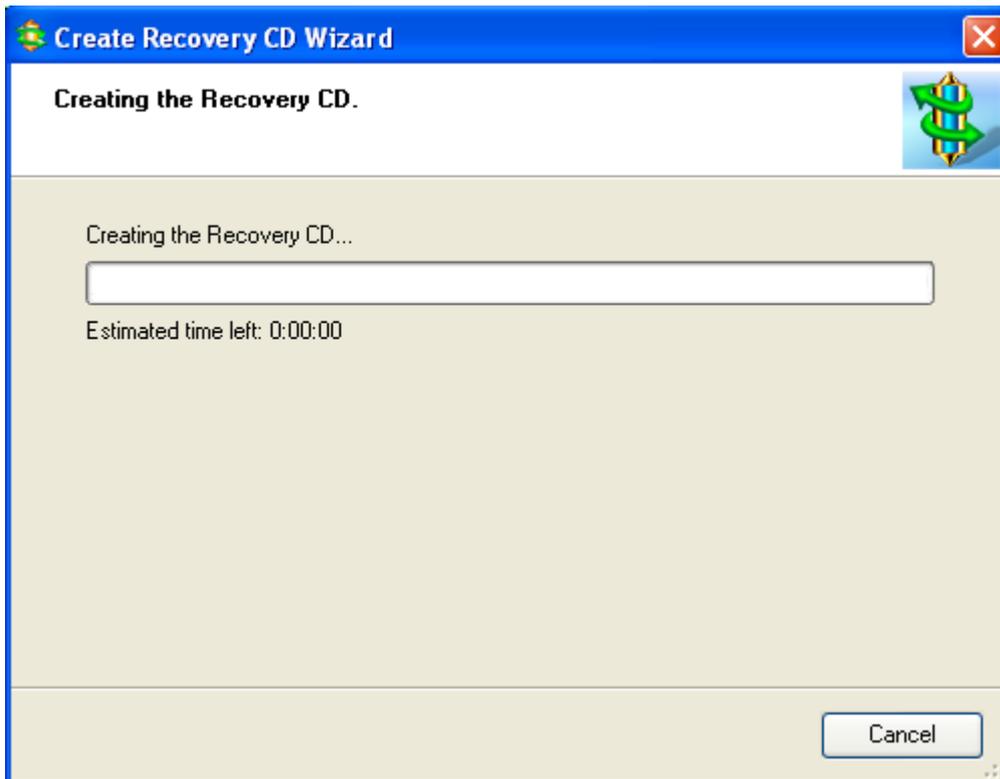
2. Click the **Manage save settings** link and then select the **Storage and Recovery** tab;



3. Click the **Create the Recovery CD** link to launch the Create Recovery CD Wizard. If you're a registered user, you can download the WinPE 2.0 version of the Recovery CD by clicking the appropriate link;



4. Insert an empty CD or DVD disc to accomplish the operation. If the inserted disc is not empty, the wizard will suggest erasing its contents (if possible). Once the operation has been confirmed, the program will delete the re-writable disc's contents and begin the recording process.



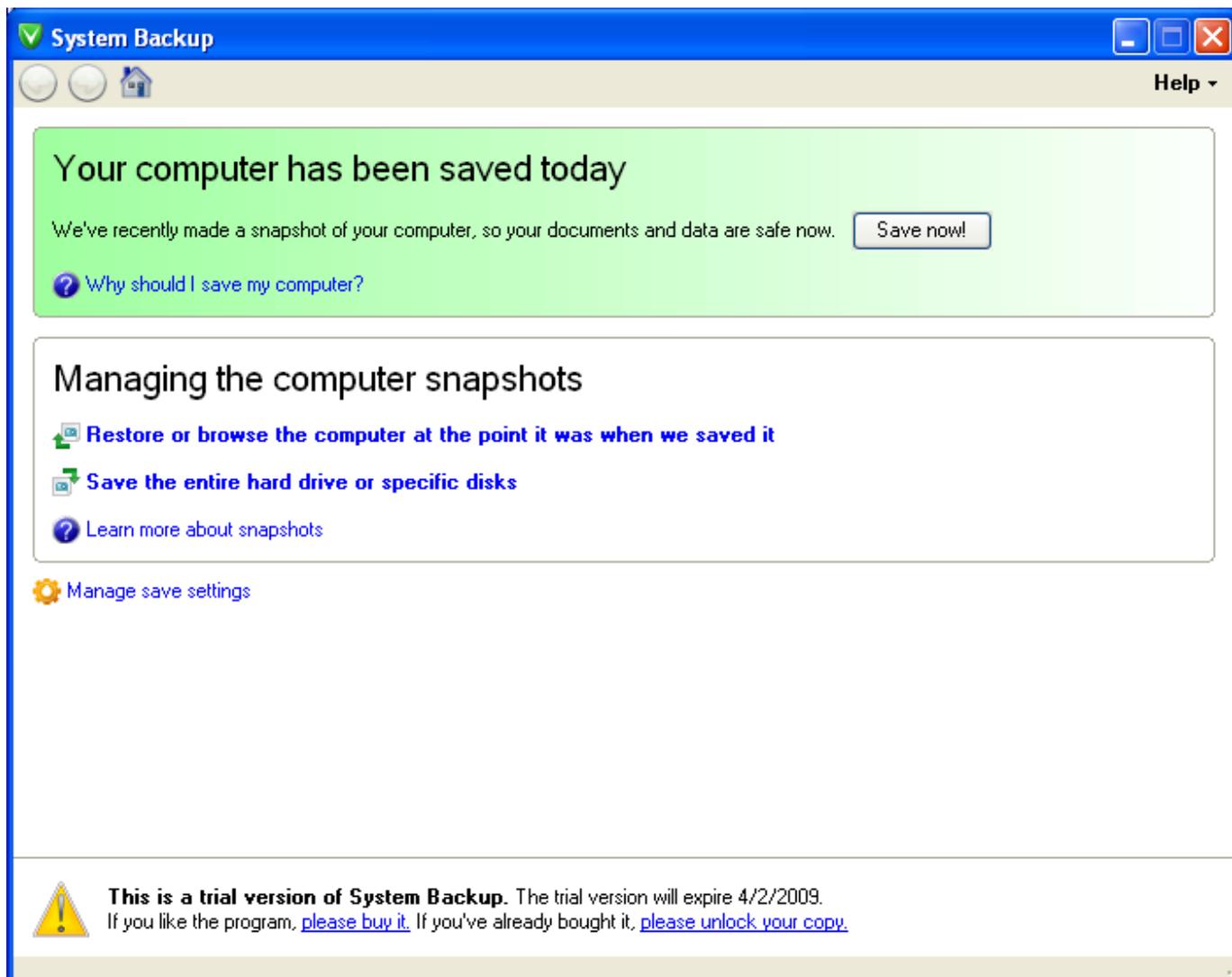
SYSTEM AND DATA RECOVERY

As we've already mentioned, System Backup offers several options of taking the computer out of the crisis. The choice of the most suitable option depends on the encountered problem.

RESTORING SEPARATE FILES AND FOLDERS

If some files have been lost by an accident, the most effective way is to retrieve them from an existing snapshot:

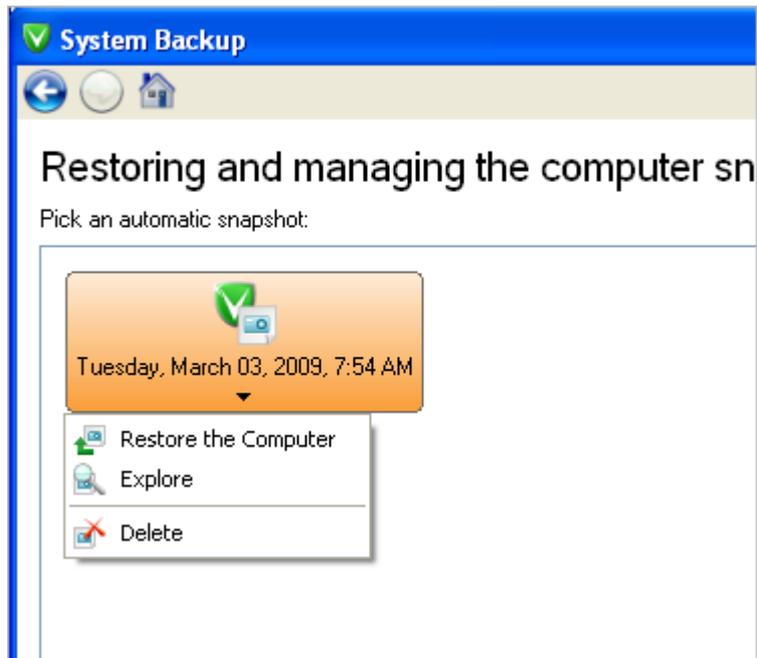
1. Double click on the System Backup console in the system tray to open it;



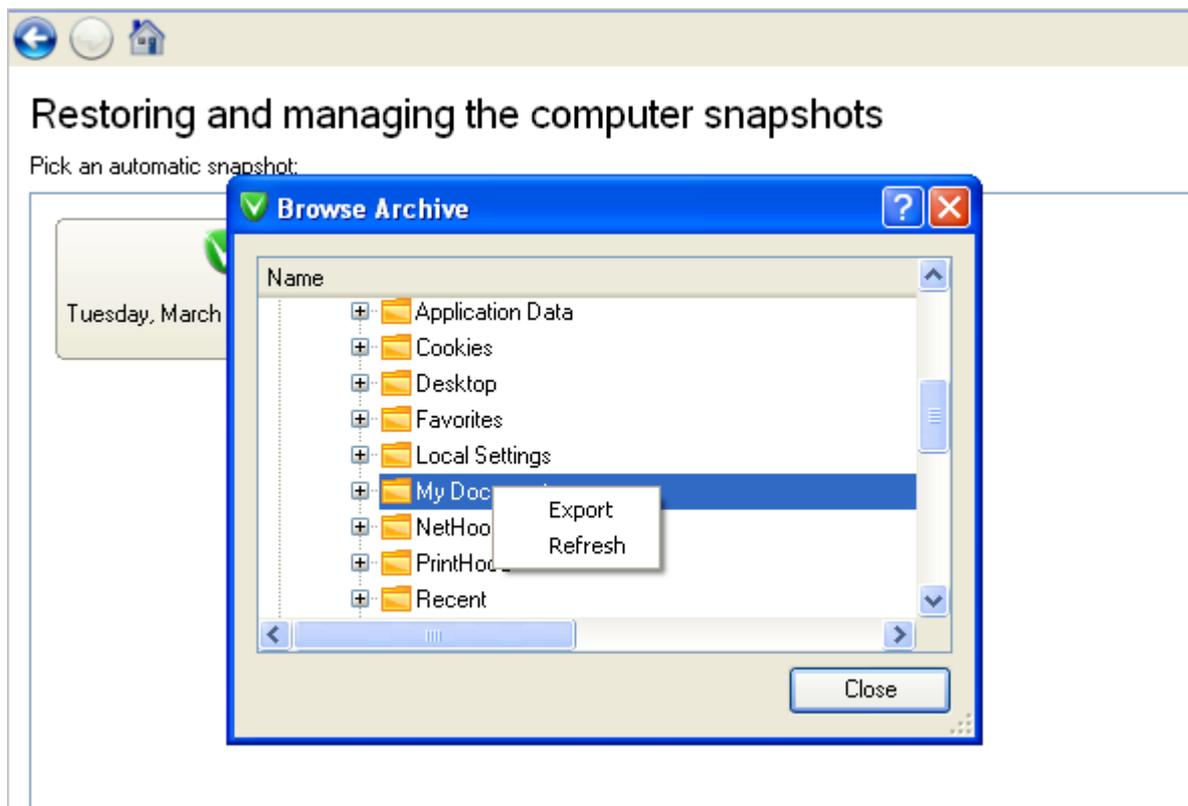
2. Click the **Restore or browse the computer at the point it was when we saved it** link to see all available snapshots. For easy management, each snapshot has a label (creation date by default). We've got only one snapshot;



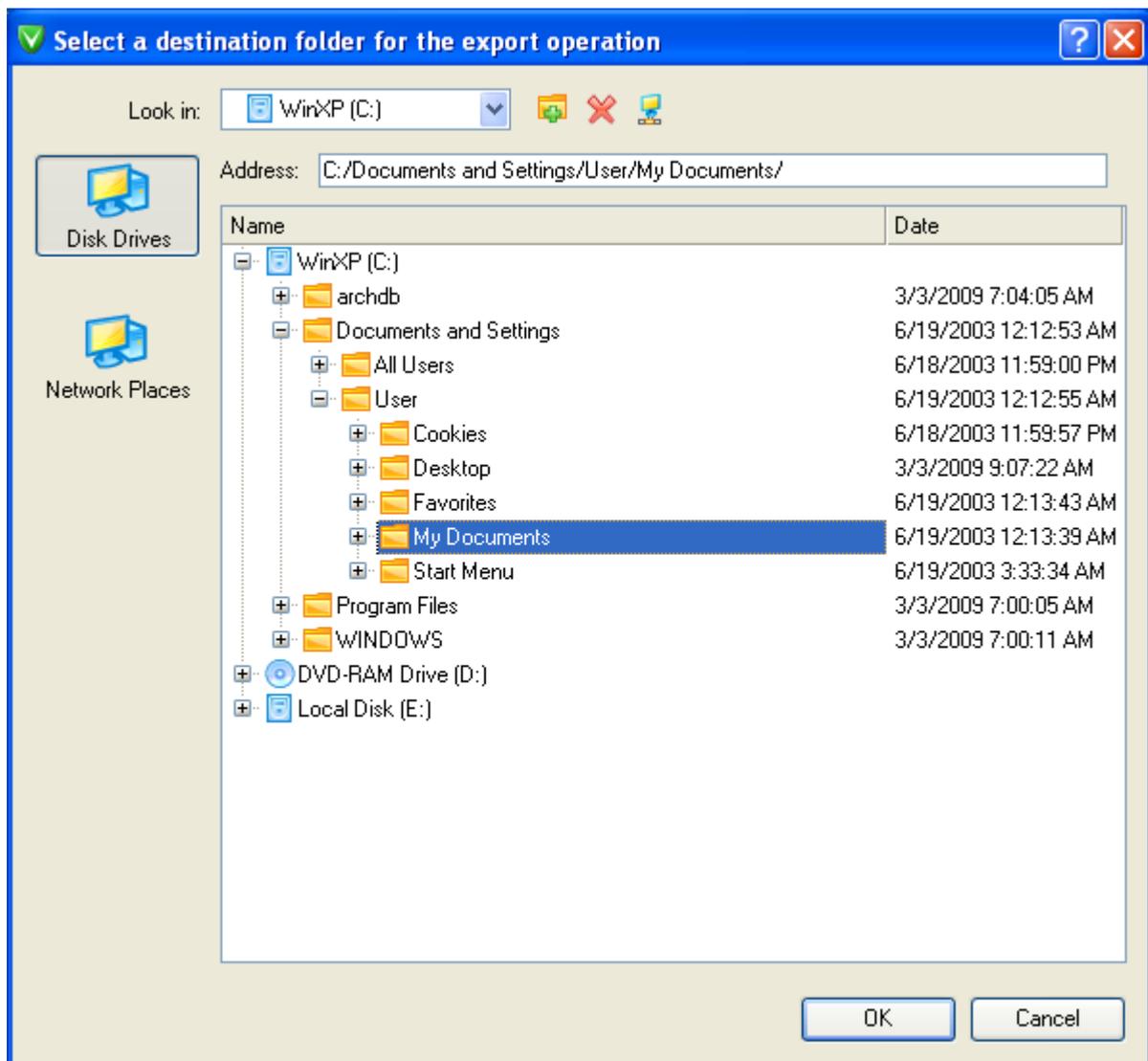
3. Call the popup menu by clicking on the required snapshot and then select **Explore**;



4. Browse for a file or folder you need to restore. When found, call the popup menu (right click of the mouse button) for it and then select **Export**;



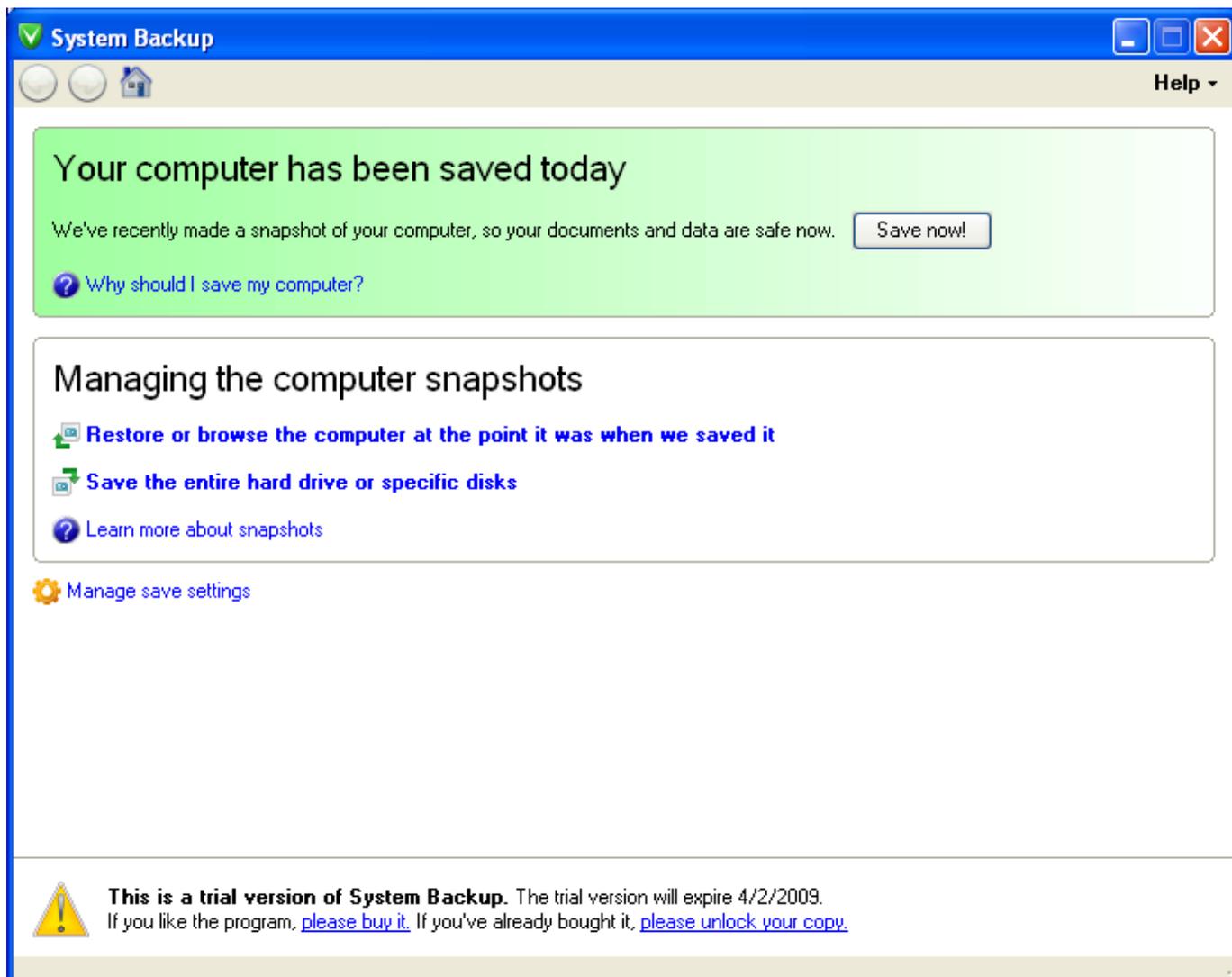
5. Select a place where the file or folder will be extracted to. We prefer to restore the data to its original location.



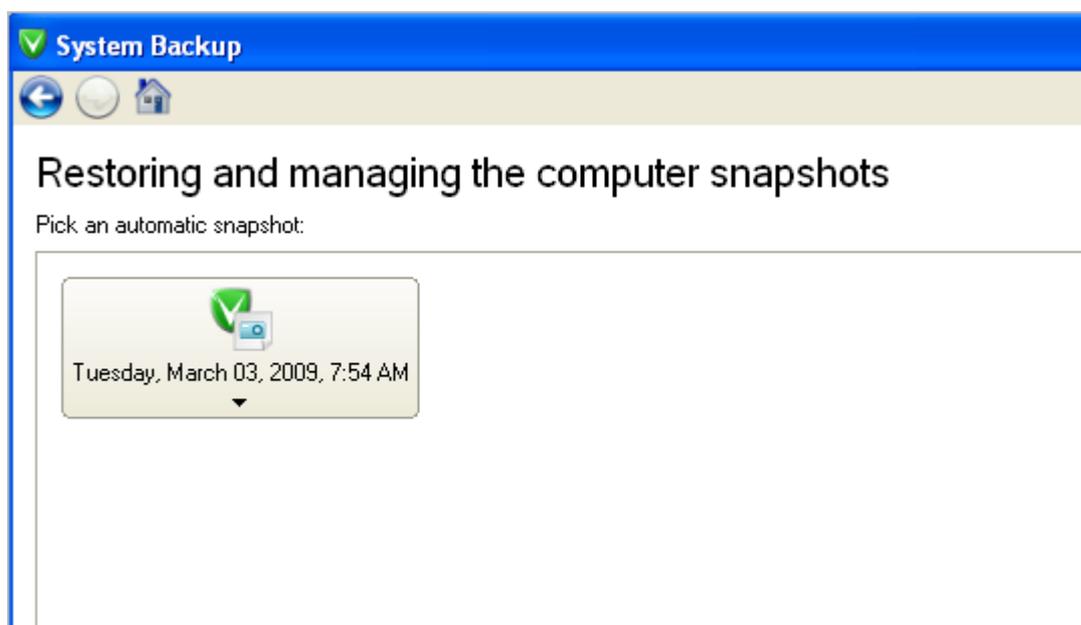
RESTORING THE WHOLE SNAPSHOT UNDER WINDOWS

If the operating system gives a trouble, you can either replace all the necessary system files from an existing snapshot to the system partition (please consult the [previous scenario](#)) or restore the whole snapshot (more preferable for this kind of application):

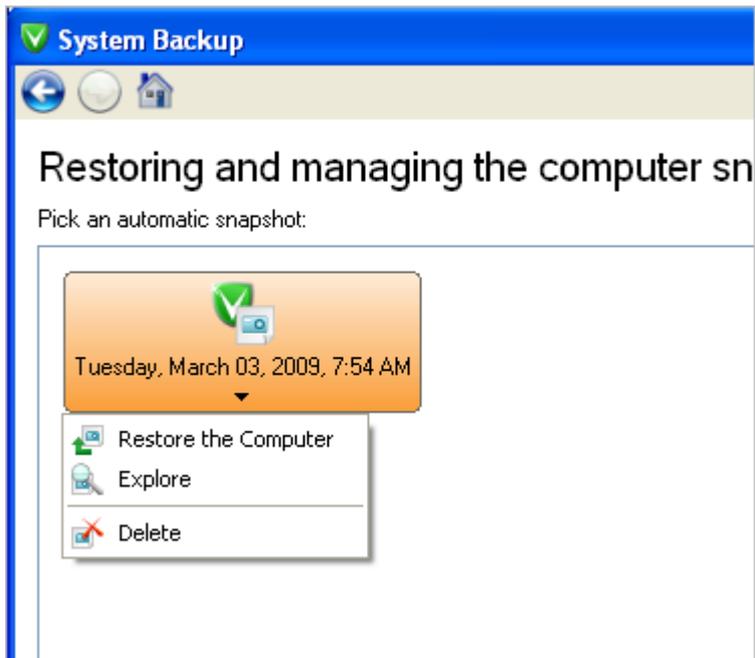
1. Double click on the System Backup console in the system tray to open it;



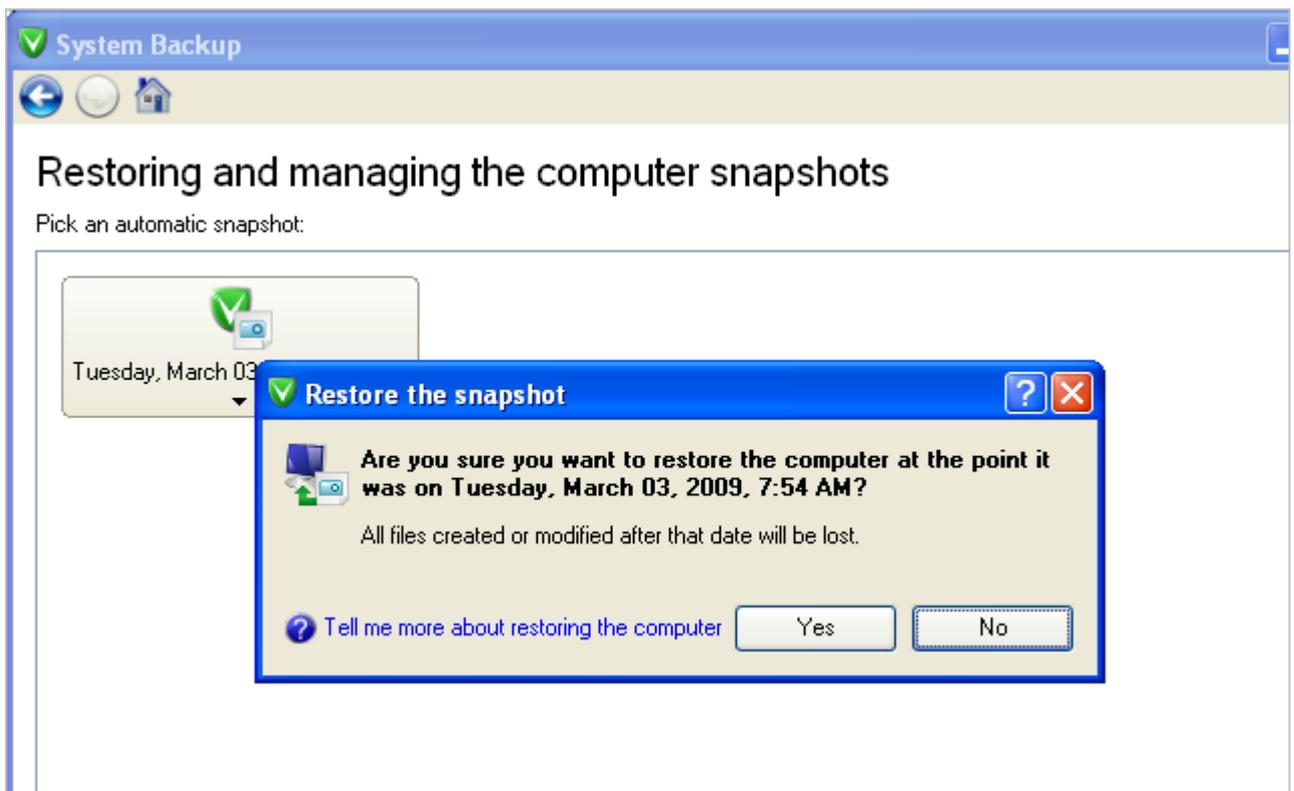
2. Click the **Restore or browse the computer at the point it was when we saved it** link to see all available snapshots. For easy management, each snapshot has a label (creation date by default). We've got only one snapshot;



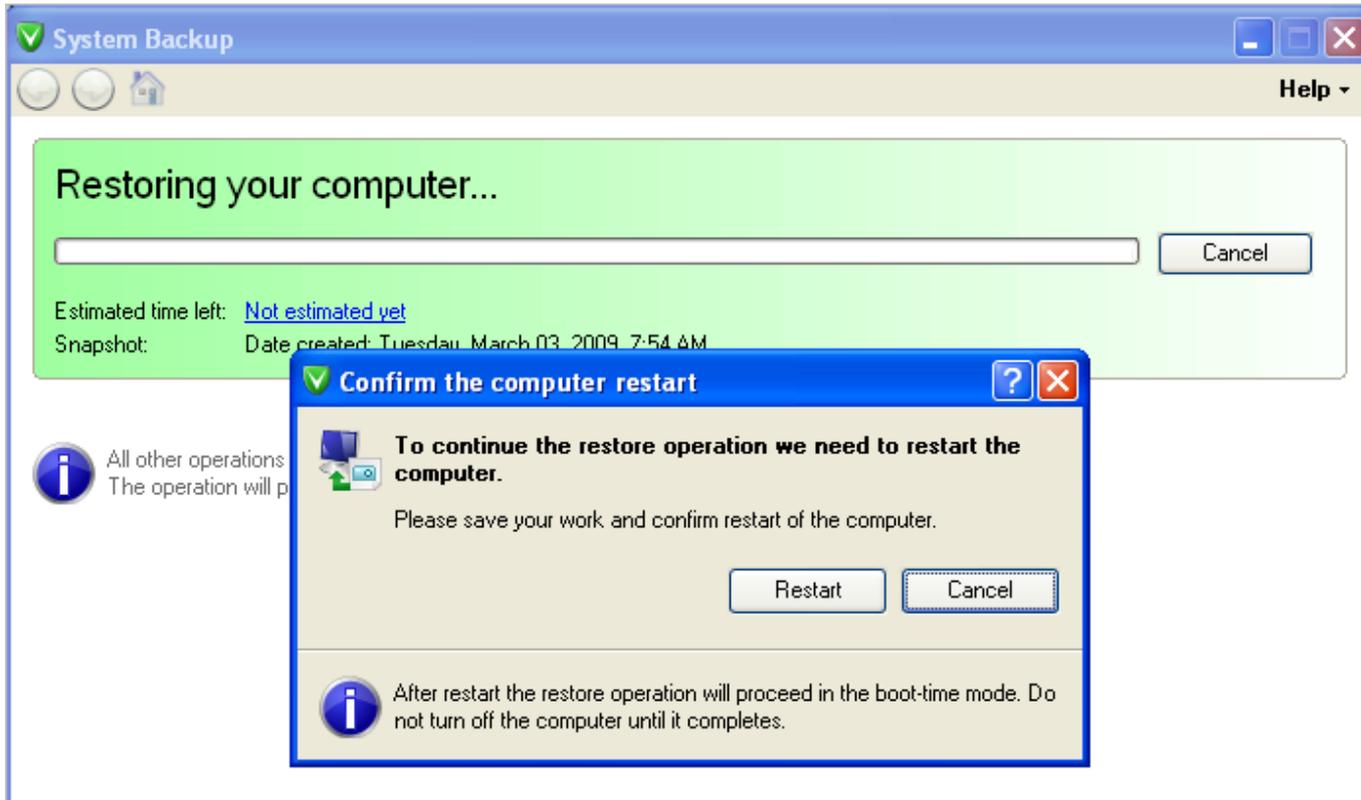
3. Call the popup menu by clicking on the required snapshot and then select **Restore the Computer**;



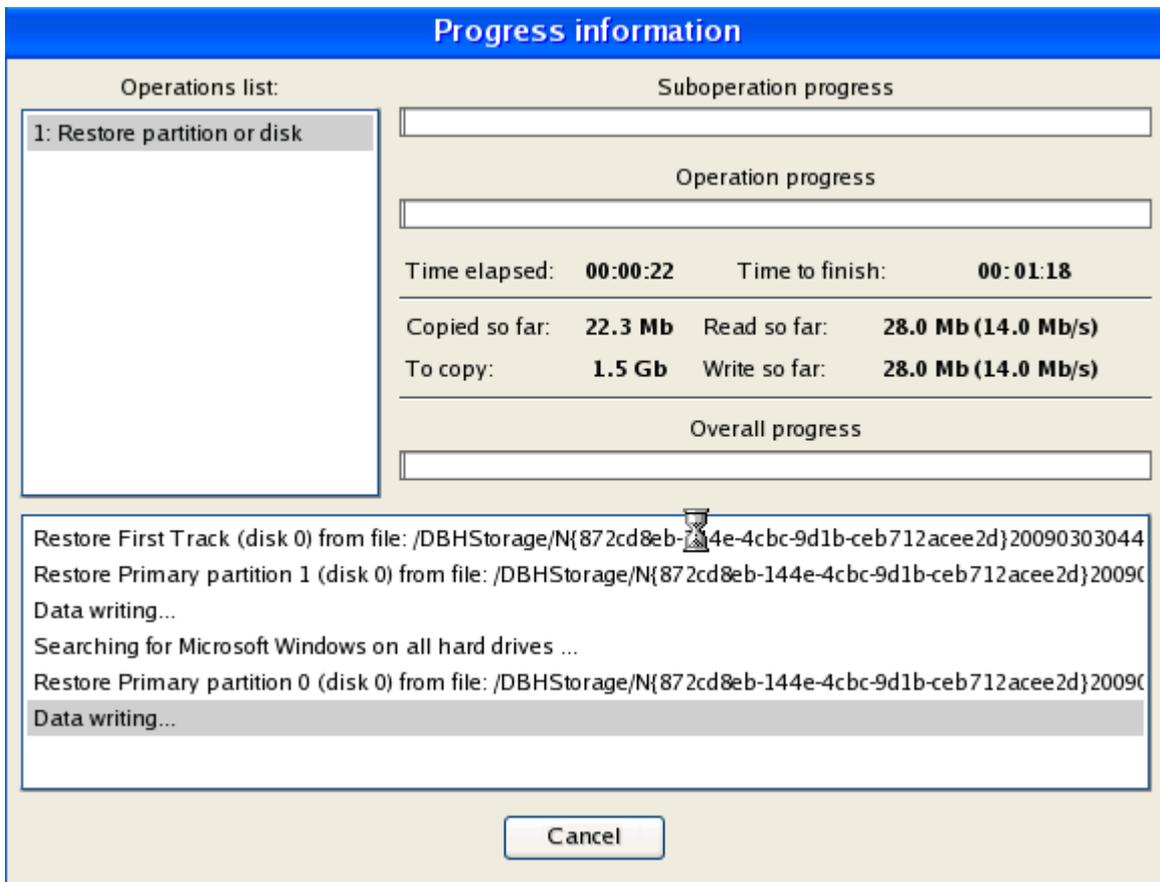
4. You will be notified that all files created after the snapshot date will be lost. So it's recommended to select the most recent snapshot to minimize the risk of data loss;



5. The program will require the system restart to accomplish the operation in a special boot-up mode.



6. In the Progress window you can see in real-time a detailed report on all actions carried out by the program.

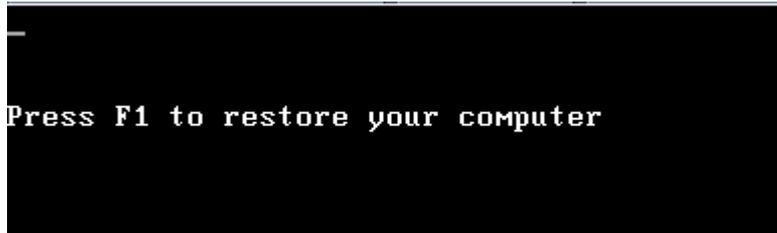


After the restore operation, all on-disk partitions will be automatically checked for the file system integrity during the next system restart. Please don't worry, it's done on purpose.

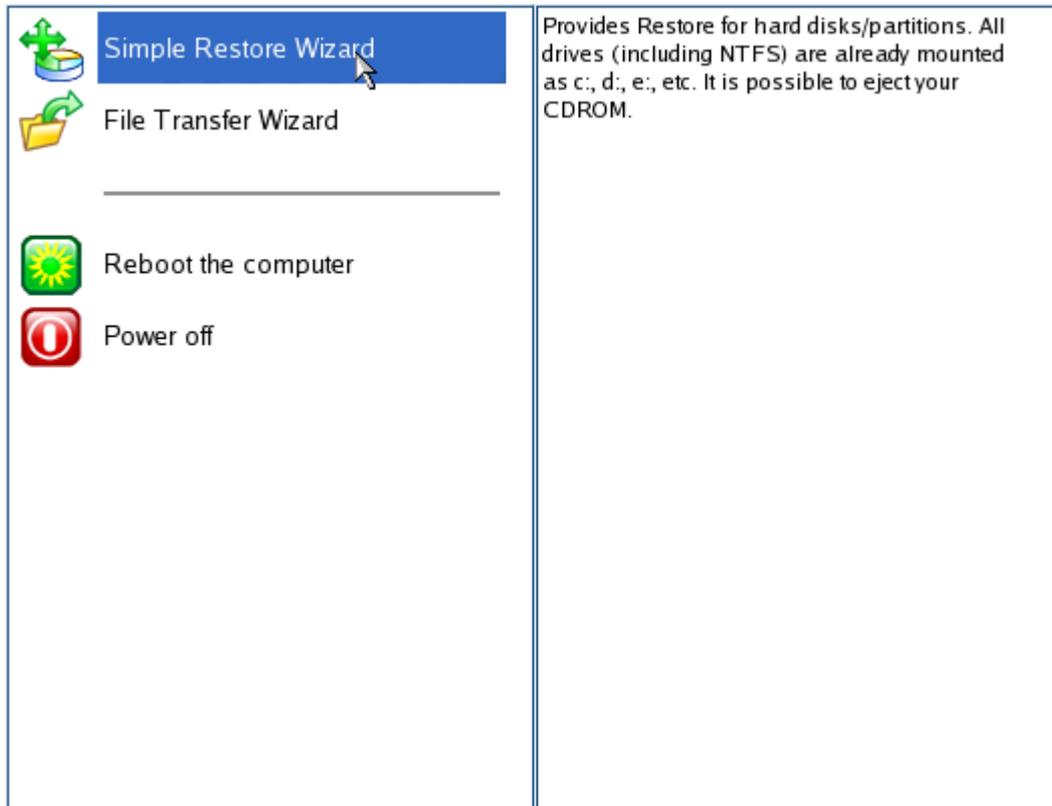
If the operating system fails to boot, you can start up the computer with the Linux based bootable recovery environment embedded either in the on-disk snapshot storage or the system partition if an external USB device has been used as the snapshot storage to replace all the necessary system files from an existing snapshot to the system partition or restore the whole snapshot (more preferable for this kind of application). You can also use the Recovery CD for this purpose.

Since the embedded recovery environment and the Linux based Recovery CD share the same interface and functionality, let's take the recovery environment to demonstrate the restore operation:

1. Press F1 at the system startup to activate the Linux based bootable recovery environment;

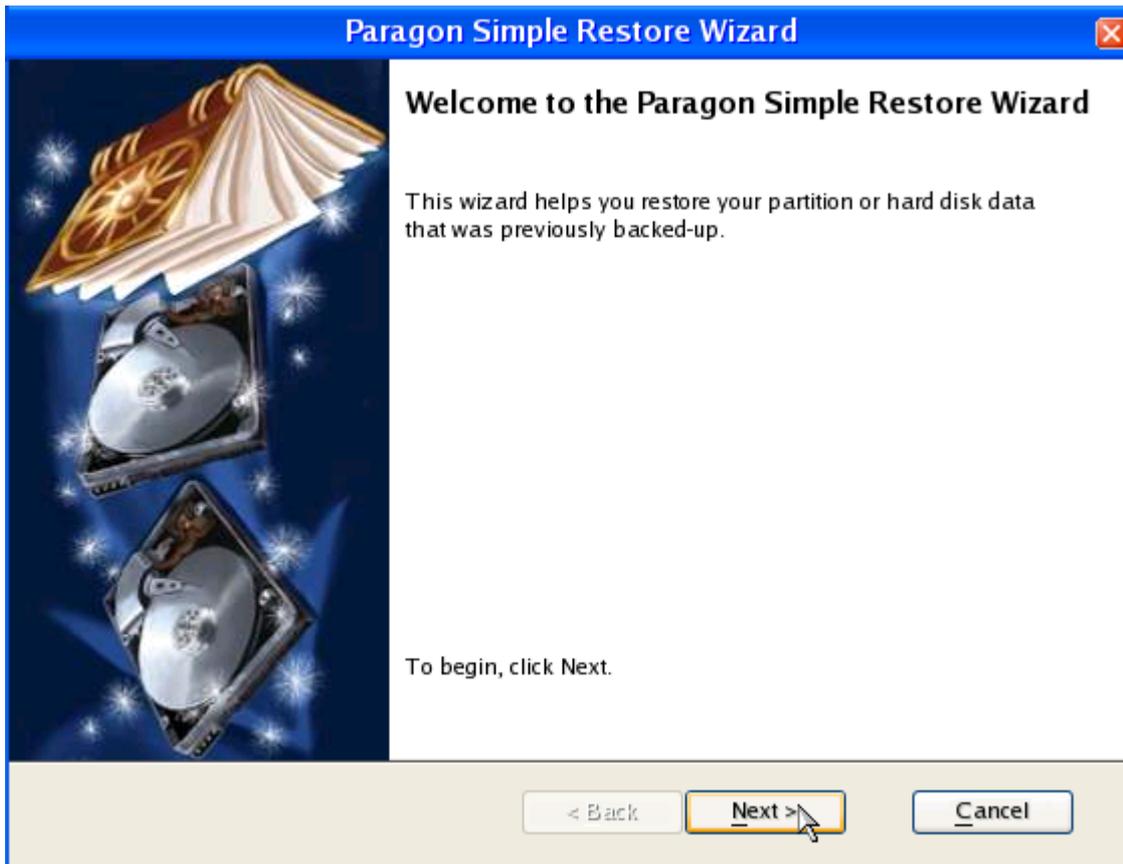


2. Launch the Simple Restore Wizard to restore the whole snapshot;

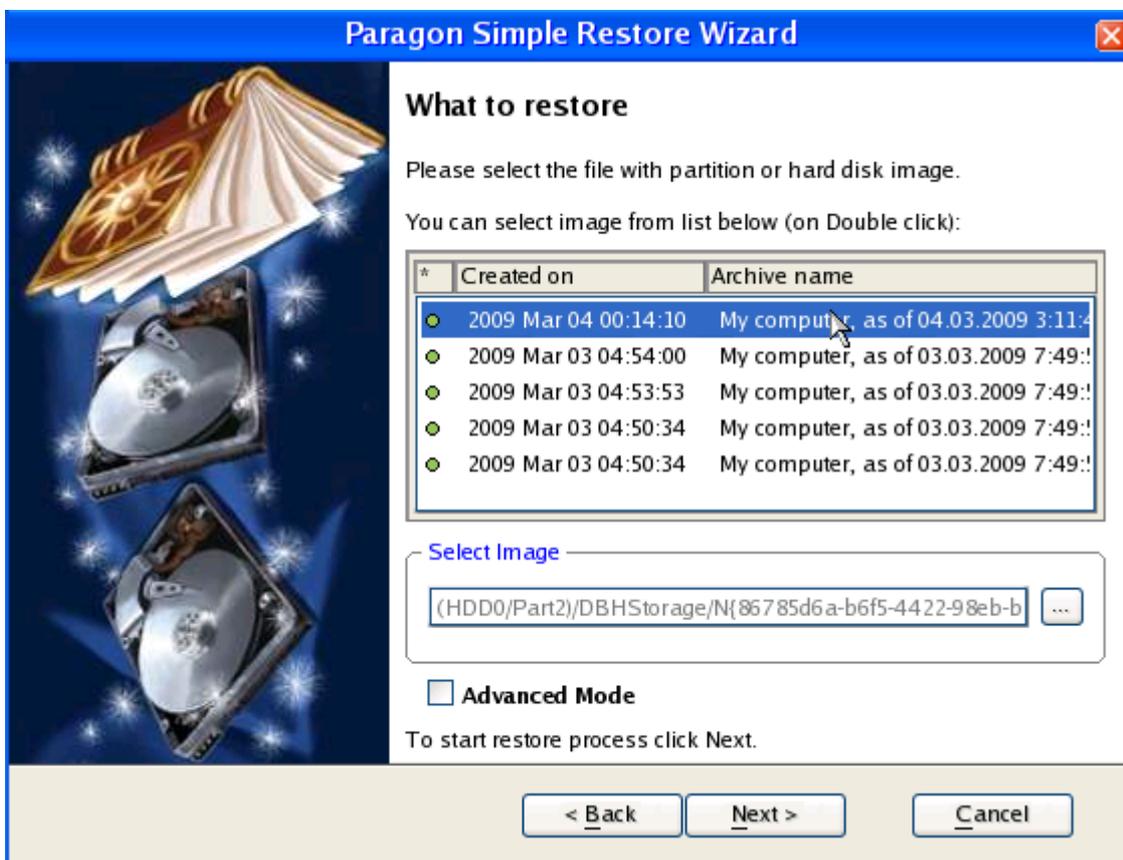


Please use the File Transfer Wizard to browse contents of existing snapshots and restore separate files and folders.

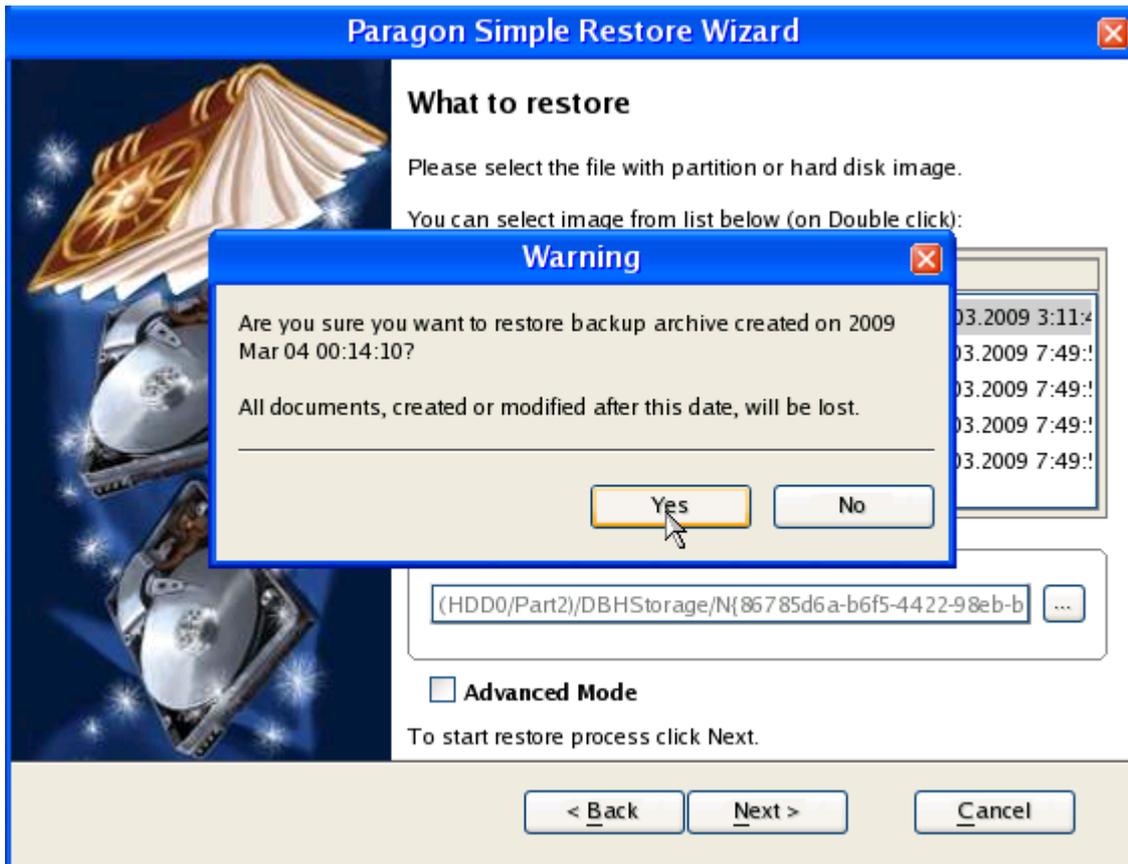
3. On the Wizard's Welcome page, click the Next button;



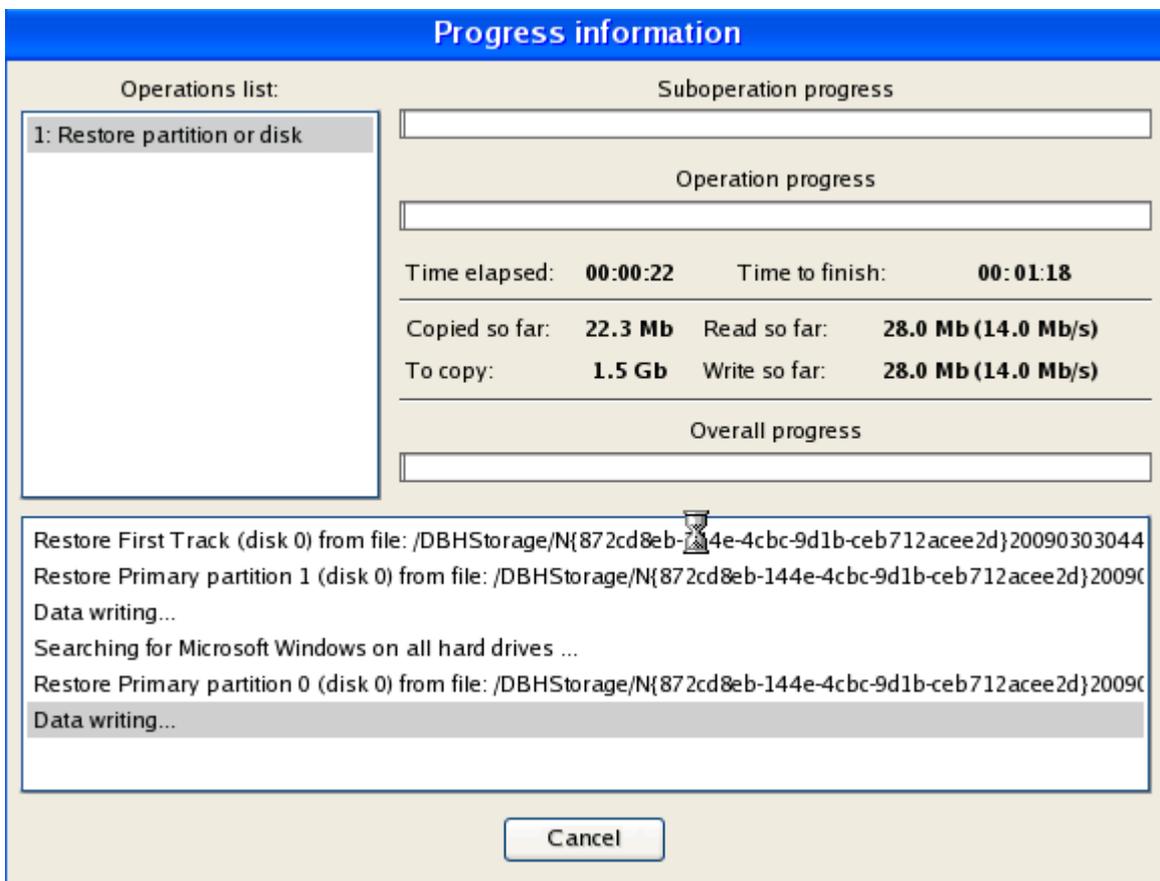
4. On the What to Restore page, you can see a list of available snapshots (if several). When you find your image, double click on it to proceed;



5. You will be notified that all files created after the snapshot date will be lost. So it's recommended to select the most recent snapshot to minimize the risk of data loss;



6. In the Progress window you can see in real-time a detailed report on all actions carried out by the program;



7. Click the Finish button and then restart the computer.

After the restore operation, all on-disk partitions will be automatically checked for the file system integrity during the next system restart. Please don't worry, it's done on purpose.

You can accomplish the same operation with the WinPE 2.0 Recovery CD. Its interface is similar to the Windows version of the program, so please consult the [previous scenario](#) for more information.

CONCLUSION

Paragon System Backup is a full-fledged disk imaging utility that can satisfy the needs not only of an inexperienced user, but of any user who feels strongly about the system and data protection issue. The minimal user participation approach can be certainly appreciated by those who are not willing to look into technical peculiarities, those who only need the result – guaranteed protection of the system and data with the minimal efforts possible. That's where System Backup is a real pro.

Moreover keen followers of the I-need-full-control approach will certainly love the option of manual operation with a number of handy wizards (can be found in **Start > Paragon System Backup 2010 > Advanced**). In this guide however we've not touched upon this side of the product, as it's optional and comes as a useful bonus.

Please, send your opinion about this product to feedback@paragon-software.com

Thank you!