



**C A S P E R<sup>TM</sup>**

**SMARTSTART<sup>TM</sup> GUIDE**

**VERSION 8.0**



**Future Systems**  
SOLUTIONS

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# Introduction

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Casper SmartStart™ makes it a snap to maintain a complete backup of your computer's hard disk or replace your computer's hard disk with a new disk to increase speed or storage capacity.

When you use Casper SmartStart to create a backup for your computer, you choose the backup device and type of backup that will provide you with the recovery capabilities you require and Casper does the rest. When choosing a new disk for the backup, Casper will also initialize the disk for you automatically. For complete details, see **Creating and Maintaining a System Backup**.

When upgrading your computer to equip it with a faster or larger capacity system disk, Casper SmartStart will automatically initialize the replacement disk and copy everything from your existing system disk to your new disk. See **Upgrading the Windows System Disk** for complete details.

**NOTE:** This guide provides an overview of Casper SmartStart. For additional assistance, please refer to the **Casper User Guide** or help file included with the program.

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## System Requirements

- Windows 8, Windows 7, Windows Vista, Windows XP, or Windows 2000 Workstation

NOTE: The Casper disk imaging feature is supported only on Windows 7 and later. Casper is not designed for use with Windows Server Editions. Background copying not supported on Windows 2000.

- 500MB available disk space
- 512MB RAM (1GB or more recommended)
- Backup device (additional internal or external hard disk drive)

# Important Concepts

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Casper SmartStart can create bootable backups and restore-point backups for your computer. Both provide unique recovery capabilities that you should consider before proceeding.

## ***Bootable Backups***

A bootable backup represents a separate backup device that you can use to temporarily boot and run your computer in an emergency or that you can use as an immediate and permanent replacement for your computer's Windows system disk. A bootable backup is sometimes referred to as a clone backup because it maintains a duplicate copy ("clone") of your Windows system disk.

Bootable backups provide the advantage of instant recovery because a separate data restoration process is unnecessary. Recovery is simply a matter of restarting your computer from the bootable backup. For example, if your Windows system disk fails or becomes corrupted, you can permanently replace it with your bootable backup or temporarily change your computer's boot sequence to designate your bootable backup as the preferred boot device.

Bootable backups also provide you with immediate access to all of your files and data. For example, you can use Windows Explorer to retrieve a specific file or folder directly from your backup without having to separately mount your backup or extract files or folders from the backup.

Because a bootable backup is a copy of your entire system hard disk made to another disk, it provides you with the ability to recover only a single point-in-time. For example, the backup will contain only those files and folders that were present on your Windows system disk when the backup was created or last updated. Each time you update a bootable backup, the prior contents of the backup are replaced with the current contents of your Windows system disk.

Using two or more separate disks to maintain additional bootable backups in a backup rotation is necessary when additional point-in-time backups are desired. This practice is also recommended to provide redundancy from backup corruption, which can occur when a bootable backup is interrupted during an update.

When relying strictly on a bootable backup to protect your computer, it is good practice to rotate the backup disk between each successive backup. For example, if you update your bootable backup weekly, you might use two separate disks to maintain two independent bootable backups for your computer. On the first week, you would back up your computer to your first backup disk. On the second week, you would back up your computer to your second backup disk. On the third week, you would back up your computer to your first backup disk again, and so on. In this way, should a problem develop with one of the backups, you can still fall back to the older backup to recover.

Using Casper to create and maintain a bootable backup for your computer system requires a hard disk large enough to accommodate all of the data on the current Windows system hard disk. For a desktop system, using a second internal hard disk, or one mounted in a removable (mobile) drive bay for the backup hard disk is ideal. If the desktop system supports booting from eSATA or USB hard disk type devices, using an external hard disk for the backup is also ideal. For a notebook computer, a secondary media bay or external USB, Firewire, or eSATA hard

disk enclosure designed specifically for a 2.5" notebook hard disk is recommended to mount and attach the backup hard disk to the notebook. Using a 3.5" external desktop hard disk as the backup for a notebook is not recommended unless the notebook supports booting from eSATA or USB hard disk type devices.

## ***Restore-Point Backups***

A restore-point backup represents a collection of separate backups stored on a single storage device that you can use to restore your computer's Windows system disk to a previous point-in-time. A restore-point backup is also known as an image backup because it consists of one or more image files, each corresponding to the state of your Windows system disk at the time the image was created.

Because multiple restore-points may be maintained on a single backup device, restore-point backups provide additional recovery options that are not available when using a bootable backup. For example, if your Windows system disk fails or becomes corrupted, you can restore your Windows system disk to any one of the restore-points you have created. Likewise, when only a specific file or folder needs to be restored, you can choose a specific restore-point from which to retrieve the file or folder.

Unlike a bootable backup, a restore-point backup will not overwrite or replace any other data stored on the backup device. For example, the backup device for a restore-point backup can be almost any disk, including a disk that already contains other data such as photos, documents, music, etc.

Using Casper to create and maintain a restore-point backup for your computer system requires a storage device with free space that is at least several times greater than the amount of used space on your Windows system hard disk. An external USB or eSATA connected storage device with the prerequisite amount of free space is often ideal for maintaining restore-point backups. While the exact amount of free space depends on several factors, usually about three times the amount of used space on your Windows system hard disk is enough free space for Casper to create and maintain multiple restore-points for a restore-point backup. For example, if 150GB represents the current amount of used space on your Windows system disk, using a storage device with approximately 450GB of free space is generally sufficient to maintain a restore-point backup with a good variety of restore-points.

As with a bootable backup, when relying strictly on restore-point backups to protect your computer, it is good practice to rotate the backup device between successive backups. This will help to ensure a viable backup exists in the event one of your backup devices suffers an untimely mechanical failure or data corruption, which might otherwise prevent you from restoring a backup.

Unlike a bootable backup, recovery using a restore-point backup requires a separate restoration step from the Casper Startup and Recovery Environment. For example, to restore your Windows system disk from a restore-point backup, you must boot your computer from a Casper Startup Disk to perform the restore. Alternatively, when the Casper Startup and Recovery Environment has been added to your backup device, you can boot your computer directly from your backup device to perform the restore. In most instances, Casper's SmartRestore™ technology will fully automate the restoration process for you. For details on creating a separate Casper Startup Disk, please see the **Casper Startup Disk Creator Guide**.

## Comparison of Bootable Backups and Restore-Point Backups

|   | Casper Bootable Backup   | Casper Restore-Point Backup   |
|---|--|---|
| Contains a complete backup of your Windows system disk? | Yes  | Yes   |
| Can be used to boot and run computer if necessary?      | Yes  | No  |
| Can be used to recover just one or more files?          | Yes  | Yes   |
| Provides multiple restore points?                       | No   | Yes   |
| Type of storage device required                         | Dedicated internal or external hard disk device                              | Internal or external storage device   |
| Other data can be stored on the backup storage device   | No. Backup completely replaces existing content of storage device.           | Yes. Backups can coexist with other new and existing files and folders on storage device. |
| Size of storage device required                         | Large enough to accommodate all of the data currently on Windows system disk | Free space equal to three times the amount of used space on current Windows system disk   |

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**NOTE:** For a hard disk attached as an external USB device, booting from the backup hard disk may require the selection of additional BIOS options to completely enable booting. By default, some BIOS implementations disable USB boot support, or have it configured for floppy or ZIP drive emulation rather than hard disk drive (HDD) emulation. *If the computer's BIOS does not support booting from external USB hard disk type devices, a bootable backup hard disk must be removed from its external enclosure and installed as a replacement for the internal hard disk in order to boot from it.* Alternatively, a restore may be performed by using the Casper Startup Disk to copy the external backup hard disk to the computer's internal hard disk.

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# Getting Started

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Casper SmartStart will begin automatically whenever you attach a new disk or existing backup disk to your computer. When the disk is already installed or attached, you can manually launch Casper SmartStart.

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## Manually Starting Casper SmartStart

In Windows 8, select **Casper SmartStart** from the Windows **Start** screen. In Windows 7 and earlier versions, follow this procedure:

1. Click the **Start** button.
2. Click **All Programs**.
3. Point to the **Casper 8.0** menu.
4. Click **Casper 8.0 SmartStart**.

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**NOTE:** By default, Casper SmartSense will ignore new disks having a capacity less than 32GB. Please see *Configuring Casper SmartSense* in the Casper Help file for additional information.

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# Creating and Maintaining a System Backup

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Casper SmartStart can create bootable backups and restore-point backups for your computer. When creating a backup on a hard disk for the first time, Casper SmartStart will prompt you to select the type of backup to create. Both provide unique recovery capabilities that you should consider before proceeding. Please refer to **Important Concepts** for complete details.

For the greatest level of protection, maintaining a combination of bootable backups and restore-point backups on multiple devices in rotation is ideal. When this is not possible, the type of backup you choose to maintain will depend greatly on your specific situation and recovery needs.

If minimizing downtime is of utmost importance, maintaining two or more bootable backup disks in rotation will be preferable to a restore-point backup. On the other hand, if you frequently create or update content on your system, maintaining a restore-point backup might be a better choice.

Your travel habits may also influence your decision. For example, if you frequently travel with your computer, you may find it difficult to carry multiple backup disks. In this case, a restore-point backup might be the better choice because it can maintain multiple recovery points on a single backup disk.

The following examples illustrate the various ways to create and maintain a complete backup of your Windows system disk using Casper SmartStart.

**Example 1: Creating a Bootable Backup.** This example demonstrates how to initialize a new disk for use as a complete backup replacement for your Windows system disk.

**Example 2: Creating a Restore-Point Backup.** This example illustrates how to create a restore-point backup for your Windows system disk.

**Example 3: Updating a Backup.** This example shows how to manually update an existing backup of your Windows system disk. The process is the same whether updating a bootable backup or a restore-point backup.

**Example 4: Automating an Internal Backup.** This example illustrates how to fully automate a backup maintained on a disk that is mounted internally within your computer.

**Example 5: Automating an External Backup.** This example shows how to fully automate a backup maintained on a portable disk such as a USB, Firewire, or eSATA connected disk.

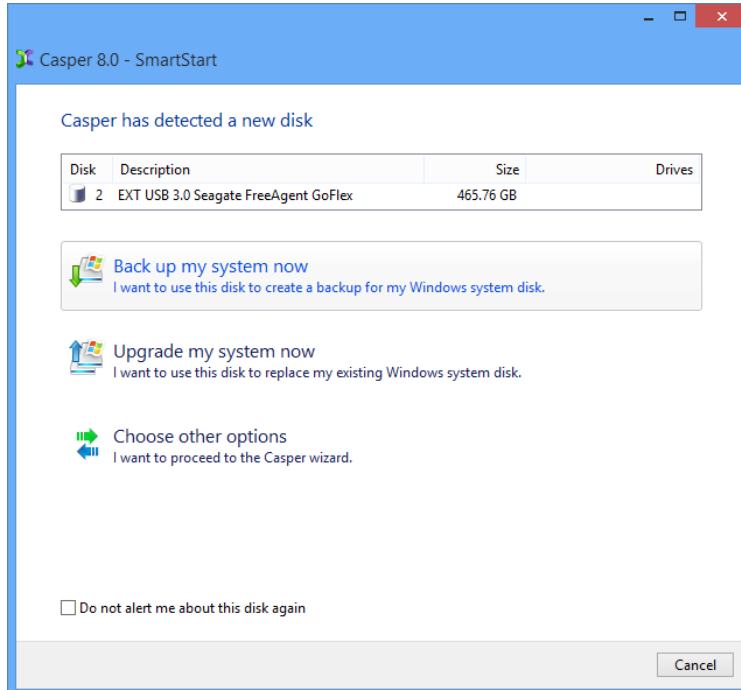
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## Example 1: Creating a Bootable Backup

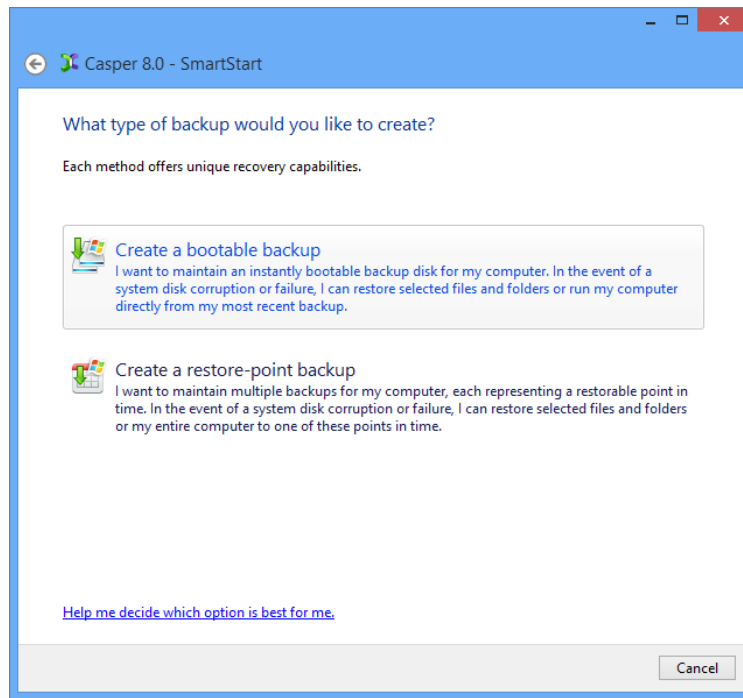
When you attach a new hard disk to your computer using an external USB, Firewire, or eSATA interface, Casper SmartStart will begin automatically and prompt you to back up your system. If the new disk is installed internal to the computer, or if Casper SmartSense is unable to detect the new disk, you must manually launch Casper SmartStart to begin the process.

When creating a system backup, Casper SmartStart will automatically make all of the necessary selections within Casper to immediately perform the back up of your Windows system disk.

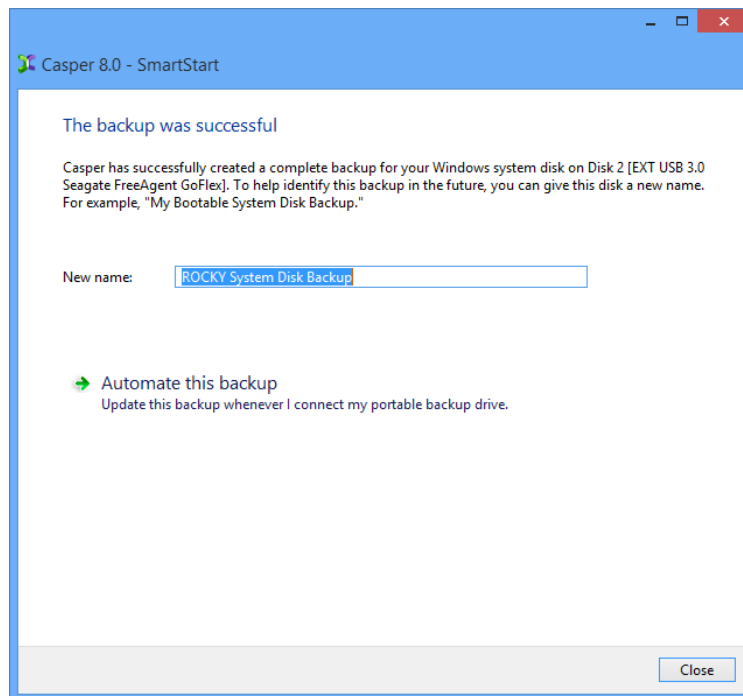
1. Select **Back up my system now**.



2. Select **Create a bootable backup**. Unless Casper detects data on the new disk, the backup will begin immediately.



3. When Casper has completed the backup, you can choose a new name for the disk. This can help you to identify the disk in the future. When you are finished, click **Close**.



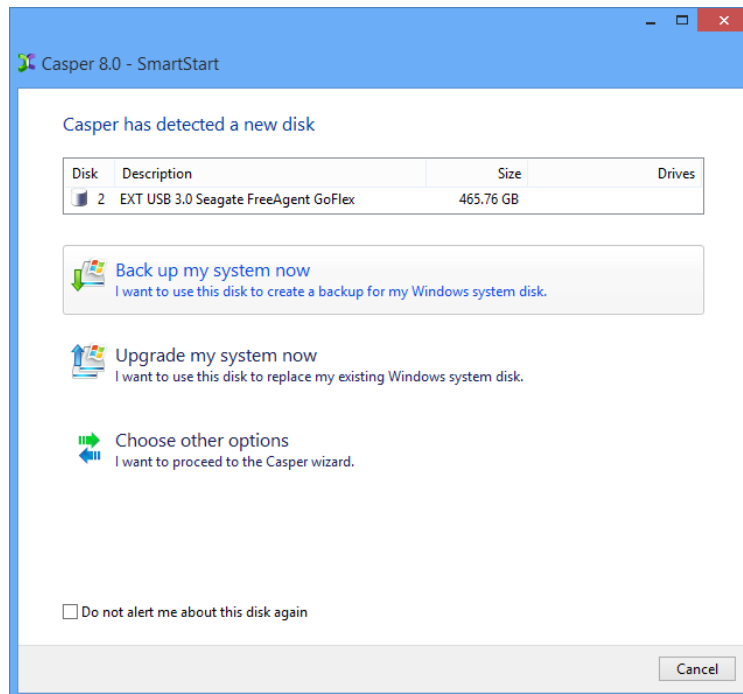
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## Example 2: Creating a Restore-Point Backup

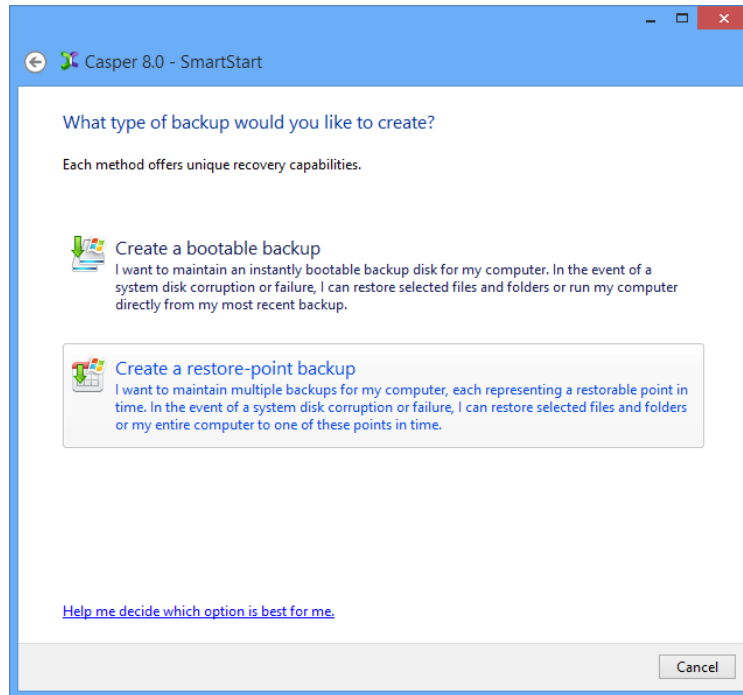
When you attach a new hard disk to your computer using an external USB, Firewire, or eSATA interface, Casper SmartStart will begin automatically and prompt you to back up your system. If the new disk is installed internal to the computer, or if Casper SmartSense is unable to detect the new disk, you must manually launch Casper SmartStart to begin the process.

When creating a system backup, Casper SmartStart will automatically make all of the necessary selections within Casper to immediately perform the back up of your Windows system disk.

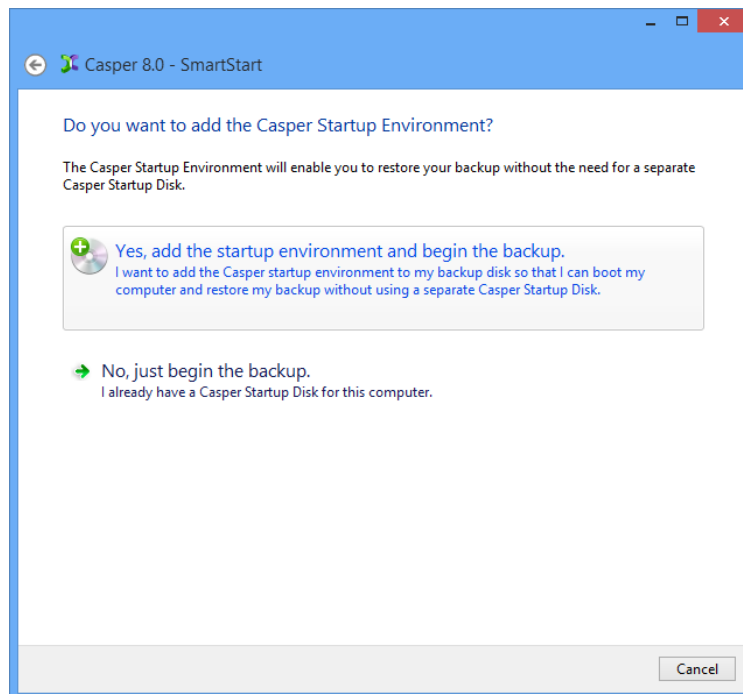
1. Select **Back up my system now**.



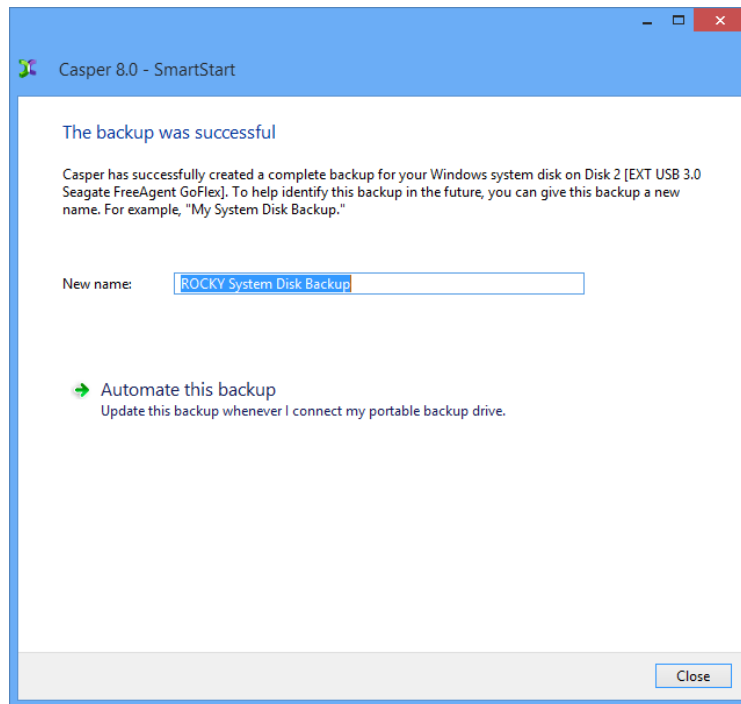
2. Select **Create a restore-point backup**.



3. If the new disk can be used to boot the Casper Startup and Recovery Environment, Casper will offer the option of adding the Casper Startup and Recovery Environment to the disk. This eliminates the need to create and use a separate Casper Startup Disk to restore a backup when recovery is required. Even if you already have a Casper Startup Disk, you may find it useful to have the Casper Startup Environment added to the backup disk. Click **Yes, add the startup environment and begin the backup**.



4. When Casper has completed the backup, you can give it a new name. This can help you to identify the backup in the future. When you are finished, click **Close**.



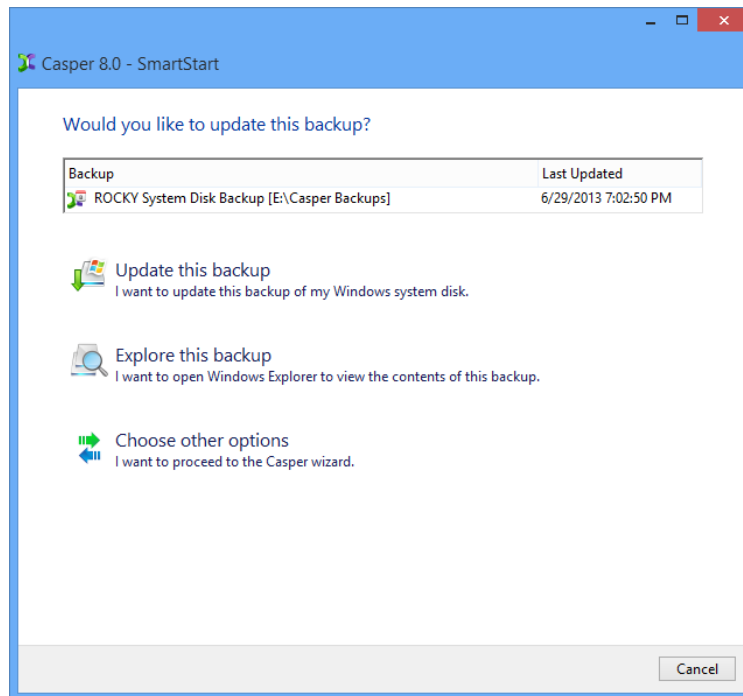
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## Example 3: Updating a Backup

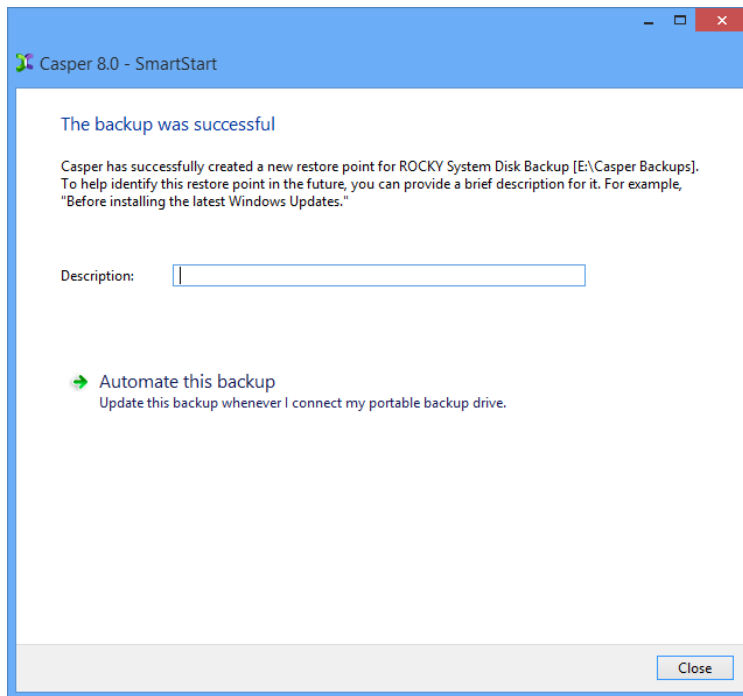
When you attach an existing backup disk to your computer using an external USB, Firewire, or eSATA interface, Casper SmartStart will begin automatically and prompt you to update your backup. If the disk containing your backup is installed internally, or if Casper SmartSense is unable to detect the backup disk, you must manually launch Casper SmartStart to begin the process.

When updating a system backup, Casper SmartStart will automatically make all of the necessary selections within Casper to immediately perform the back up of your Windows system disk.

1. Select **Update this backup**.



2. When Casper has completed the new backup, provide a brief description (or new name) for the backup, and then click **Close**. When updating a restore-point backup, a brief description can make it easier to identify the newly created restore-point in the future. When updating a bootable backup, a new name can make it easier to identify when the backup was last updated.



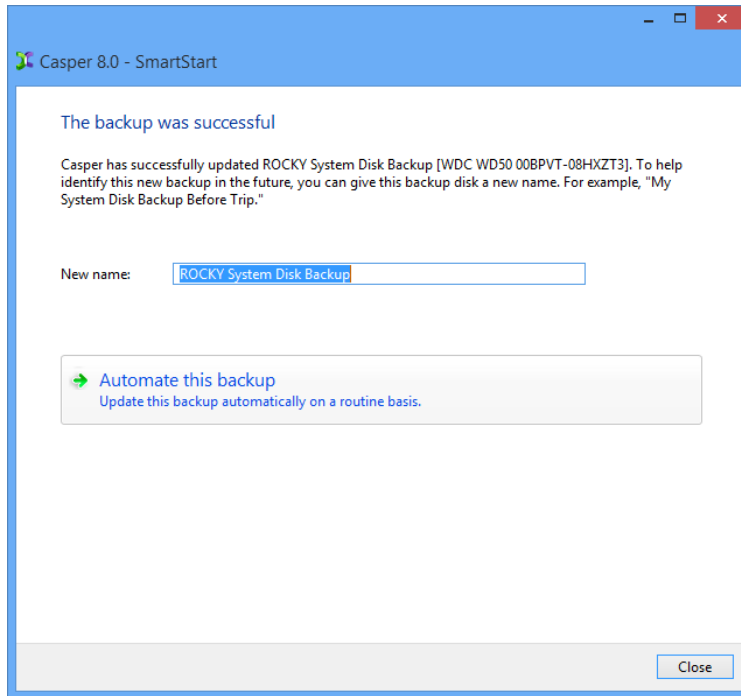


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## Example 4: Automating an Internal Backup

When the backup drive is installed internal to the computer or installed in a removable (mobile) drive bay, you can fully automate the backup process by scheduling Casper to run on a routine basis. The process described below is the same whether you have just completed an initial backup as demonstrated in Examples 1 and 2, or updated an existing backup as demonstrated in Example 3.

1. After completing a backup as described in one of the preceding examples, click **Automate this backup**.



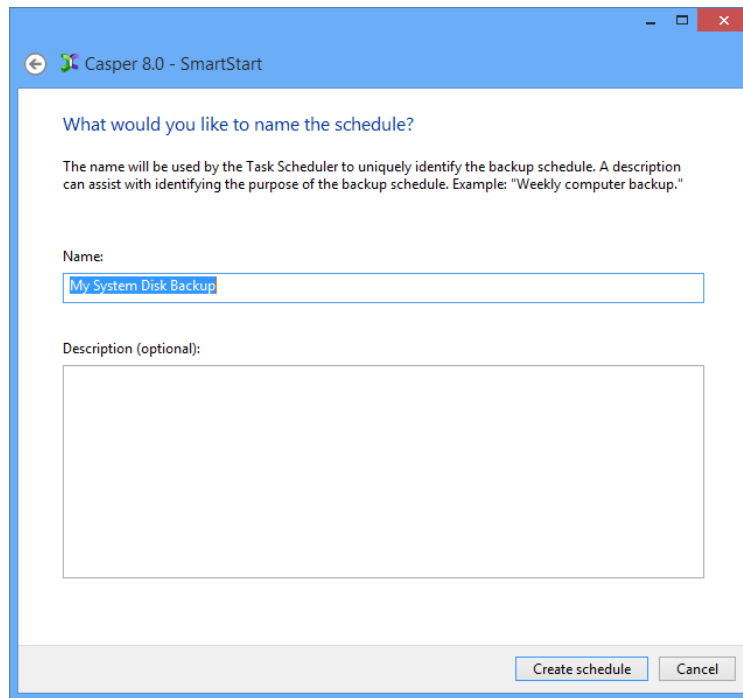
2. Select the schedule you would like Casper to follow to maintain the backup, and click **Next**. For help with the schedule, press **F1**.

The screenshot shows the 'Casper 8.0 - SmartStart' window with the title 'How often would you like the backup performed?'. The 'Select how often you want the backup performed:' dropdown is set to 'Weekly'. Below this, the 'Weekly Backup Schedule' section includes: 'Every:' set to 'Wednesday, Friday', 'At:' set to '02:00 AM', and 'Beginning:' set to 'Monday, July 1, 2013'. The 'Power Management' section has a checked checkbox for 'Wake the computer to perform the backup'. 'Next' and 'Cancel' buttons are at the bottom right.

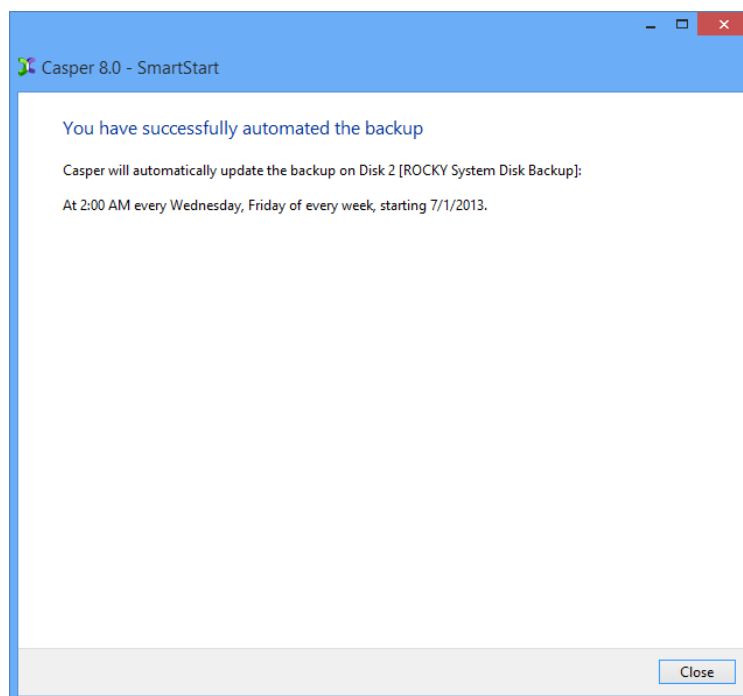
3. Select the desired completion options, and click **Next**.

The screenshot shows the 'Casper 8.0 - SmartStart' window with the title 'Select completion options'. The 'Notify me when completed:' checkbox is checked, with a dropdown set to 'Only if unsuccessful'. The 'Additional notification options' section has a 'Send a SmartAlert' checkbox which is unchecked. Below it, the 'Email address:' dropdown is empty, followed by a 'New' button. The 'Description:' field contains 'ROCKY System Disk Backup'. The 'Turn off computer:' checkbox is checked, with a dropdown set to 'Stand by'. Below it, the 'Turn off computer even if user activity detected' checkbox is unchecked. A 'Help me decide' link is at the bottom left. 'Next' and 'Cancel' buttons are at the bottom right.

4. Enter a name for the schedule, or retain the name suggested by Casper, and then click **Create schedule** to add the backup schedule to your Windows Scheduled Tasks.



5. Click **Close**.



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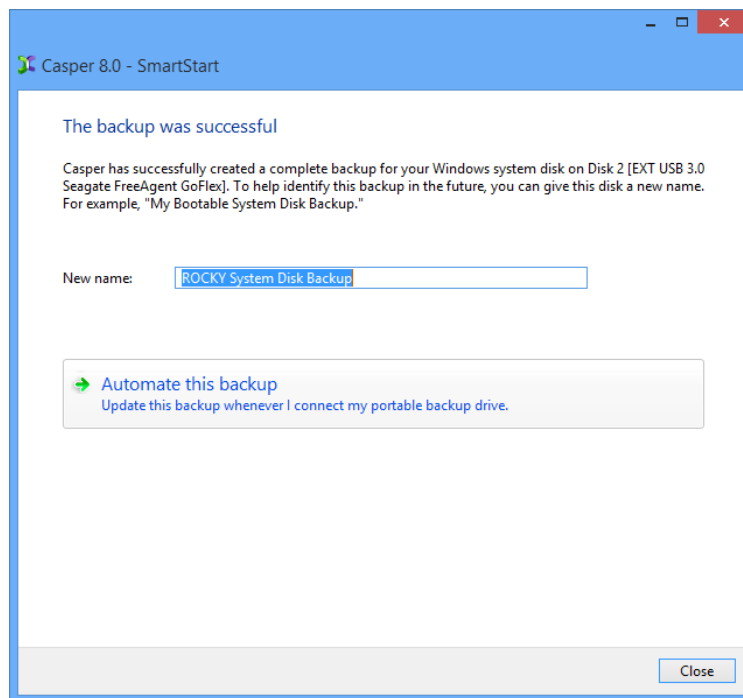
## Example 5: Automating an External Backup

When using a portable drive such as an external USB, Firewire, or eSATA drive for your backup, you can configure a Casper SmartSense Backup to perform the backup automatically whenever you attach your backup drive.

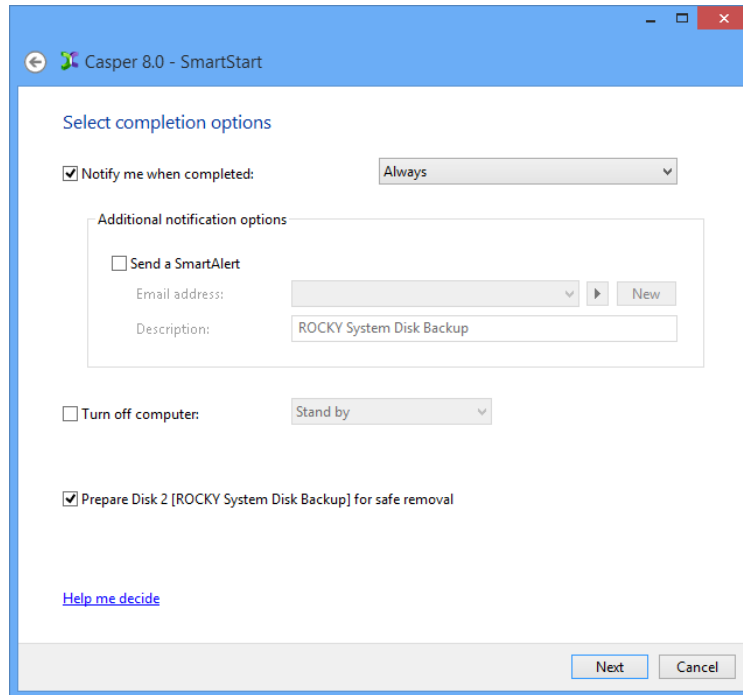
### ***Configuring a SmartSense Backup***

The process described below is the same whether you have just completed an initial backup as demonstrated in Examples 1 and 2, or updated an existing backup as demonstrated in Example 3.

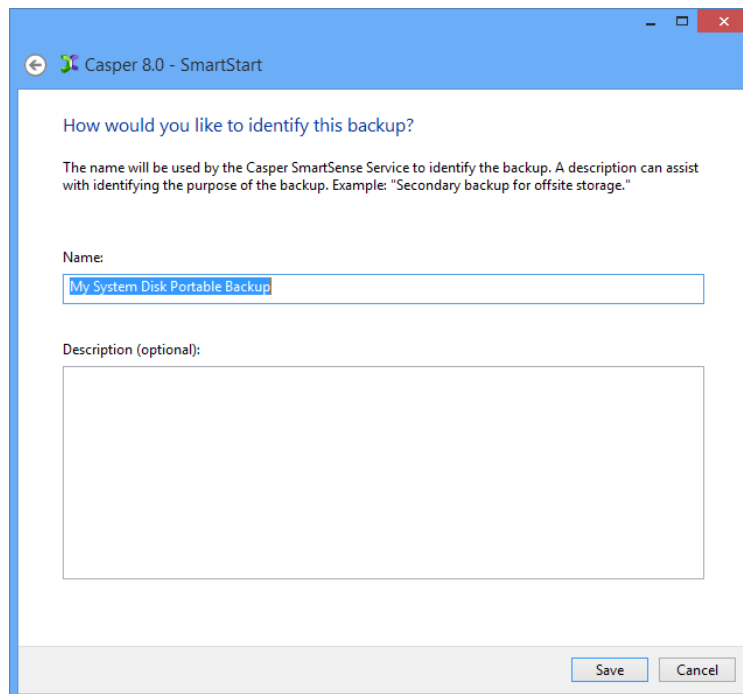
1. After completing a backup as described in one of the preceding examples, click **Automate this backup**.



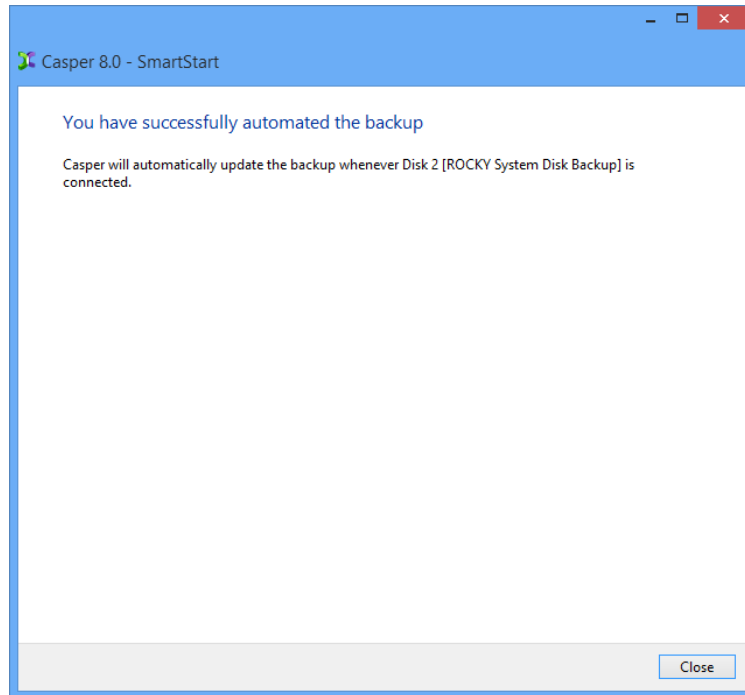
2. Select the desired completion options, and click **Next**.



3. Enter a name to uniquely identify the backup, or retain the name suggested by Casper, and then click **Save** to register the backup with the Casper SmartSense Service.

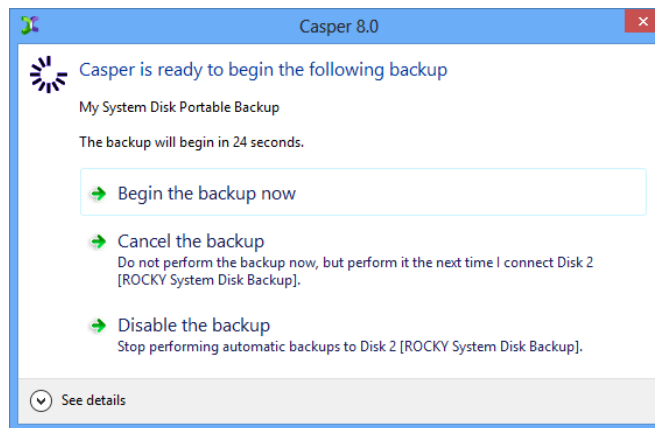


4. Click **Close**.



## Starting a SmartSense Backup

Once your portable backup drive has been registered with the Casper SmartSense Service, the backup can be started by simply attaching the portable drive to the computer.



The backup will start automatically after a short delay. You can begin the backup immediately by selecting **Begin the backup now**. Click **Cancel the backup** to skip the backup, or **Disable the backup** to skip the current backup and prevent future backups from beginning automatically.

# Upgrading the Windows System Disk

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The procedure for upgrading and replacing your Windows system hard disk is basically the same whether you are upgrading a hard disk in a desktop or a notebook. For a desktop system, the new hard disk is temporarily installed as a secondary hard disk in the computer or attached as an external hard disk using an external USB, Firewire, or eSATA hard disk enclosure or bridge adapter. For a notebook computer, a secondary media bay or external USB, Firewire, eSATA, or PCMCIA hard disk enclosure or bridge adapter is required to connect the new hard disk to the notebook.

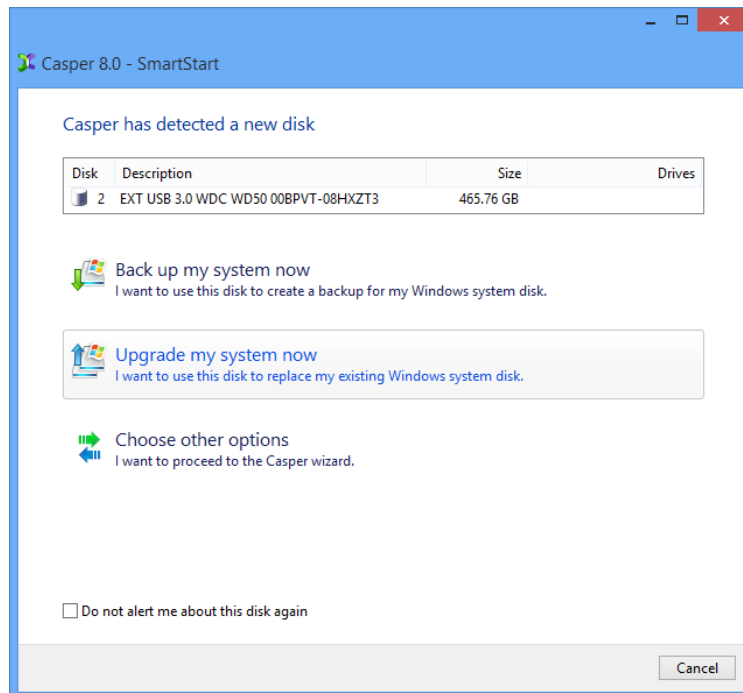
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## Example 6: Upgrading the Windows System Disk

When you attach a new hard disk to your computer using an external USB, Firewire, or eSATA interface, Casper SmartStart will begin automatically and prompt you to upgrade your system. If the new disk is installed internally, or if Casper SmartSense is unable to detect the new disk, you must manually launch Casper SmartStart to begin the process.

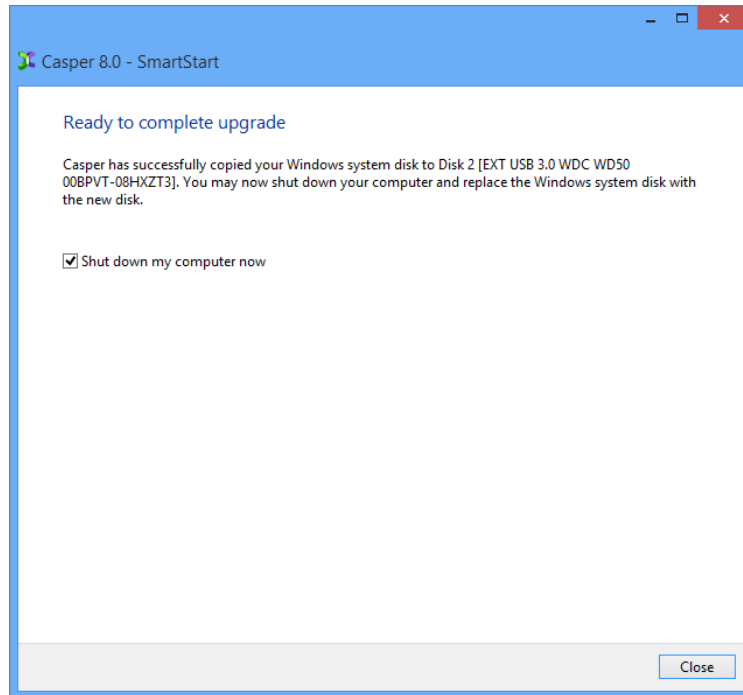
When performing an upgrade, Casper SmartStart will automatically make all of the necessary selections within Casper to immediately copy the Windows system disk to the new disk.

1. Select **Upgrade my system now**





2. When Casper has completed the cloning process, click **Close**.



3. Reconfigure the computer to replace the original hard disk with the new hard disk.

If the new hard disk is installed in a secondary media bay of a notebook, or installed in an external USB, Firewire, eSATA, or PCMCIA enclosure, simply remove the hard disk from its enclosure and exchange it with the original hard disk.

For a new hard disk that has been temporarily mounted as a secondary internal hard disk, remove the original hard disk and replace it with the new hard disk.

For detailed instructions on how to replace an IDE/ATA hard disk in a desktop system, see **Replacing a hard disk** under **Additional Resources** in the **Casper Help and Documentation**.