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Volume Snapshot for Mac® OS X

User Manual

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Introduction

Paragon Volume Snapshot for Mac® OS X is an online disk-imaging utility, which is actually the only snapshot based backup solution available for Mac computers at the moment. That means, with this program you can easily make an exact point-in-time copy of any volume of your Mac, even the system one, without the need to restart the system or any other inconvenience from your side, to later quickly get everything back on track in case of emergency.

Unlike Time Machine and the other file-level backup utilities, our solution is faster both, in backup and restore, for it doesn't have to wait until all locked files become available, and it doesn't require additional re-installation of Mac OS X before restoring from a backup.

In this guide you will find the answers to many of the technical questions, which might arise while using our program.

> **Our company is constantly releasing new versions and updates to its software, that's why images shown in this manual may be different from what you see on your screen.**

Features Overview

This chapter dwells upon key benefits and technical highlights of the product.

Key Features

Let us list some of the key features:

- **True live protection for system and data volumes**. Creating a snapshot of the whole disk system tackles the problem of backing up running applications and system locked files.

- **Smooth system recovery**. You just start up your Mac from the installation disc and launch the restore operation through Disk Utility without the need to re-install the system first.

- **Restore at a granular level**. Since we do backups as DMG disk images, which are standard for Mac OS X, you can mount these images and recover data selectively without the need to restore an entire image.

- **High efficiency**. We don't overload the system during backup and are really fast (approx. 1 gigabyte per minute).

- **Wide backup destination**, including local volumes, external storages, and network shares.

- **ssctl utility** to manage snapshots for the command line.

- **Simple and easy interface.** Our program operates exactly as any Mac OS X native application.

Supported Media

- Large hard disks (up to 1,5 TB tested)

- IDE, SCSI and SATA hard disks

- FireWire (i.e. IEEE1394), USB 1.0, USB 2.0 hard disks, ZIP® and Jazz® disks

- PC card storage devices (all types of flash memory, etc.)

Snapshot versus File Archiving

Snapshot is a common industry term denoting the ability to record a state of a storage device at any given moment (make a snapshot), and then preserve that snapshot as a guide for restoring this storage device in case of emergency. Primarily a snapshot has to do with making a point-in-time copy of data.

Unlike the traditional for Mac OS X backup, that involves file archiving, a snapshot technology enables to make a consistent image even as the data is currently modified. The point is to provide a coherent state of all open files involved in a process, taking into account that applications may still keep writing to disks. That's why only this type of backup can be used for protecting an active operating system, while Time Machine, for instance, requires re-installation of Mac OS X before the restore operation.

Moreover, even though Time Machine can wait until running applications are closed and locked files become available, the backup operation certainly takes more time than if it's done with a snapshot based utility.

Getting Started

In this chapter you will find all the information necessary to get the product ready to use.

System Requirements

To use Paragon Volume Snapshot for Mac OS X, you should install it first. But before that, make sure your computer meets the following minimum system requirements:

- Operating systems: Mac OS X 10.4.6 Tiger or higher, 10.5 Leopard, and 10.6 Snow Leopard

- PowerPC G4 or x86

- 128 MB of RAM

PowerPC G5 has not yet been tested for compatibility, but our driver is most likely to work flawlessly on it.

Installation

To install Paragon Volume Snapshot for Mac OS X, please do the following:
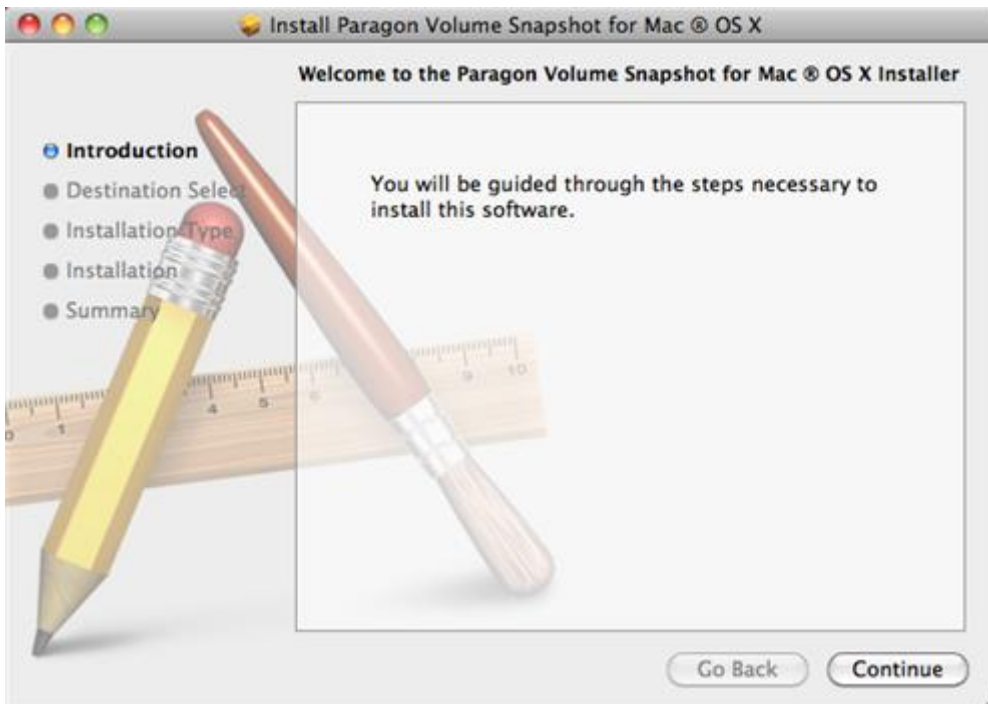
1. Launch the installation process by clicking on the supplied DMG disk image.

2. After the installation package is extracted you can choose whether to install/de-install the program or read the manual or license agreement. Click **Volume Snapshot for Mac® OS X** to install the program.

3. In order to actually start up installation of the program, you need to confirm your intention by clicking the **Continue** button.

4. The setup wizard contains a standard user interface and set of installation steps to easily go through the process of installation. The Welcome page informs that the application is being installed. Click **Continue**.
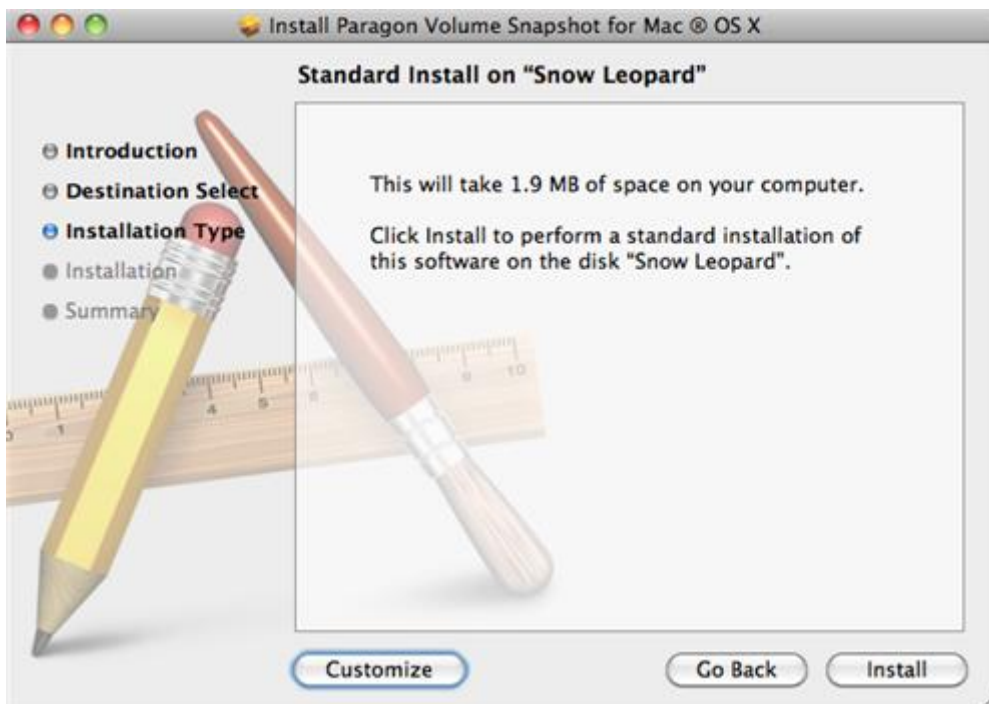

5. Choose where you'd like to install the program, and then click **Continue**.

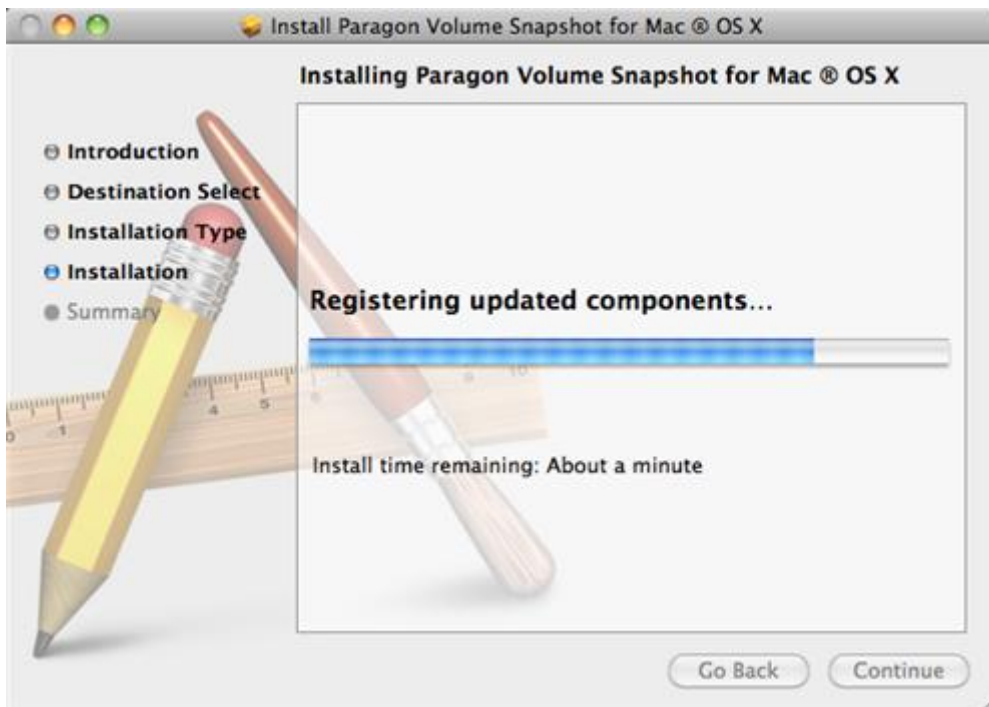⚠️ **The program can only be installed on an active Mac OS X volume.**

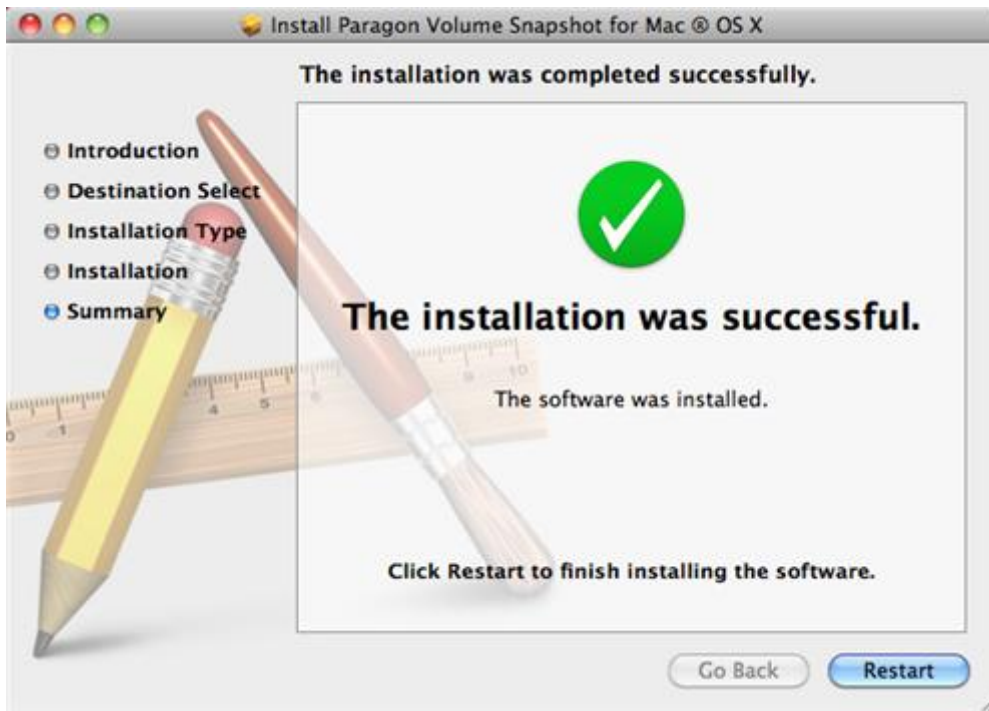6. On the Installation Type page click **Install** to continue.

7. As the next step of the installation you are to provide a password of a user with the administrator privilege.

8. The next page shows the overall progress of the installation.

9. On the Summary page click **Restart** to complete the installation process and restart the computer.

Contacting Paragon Technology GmbH

If you have any questions about the company products, please do not hesitate to contact Paragon Technology GmbH.

Service	Contact
Visit Paragon GmbH web site	www.paragon-software.com
Registration & updates web-service	kb.paragon-software.com
Knowledge Base & Technical Support	kb.paragon-software.com
Pre-sale information	sales@paragon.software.com

Unfortunately, the company can only provide technical support in the following languages at the present time: English, German, French and Russian. We are really sorry for possible inconvenience.

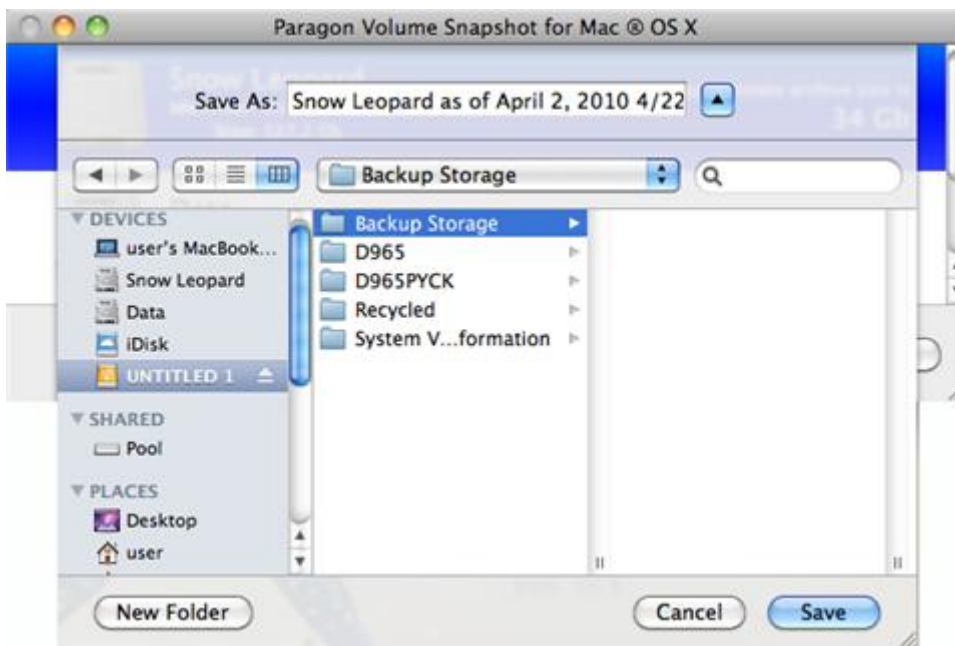## Backing Up System to External Storage

Once the program has been installed you can protect any volume of your Mac. Let's take a closer look at how to back up the system volume and place the resulted image to an external storage to stand a better chance of success in case of a hard disk failure:

1. Launch our utility: **Finder > Applications > Paragon Volume Snapshot for Mac OS X**.

2. In the opened dialog select a system volume (in our case it's Snow Leopard). Once you do that, the program will estimate size of the future backup image. Click **Back Up** to continue.

3. Set a backup destination (in our case it's an external storage), then click **Save** to start. Our program enables to place backup images to local volumes, external storages, and network shares.
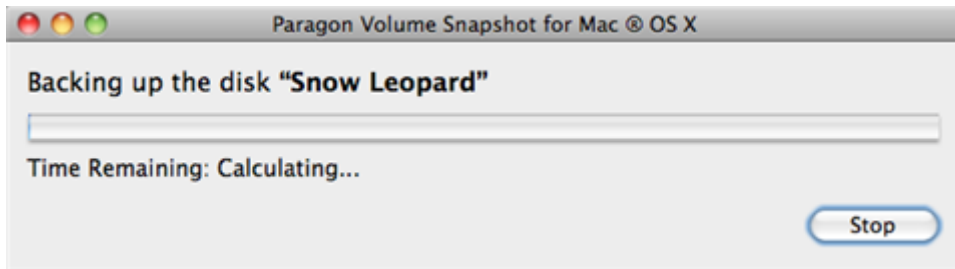

> ⚠ **You're not allowed to place backup images on volumes these images are made out of. It's done for safety reasons.**
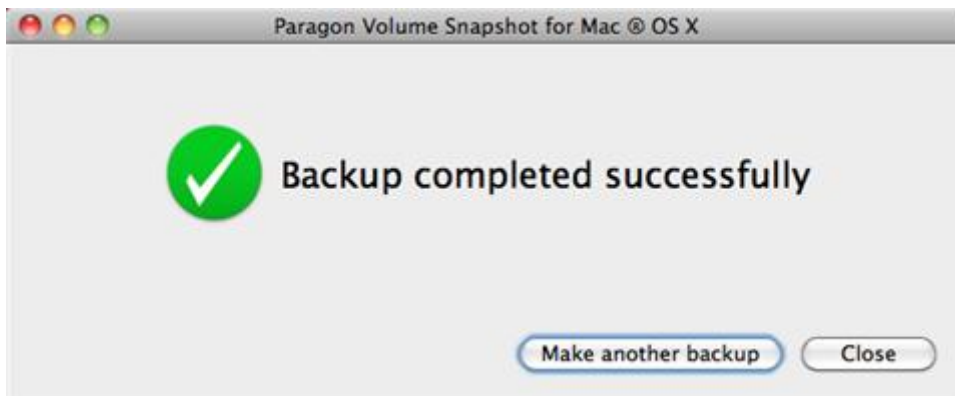
4. You will need to confirm the operation providing a password of a user with the administrator privilege.

5. That's basically it. The program will estimate time to complete the operation and start backing up the selected volume.

6. You will be notified once the backup process is over.

Restoring System from External Storage

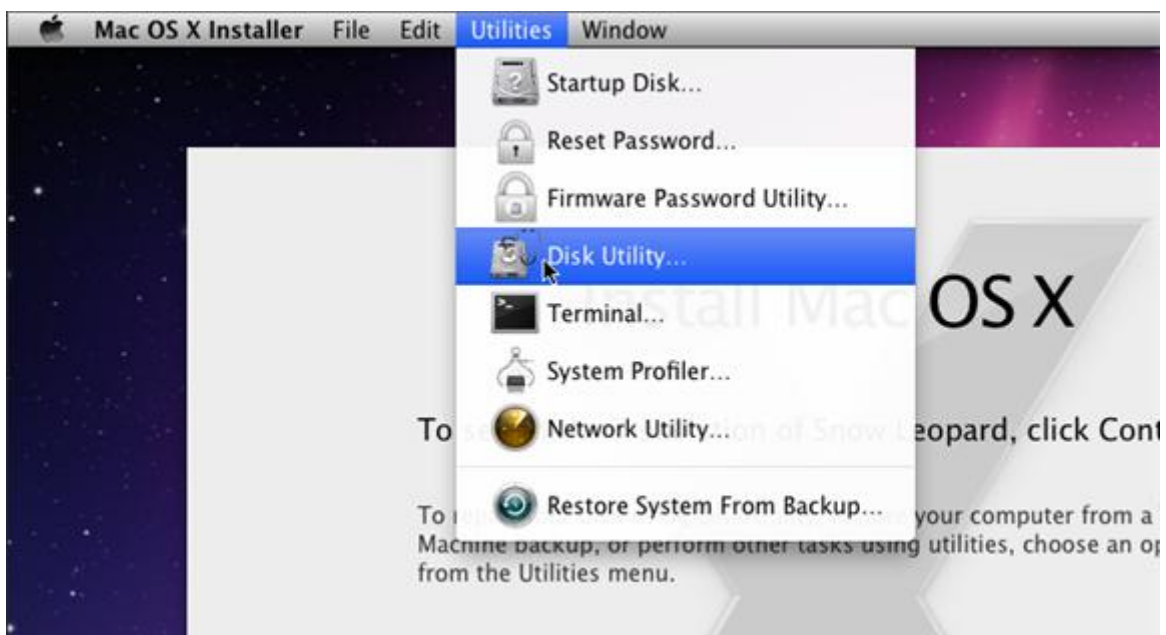Since we do backups as standard DMG disk images, you've got several options for restore:

- If you've accidentally lost some files, you can mount a backup image and recover data selectively without the need to restore an entire image

- To restore an entire data volume, launch Disk Utility under Mac OS X and do the recovery

- If your Mac doesn't start up, just boot from its installation disc, then launch Disk Utility to do the recovery

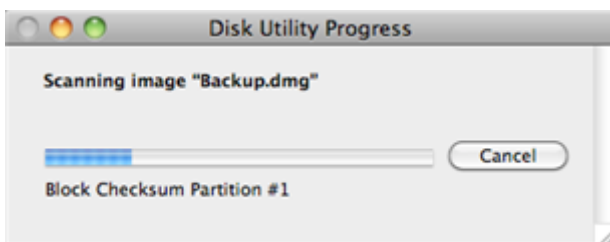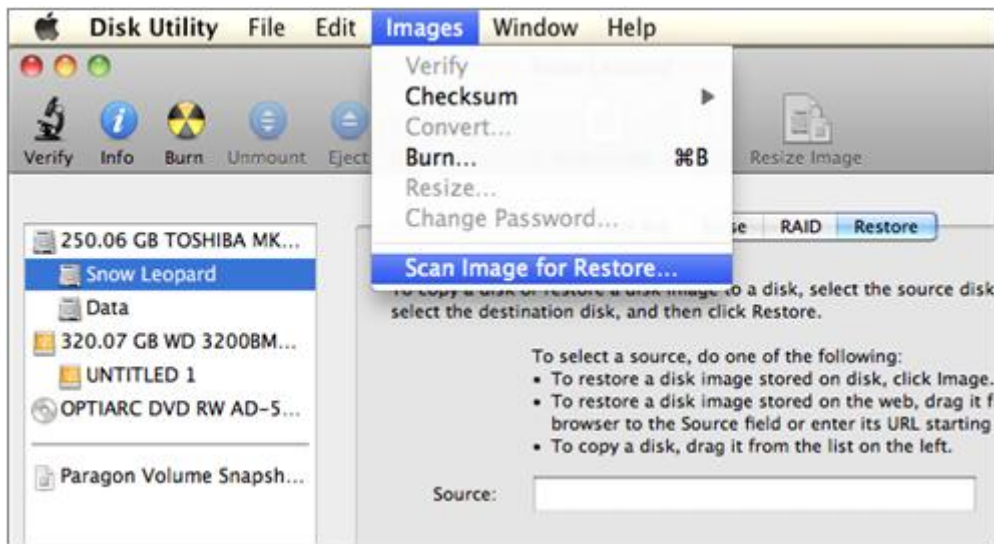So let's take a closer look at how to get the system back on track when it fails to start up:

1. Insert the Mac OS X installation disc into a CD/DVD drive.

2. Reboot the computer.

3. Press and hold the **Alt** button until the Apple boot menu starts.

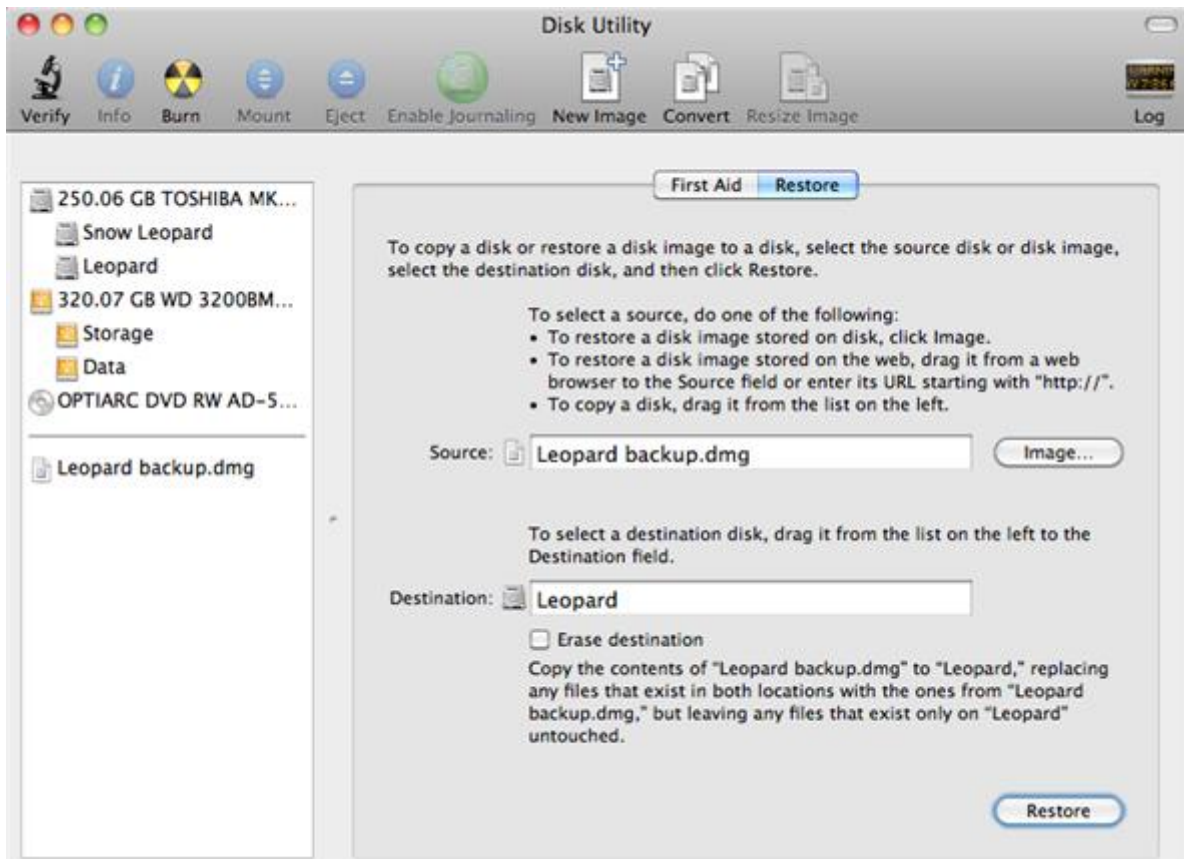4. Select a CD/DVD device to boot from.

5. Select your language.

6. Launch Disk Utility: **Utilities > Disk Utility...**

7. Scan an image you'd like to restore (in our case it's backup.dmg). It's an obligatory action before restoring any DMG disk image, so please take it for granted.

8. Select the checked image as source and your system volume as destination, then click **Restore** to start. Please make sure you do everything right for all contents of the selected volume will be deleted.

9. Confirm the operation by clicking **Restore**.

10. That's basically it. When the operation is over, start up your Mac in the normal mode.

Using Command Line

Paragon Volume Snapshot for Mac® OS X additionally comes with a command line utility called **ssctl** that allows complete snapshot management:
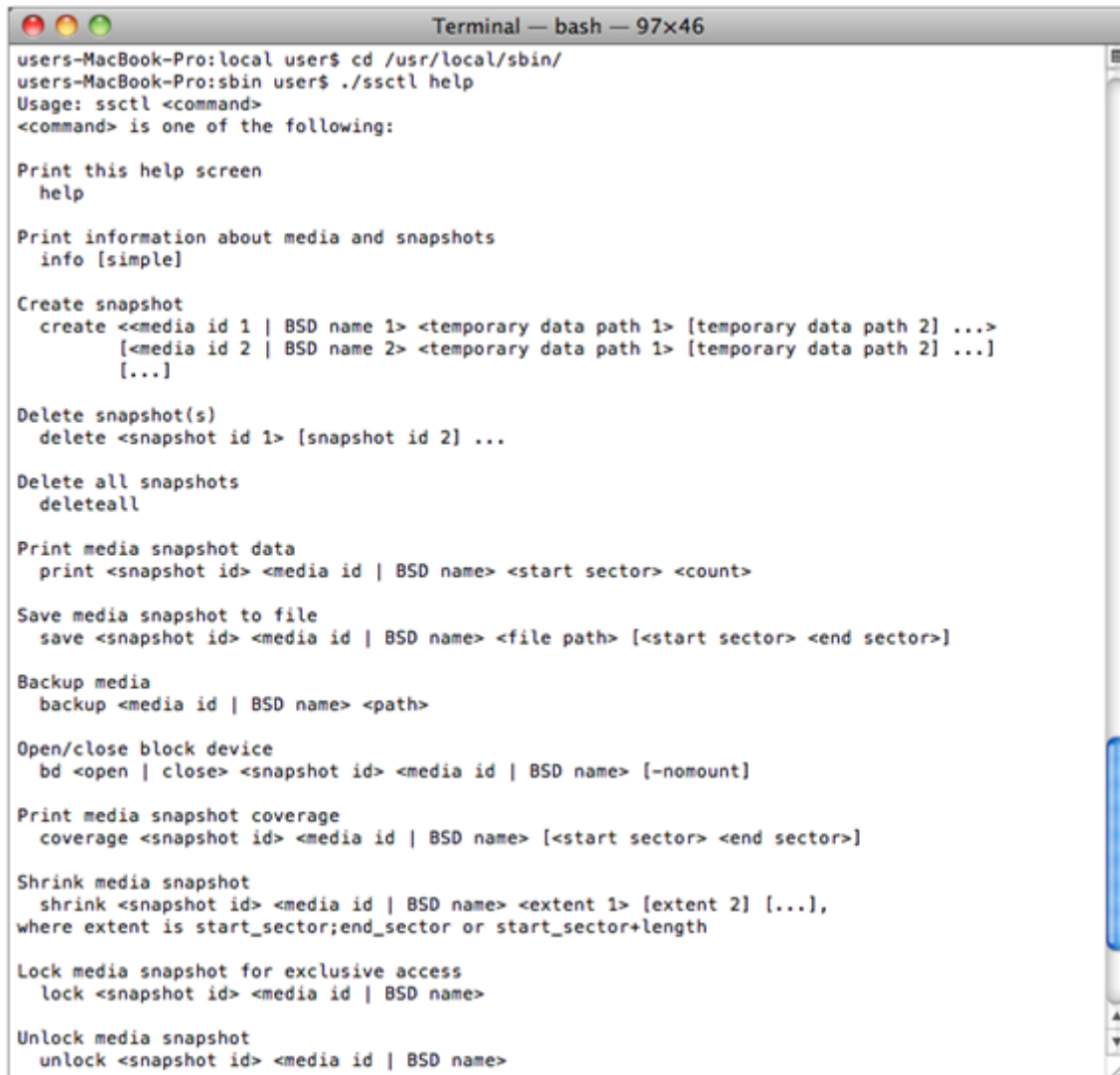
- Create a snapshot of one or several volumes;

- Specify location for snapshot temporary files;

- Open snapshots as block devices, etc.

During the installation process this utility will be copied to **/usr/local/sbin**.

To manage snapshots from the command line, please do the following:

- Launch the command line: **Applications > Utilities > Terminal**;

- Type in **sudo ssctl** to get help. Please note, only a user with the administrator privilege can use this utility.

```
● ○ ○                    Terminal — bash — 97×46
users-MacBook-Pro:local user$ cd /usr/local/sbin/
users-MacBook-Pro:sbin user$ ./ssctl help
Usage: ssctl <command>
<command> is one of the following:

Print this help screen
  help

Print information about media and snapshots
  info [simple]

Create snapshot
  create <<media id 1 | BSD name 1> <temporary data path 1> [temporary data path 2] ...>
         [<media id 2 | BSD name 2> <temporary data path 1> [temporary data path 2] ...]
         [...]

Delete snapshot(s)
  delete <snapshot id 1> [snapshot id 2] ...

Delete all snapshots
  deleteall

Print media snapshot data
  print <snapshot id> <media id | BSD name> <start sector> <count>

Save media snapshot to file
  save <snapshot id> <media id | BSD name> <file path> [<start sector> <end sector>]

Backup media
  backup <media id | BSD name> <path>

Open/close block device
  bd <open | close> <snapshot id> <media id | BSD name> [-nomount]

Print media snapshot coverage
  coverage <snapshot id> <media id | BSD name> [<start sector> <end sector>]

Shrink media snapshot
  shrink <snapshot id> <media id | BSD name> <extent 1> [extent 2] [...],
where extent is start_sector;end_sector or start_sector+length

Lock media snapshot for exclusive access
  lock <snapshot id> <media id | BSD name>

Unlock media snapshot
  unlock <snapshot id> <media id | BSD name>
```

- Launch a command according to the utility's grammar. To know more on the subject, please e-mail a request to technology@paragon-software.com.
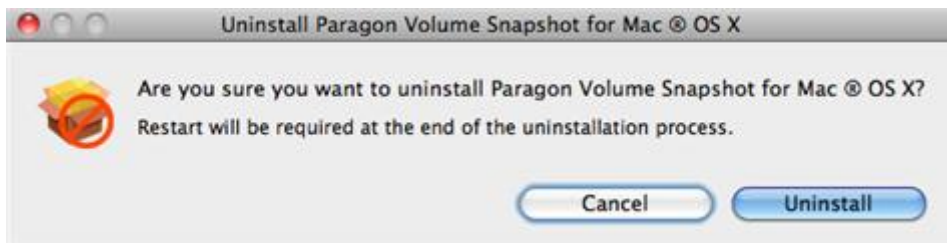
De-installation

To de-install Paragon Volume Snapshot for Mac OS X, please do the following:

1. Open the installation package by clicking on the supplied DMG disk image.

2. After the installation package is extracted click **Uninstall Volume Snapshot for Mac® OS X**.

3. The setup wizard will ask confirmation before removing the program from the system, so please click the **Uninstall** button.

4. On the next page enter the root user password (if any) to accomplish the operation. Click **OK** to finish the de-installation process.

5. Click **Restart** to finish the de-installation process.