InstantRecovery User Guide

Table of Contents

Overview 1

Introducing InstantRecovery 1

Product Features 1

System Requirements 2

Notes about Microsoft BitLocker 3

Notes about Windows Vista and Later 3

Getting Started 5

Getting Started 5

Concepts 7

Introduction to Snapshots 7

Creating Snapshots 8

Introduction to Data Anchoring 9

Why Use Data Anchoring? 10

Working with Snapshots 11

Introduction to Archives 13

Introduction to Schedules 14

Introduction to Snapshot Groups 14

Introduction to Freeze 15

Using InstantRecovery 17

Creating a Recovery Snapshot 17

Setting Anchored Data 20

Controlling a InstantRecovery Task 22

Snapshots 25
Creating an Empty Snapshot 25
Creating/Updating a Snapshot 27
Renaming a Snapshot or Changing its Description 31
Importing a Snapshot 34
Exporting a Snapshot 38
Password-Protecting Snapshots 42
Removing a Snapshot 46
Calculating the Size of a Snapshot 49
Freezing a Snapshot 52
Unfreezing a Snapshot 54
Reverting a Snapshot to Its Previous Frozen State 57
Booting to Another Snapshot 58
Boot to Snapshot 58
Pre-boot Hotkey without BitLocker 60
Pre-boot Hotkey with BitLocker 62
Schedules 65
Creating a New Schedule 65
Modifying a Schedule 71
Renaming a Schedule 73
Removing a Schedule 75
Logs 77
Viewing the Activity Log 77

Clearing the Log Entries 80
Options 83
General Options 83
Boot Menu Options 84
Task Options 86
Schedule Options 87
Logging Options 88
Archive Options 89
Freeze Options 91
Advanced 95
Command Line Interface 95
Opening the Command Line Interface in Interactive Mode 95
Running the Command Line Interface in Single Command Mode 95
Getting Logging Info for Snapshots and the InstantRecovery Service 95
ANCHOR Command 96
ARCHIVE Command 96
AREMOVE Command 97
ARENAME Command 97
BATCH Command 98
BOOT Command 98
CONFIG command 99
CONNECT Command 100
COPY Command 101

DESC Command 102
DISCONNECT Command 102
EXIT Command 103
EXPORT Command 103
FREEZE Command 104
FREEZEPREV Command 104
GROUP Command 104
IMPORT Command 105
INFO Command 106
INIT Command 107
INITC Command 107
LIST Command 107
REMOVE Command 108
RENAME Command 108
RESTORE Command 109
SIZE Command 109
UNFREEZE Command 110
USER Command 110
VERIFY Command 110
Password-Protecting InstantRecovery 110
Remote Controlling InstantRecovery 111
Disabling/Enabling the InstantRecovery Pre-boot 112
Updating InstantRecovery Software 113

Overview

Introducing InstantRecovery

Thank you for purchasing or evaluating InstantRecovery™, the fastest means of recovering a failed system when the cause is associated with critical software corruptions. Almost every computer user has experienced a "Blue Screen" failure of the Windows Operating System (OS). Oftentimes, a simple re-boot will cure the problem; however, this is not always the case.

If a critical OS or application file becomes corrupted, or Windows will not boot the user is left to recover the system using traditional methods. This ranges from implementing a pre-determined recovery procedure from whatever backup strategy exists, to a complete reload of the OS and all of the current updates, applications, settings, data, and etc. Time to recover the system varies with the method used, and generally ranges from 4-hours to a day.

With InstantRecovery, system recovery is almost immediate. After installation and creation of an alternate snapshot of the system, a InstantRecovery pre-Windows boot user interface can be invoked by pressing a hotkey (the default is 'F1') prior to its time-out. Inside this user interface is a listing of all pre-recorded snapshots that were taken from within Windows. After installation, you will see your original system image and the first copy of that image made during setup. Selection of the alternate (backup) snapshot is available, and the system will proceed to boot from this newly created snapshot. This procedure is all that is needed to recover the system should your current system image fail. After installation is completed, you may create up to ten system image snapshots from within the InstantRecovery Windows operating system user interface.

In summary, InstantRecovery is a productivity tool, since it significantly reduces the Mean Time To Recover (MTTR) a failed system. It enables the end user to continue using their computer, and IT staff to quickly repair system crashes, rather than spend time on rebuilding. In this context, it is a "high availability" product. InstantRecovery can immediately determine if the problem with the failed system is hardware rather than software related.

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Product Features

- The primary feature of InstantRecovery is its ability to immediately recover from a software related failure of a system with a simple reboot.

Other features include:

Ability to create and maintain up to 10 "point-in-time" system snapshots. Each snapshot is bootable with no rebuild required.

- *InstantRecovery Home Edition is limited to 5 snapshots.*
- Differential (changed files only) copy engine for fast snapshot updates.
- Data Anchoring feature makes data files available to any snapshot that is booted.

Ability to archive snapshots to another device, i.e. partition, disk drive, network location. Archives, although not immediately bootable, safeguard the OS and Applications in case
- of disk hardware failure.
- Ability to export and import archives to multiple files for storage on CD/DVD media.

Password-protected snapshot groups; to restrict snapshot users.

- *This feature is only found in the Business editions of InstantRecovery.*

Capability to return (freeze) the system to the same state every time the system boots.

- *This feature is only found in the Business editions of InstantRecovery.*
- Scheduling of snapshot or archive updates.

Simple installation without the need to create additional partitions or other modifications to
- the system.

For situations where Microsoft's VSS is not preferred, a proprietary open file technology; allows the creation of true point-in-time snapshots of the system volume, even if files are
- in use.
- Support for Microsoft BitLocker disk encryption.

System Requirements

InstantRecovery Desktop/Laptop Requirements:

- 32-bit and 64-bit versions of Windows 10, Windows 8, Windows 8.1, Windows 7, Windows Vista or Windows XP.
- Available Hard Disk Space: 6 MB for application, additional space required for snapshots will vary*
- NTFS file system**

InstantRecovery Server Requirements:

- Windows Server 2012, Windows Server 2012 R2, Windows Server 2008, Windows Server 2008 R2 or Windows Server 2003.

- Available Hard Disk Space: 6 MB for application, additional space required for snapshots will vary*
- NTFS file system**

* Additional hard drive space is required for each snapshot. Ex: To snapshot a 2 GB operating system and applications, an additional 2 GB (system disk) is required for the snapshot for a 4 GB requirement total. Bootable Recovery Snapshots are stored on the C:\ drive (the drive where Windows is installed). Bootable Recovery Snapshots can not be stored on other drives.

** Not compatible with FAT16, FAT32, ReFS or Dynamic Disks. GPT disks supported in V2.1 Build 106 and newer.

InstantRecovery recommended system requirements for best performance:

- Multi processor CPU
- 2GB RAM
- 100GB+ hard drive
- SATA (also know as Serial Advanced Technology Attachment) hard drive for desktops
- SAS (also known as Serial Attached SCSI) hard drive for servers

Notes about Microsoft BitLocker

InstantRecovery supports Microsoft BitLocker by moving the pre-boot operations to the same place that check disk runs. That is after the BitLocker has unlocked the disk but before the operating system starts.

There are some necessary restrictions:

- You must setup BitLocker and encrypt your disk before installing InstantRecovery.
- Before decrypting your disk you must completely uninstall InstantRecovery. You can reinstall InstantRecovery afterward.
- All snapshots should be clones of the original encrypted volume. This is because the encryption is specific to the original volume. Any snapshot that is not a clone of the original encrypted volume will fail to boot.
- Create Empty Snapshot is disabled if the volume is encrypted with BitLocker. The purpose of this feature was to allow a separate OS to be installed in the empty snapshot. However, this cannot be done on an encrypted volume. An empty snapshot can still be created with the CLI.

Notes about Windows Vista and Later

InstantRecovery has the capability to create and maintain Snapshots and Archives for different versions of Microsoft Windows. With care, you can mix and match with different Microsoft operating systems. You can have Windows XP, and Windows Vista or later snapshots, with the ability to boot from one to another, all while retaining access to the same data files. Depending on how you use the technology, it can provide interesting and significant capabilities to a variety of users.

The Bootstrap and Vista

The first 16 sectors of the boot partition is the Bootstrap. The Bootstrap loads and starts the Windows operating system loader. The Bootstrap for Windows Vista is different from the Bootstrap for Windows XP. The Vista Bootstrap runs BOOTMGR while the XP Bootstrap runs NTLDR.

Since all InstantRecovery snapshots share the same partition, the Bootstrap must be the same. However, there is a solution. If there is a copy of NTLDR named BOOTMGR, then the Bootstrap will work for XP

InstantRecovery automates the process and will use the correct Bootstrap and make the copy of NTLDR as needed. Note that the copy of NTLDR named BOOTMGR is not deleted from the XP snapshot for safety's sake

Data Anchoring and Vista

Windows Vista does not use "Documents and Settings" for the user folders. Instead it uses a new folder named "Users". There is a hard link from "Documents and Settings" to "Users". InstantRecovery cannot anchor a file whose name contains a hard link.

So, if you have anchored files or folders under "Documents and Settings" (e.g. a user's My Documents, Favorites, etc.), they will not be in the expected location under Vista.

A solution is to create a common root folder, like \My Shared Data, place all data folders within this "master" data folder location, and anchor the \My Shared Data folder in order to share any data between snapshots. In a domain environment, My Documents is typically located on a file server, and thus no Data Anchoring required.

Getting Started

Getting Started

InstantRecovery represents a breakthrough in the time it takes to recover from any form of software corruption. InstantRecovery snapshots your operating system, applications and selected data files and keeps them locally in a hidden and protected folder. In the event of a system corruption from failed system or application updates, malware or a bad driver installation/update, you can invoke Instant Recovery and have your system restored in the time it takes to reboot.

InstantRecovery works for both servers and workstations.

NOTE: InstantRecovery is going to make an exact copy of your system. Before proceeding you need to make sure your system is in a state that you want to preserve.

When you install InstantRecovery a wizard will walk you through the steps to create a Secondary snapshot and to Data Anchor any files (we recommend Anchoring the" My Documents" folder). The amount of time to create the snapshot is dependent on the amount of data to be copied. A typical Windows operating system with installed applications is about 25GB so the initial copy can take some time. The Primary snapshot is created by the installer and it is your source snapshot; the Secondary snapshot is the destination and it will be your recovery snapshot. The Secondary snapshot is an exact copy of your system net of any temporary files or Data Anchored files. Upon completion, the InstantRecovery main screen will show both a Primary and a Secondary snapshot in the Snapshots folder. The Primary snapshot will be highlighted with a blue triangle indicating it is the active snapshot. At this point you can optionally boot into your Secondary snapshot. Simply reboot the system and press the F1 key. You will see InstantRecovery appear on the black screen during the boot process. Use the arrow key to point to the Secondary snapshot and hit Enter. When the system reboots the InstantRecovery main screen will show the blue active snapshot arrow pointing at the Secondary snapshot.

How To Test

To test InstantRecovery we suggest installing Windows updates on the active Primary snapshot and note which updates have been applied. Once complete, do a restart, boot into the Secondary snapshot and go to Control Panel. Click on "Programs and Features" and then click View Installed Updates on the left side. If you check the installed date you will see that the updates made to the Primary snapshot are not on the Secondary snapshot. In InstantRecovery go to Actions and click on Copy/Update. In the wizard select the Primary snapshot as the source and the Secondary snapshot as the destination. InstantRecovery will copy any changes from the Primary to the Secondary. When it completes you can check the Control Panel on the Secondary snapshot and see that the updates have been made.

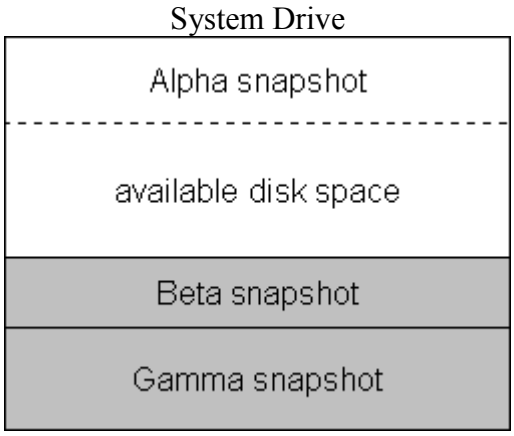
Concepts

Introduction to Snapshots

The most important InstantRecovery concept to understand is **Snapshots**.

- InstantRecovery Snapshots are independent bootable images of your system drive.
- You can have up to 10 snapshots. *(5 snapshots for the Home edition of InstantRecovery)*
- Only one snapshot can be active at a time.

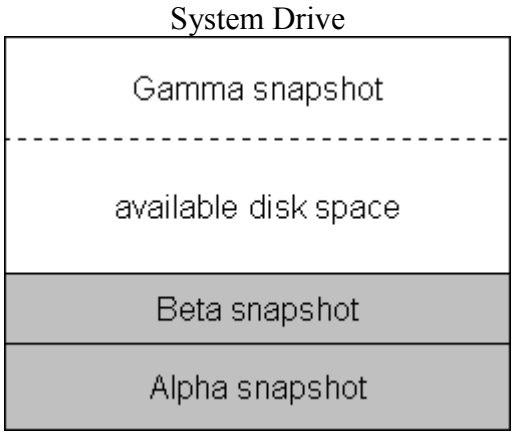
For example, suppose you have three snapshots named Alpha, Beta and Gamma. Your System Drive (for example, Drive C) could be represented like this:



At this time:

- Snapshot Alpha is active.
- Snapshot Alpha can increase in size up to the amount of available disk space.
- Snapshots Beta and Gamma are not affected by what happens to Alpha.

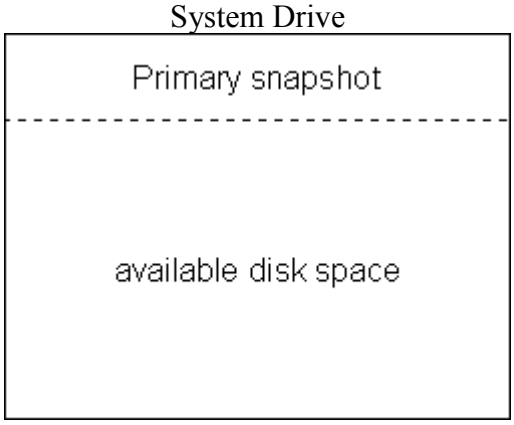
Now suppose you booted snapshot Gamma, then your System Drive would look like this:



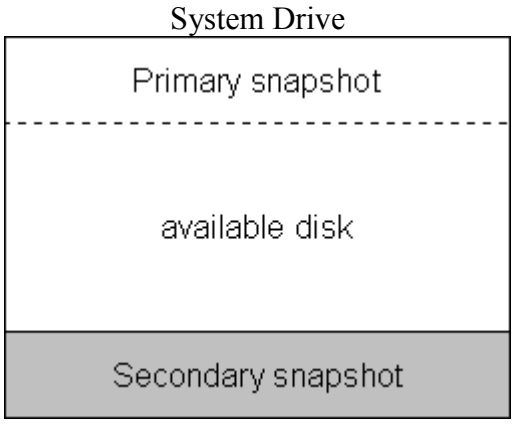
A key point to note is that each snapshot is independent of the others. Changes in one snapshot do not affect the others. If you were to get a virus while Gamma was active, it will not infect Alpha or Beta.

Creating Snapshots

After installing InstantRecovery, your System Drive contains a single snapshot:



You create a new snapshot by copying an existing snapshot. If you were to create Secondary snapshot by copying Primary snapshot, your System Drive would look like this:



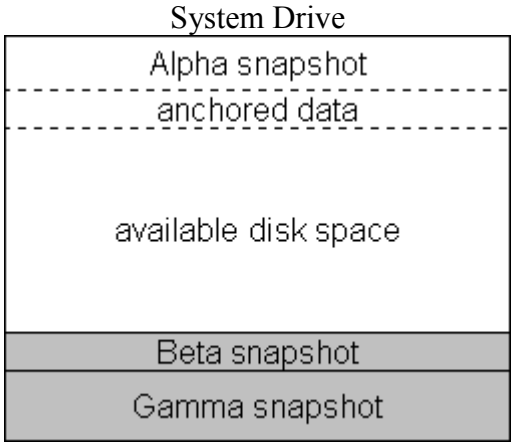
Secondary snapshot is an exact copy of Primary snapshot at the time the copy was started.

Introduction to Data Anchoring

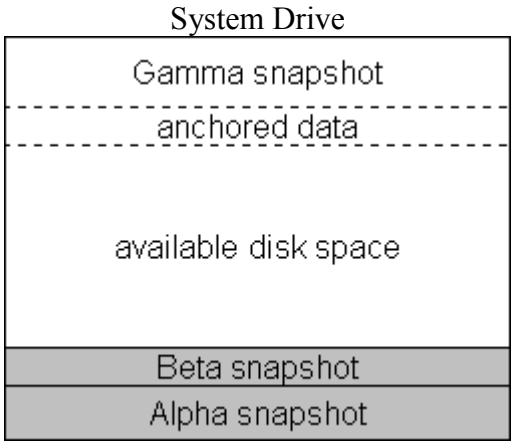
An important InstantRecovery concept to understand is **Data Anchoring.**

- Data Anchoring provides a way of sharing files between snapshots.

Using the Data Anchoring Wizard, you specify which files or folders you want to anchor (share). These files are available in every snapshot. In the Alpha, Beta, Gamma example used in Introduction to Snapshots, suppose you anchored some files. Your System Drive (for example, Drive C) would now look like this:



If you booted snapshot Gamma:



Some points to note:

- Data Anchoring can greatly reduce the size of each snapshot.
- There is only one copy, the current copy, of your anchored data.
- Anchored data files are "mapped" into the active snapshot when you boot to the snapshot.

Since is no other copy of your anchored data on the system, it is very important that you maintain a backup of these data files somewhere other than your local system.

If you attempt to anchor a file or folder that cannot be anchored, the Data Anchoring Wizard will notify you.

Why Use Data Anchoring?

Data Anchoring is a very powerful feature of InstantRecovery. However, using it depends on how you intend to use InstantRecovery.

There are several modes in which you can use InstantRecovery. Two are discussed here. Other modes are discussed in Working with Snapshots.

Backup Mode

In this mode each snapshot contains a copy of all your files on the system drive. Obviously, Data Anchoring is not very useful in this mode since you do not want to share data between your snapshots.

An exception might be a large folder of unimportant files or files that are backed up elsewhere. In this case anchoring the folder could save a lot of disk space and backup time.

This mode works well if you have partitioned your disk into more than one volume (say C and D) and you put all the files you don't want backed up on the D drive.

A downside to this mode is that each snapshot can take up a large amount of disk space.

System Recovery Mode

In this mode the purpose of using InstantRecovery is to recover from an operating system or application failure. The correct use of Data Anchoring is very important in this mode.

- You DO want to anchor important data files so that if you have to boot to an alternate snapshot, you don't lose these files.
- You DON'T want to anchor program or system files since a failure in one of these files would affect all your snapshots.

Start by anchoring obvious data folders like your My Documents folder. Do not anchor your entire user folder (under Documents and Settings) since system files are stored under this folder.

Also, look for large data folders that you don't need (or want) to duplicate like a folder of MPEG files.

You should try and keep the number of anchored folders to a minimum. If possible, arrange your data files under a single anchored folder (i.e. My Documents). This will also assist you in backing up these files to a safe location.

It is better to be cautious about anchoring since you will not discover you anchored the wrong files until you have a failure.

Working with Snapshots

The following is a primer on managing your snapshots. The two modes introduced in Introduction to Data Anchoring are expanded here. These are not the only ways InstantRecovery can be used but it should help you figure out the best way for you.

Two Snapshots in Backup Mode

If you have only two snapshots and you are using InstantRecovery in a Backup Mode then you should set up a schedule to update your backup snapshot on a regular basis. See Creating a New Schedule

Note that this is not as safe as other modes since a virus or some other problem can be copied to the backup before you notice it.

Two Snapshots in System Recovery Mode

If you have two snapshots and you are using InstantRecovery in System Recovery Mode then you should manually update your backup snapshot as necessary.

Before you install a new application, add new hardware, run Windows Update or any other change to your system, refresh your backup snapshot. This way if the change turns out to be

disastrous, you can simply boot the backup snapshot and copy it back over your primary snapshot undoing the change.

After a few days when you are satisfied that the change has no problems, update your backup snapshot.

Alternating Daily Backups

With three snapshots, primary plus two backup snapshots (either in Backup or System Recovery mode), you can set up a schedule to update your backup snapshots on alternate days.

Create two daily schedules each occurring every two days. Start one schedule a day later than the other.

In the event of a failure, try booting the most recent backup snapshot first. If that does not work, use the other backup.

This method can easily be extended to a rotating series of backups by having more than two backup snapshots.

Weekly and Daily Backups

With three snapshots, primary plus two backup snapshots (either in Backup or System Recovery mode), you can set up a schedule to have a daily backup and a weekly backup.

Create two weekly schedules. Set one to occur on just one day of the week (weekly). Set the other to occur on the rest of the days (daily).

In the event of a failure, try booting the daily backup snapshot first. If that does not work, use the weekly backup.

Per User Snapshots

InstantRecovery is more than a backup or recovery application. You can use it to manage and protect your computer.

If you have multiple users of your computer, you can set up a snapshot for each of them. They can then customize their snapshots without affecting the others. Any applications they install or download are only in their snapshot.

Set the Boot Hotkey (under Tools>Options) to None. That way, you are always presented with a choice of snapshots when the computer is booted.

You may also want to create an additional safe snapshot that is not used so that you can copy it over a user's snapshot in the event of a failure in their snapshot.

Special Use Snapshots

You can also create some special purpose snapshots. Here are some suggestions:

- OEM Snapshot - If you have a new computer, make a snapshot of the system as it came from the manufacturer. This way you can always go back and start over if necessary.
- Work Snapshot - If this is a home computer you can set up a snapshot to be used to work from home. Any applications needed for work or configuration changes can be made in this snapshot and not affect your home use of the computer.
- Game Snapshot - You can set up a snapshot just to play games. You can configure Windows to run your games faster by turning off a lot of the background processes Windows runs and not loading unwanted applications (e-mail, etc.)
- Guest Snapshot - You can set up a snapshot for guests to use. You can protect your privacy since they will not have access to your files in the other snapshots. You can also allow then to download or install applications without worrying about their affect on your computer.

Introduction to Archives

You can save a snapshot to an **Archive**. An archive is a single file that contains all the files in a snapshot. Archives are integrated into the user interface. You can use an archive like a snapshot except you cannot boot an archive.

- Archives can be updated. That is, when you copy a snapshot to an existing archive only the changes are copied.
- Archives are compressed using NTFS file compression.
- Typically, archives are faster to access than a snapshot due to the compression and the lack of a file system overhead.
- Unlike snapshots, there is no predetermined limit to the number of archives you can have. You are only limited by the available disk space. Note, however, the performance of Windows drops when the system drive gets close to full.

Tip: It is better and safer to move the archive location from the default system drive to another drive. The speed will be faster (if the drives are equivalent). You can even put the location on a network drive.

Notes:

If the archive location is on a network drive you will be asked to supply a user and password for access.

Unlike snapshots, you cannot have a partial archive. If you cancel the archive copy operation, the archive will remain but is no longer valid. If you restart the operation, the entire archive will have to be created.

Archives created with Build 301 were compressed using NTFS file compression. If you store your archives on a non-NTFS drive, they will not be compressed. With Build 302, archives are no longer compressed. This results in improved speed in creating/updating archives.

If you update an existing archive with a smaller snapshot, the size of the archive file does not decrease. Instead the unused space is marked as free and it will be reused later if possible. An exception is if the last file in the archive is removed, then the size is reduced. However, free space is zeroed so compression will reduce the actual size on disk.

Like a file system, if an archive is updated many times, it can get fragmented. Normally, some fragmentation will have little effect on performance. But if you start seeing significant degradation while accessing an archive, the archive should be removed and recreated.

Introduction to Schedules

Schedules provide a method to periodically update your backup snapshots or archives to keep them current.

A schedule repeats a snapshot Copy/Update at a specific frequency. For example, suppose your active snapshot is named "Primary Snapshot" and you have two alternate snapshots "Weekly Snapshot" and "Daily Snapshot". You could setup a schedule called "Weekly" to copy "Primary Snapshot" to "Weekly Snapshot" each Friday at 6:00 P.M. You could setup another schedule called "Daily" to copy "Primary Snapshot" to "Daily Snapshot" every day at 5:00 A.M.

Schedules are actually Windows Scheduled Tasks that run the InstantRecovery command tool: ISRCmd.exe. You can use the Task Editor to edit the run times of the schedule. However, if you wish to change the Source or Destination of the schedule, remove the schedule and create a new one using the New Schedule feature of InstantRecovery.

If you only maintain one copy of your primary system image, and you have all of your data files anchored, you should not update the secondary image unless you have installed an update, new application, or driver. The reason for this is that you may be copying a corrupted file that has not yet become apparent.

If, on the other hand, you maintain more than one copy of your primary snapshot image, you may wish to schedule a daily and weekly snapshot copy.

Introduction to Snapshot Groups

Snapshot groups provide a means to password-protect snapshots at the pre-boot menu.

Snapshot groups are only found in the Business editions of InstantRecovery.

Snapshot groups are user configured sets of snapshots. The groups are independent, but can overlap. There is the "Default" group plus up to three additional groups. Each additional group has a name and a password associated with it. The Default group does not have a password.

Initially, the pre-boot menu displays all the snapshots in the Default group. The user can view and select the snapshots in one of the other groups by pressing the pre-boot menu hotkey and entering the password for that group.

As an example, suppose you have an OEM snapshot which contains your system set up the way it was delivered from the manufacturer. You don't want someone to boot and use this snapshot so you put it in a password protected group and remove it from the Default group.

Another use of snapshot groups is to assign only the frozen snapshot to the Default group. This computer could be used in a public area. The Freeze feature would restore the system back to the frozen state and the public user would not have access to the other snapshots.

Note that snapshot groups only protect snapshots at the pre-boot menu. They are not meant to prevent a user from accessing the snapshots from the InstantRecovery Manager. You can still use Boot-To from the Manager to boot any snapshot. If you have users that you do not want to access other snapshots, make sure those users are denied administrator rights to prevent them from using InstantRecovery.

Notes:

Since you only enter a password at the pre-boot menu, the passwords of the groups must be unique. The group names are simply to help you organize the groups. To prevent confusion, they also must be unique. You cannot set the name or password for the Default group.

To prevent a snapshot from appearing in the pre-boot menu, remove it as a member of any group. To keep from accidentally getting in a state where you can’t boot your computer, the Active snapshot must remain a member of at least one group.

To password protect all snapshots; do not assign any snapshots to the Default group.

Introduction to Freeze

Freeze provides a means to revert back a snapshot to a certain state. Any changes made are removed the next time the frozen snapshot is booted.

Freeze is only found in the Business editions of InstantRecovery.

One way to use this feature is to:

1. Configure your system just the way you like it.
2. Anchor any folders that you don't want frozen (e.g. My Documents, Favorites, etc.).
3. Freeze the system.

Every time the computer is booted, it is reverted back to the frozen state. Any unwanted files, desktop changes, viruses, or spy-ware, etc. are removed.

Another use might be to have a "guest" snapshot. Setup a frozen snapshot for when others want to use your computer. Any changes made or download material is gone at the next boot.

Freezing a snapshot will require additional storage space up to twice the size of the snapshot. The storage consists of an archive and a shadow snapshot. It is better and safer to move the freeze archive from the default system drive to another drive. The speed will be faster (if the drives are equivalent). You can even put the archive on a network drive.

Only the active snapshot can be frozen. Boot the snapshot you want to freeze; make sure it is the way you like it and freeze it.

Unfreeze:

At any time, you can unfreeze your frozen snapshot and optionally remove the freeze storage.

If you are unfreezing and intend to use Freeze again, it will save considerable time to not remove the freeze storage. Also, you can use Freeze Previous (see below).

Re-freeze:

At a later time, you can update the frozen snapshot by simply freezing it again to lock in any changes made since the last boot.

If the changes are at all questionable, a safer method is to unfreeze the frozen snapshot keeping the freeze storage. Then test your changes. This way, if you want to discard your changes and start over, you simply use Freeze Previous and reboot. The snapshot will be restored to its previous frozen state. When you are satisfied with the changes, freeze the snapshot.

Notes:

Anchored Data is not frozen. Make sure any files you don't want reverted are in an anchored folder.

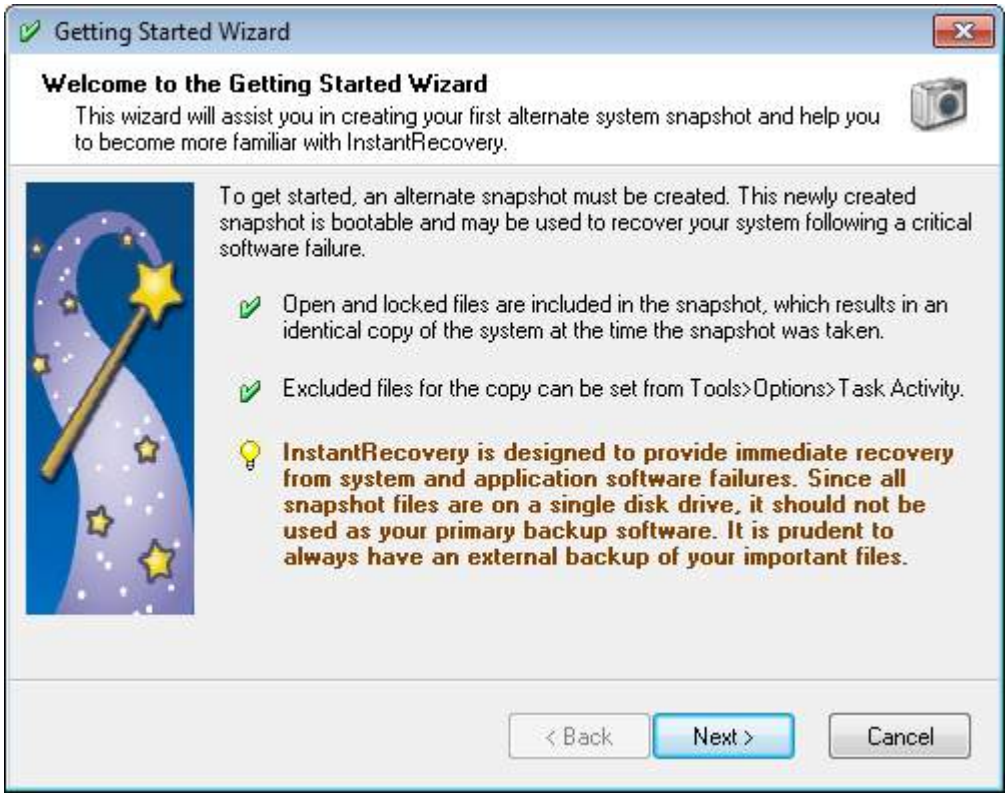
If the freeze archive is on a network drive you will be asked to supply a user and password for access.

The frozen snapshot cannot be overwritten or removed. It can, however, be copied to another snapshot or archive.

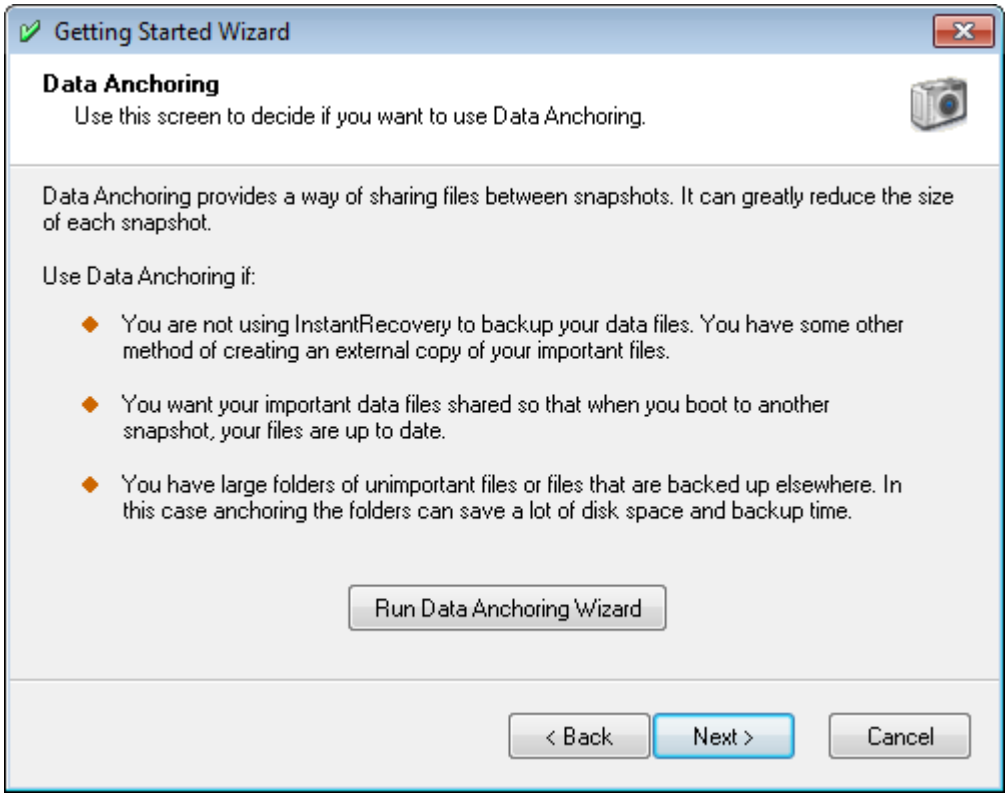
Using InstantRecovery

Creating a Recovery Snapshot

The current active OS is considered a snapshot. If you only have this one snapshot, the Getting Started Wizard will be launched whenever you start the InstantRecovery Manager:

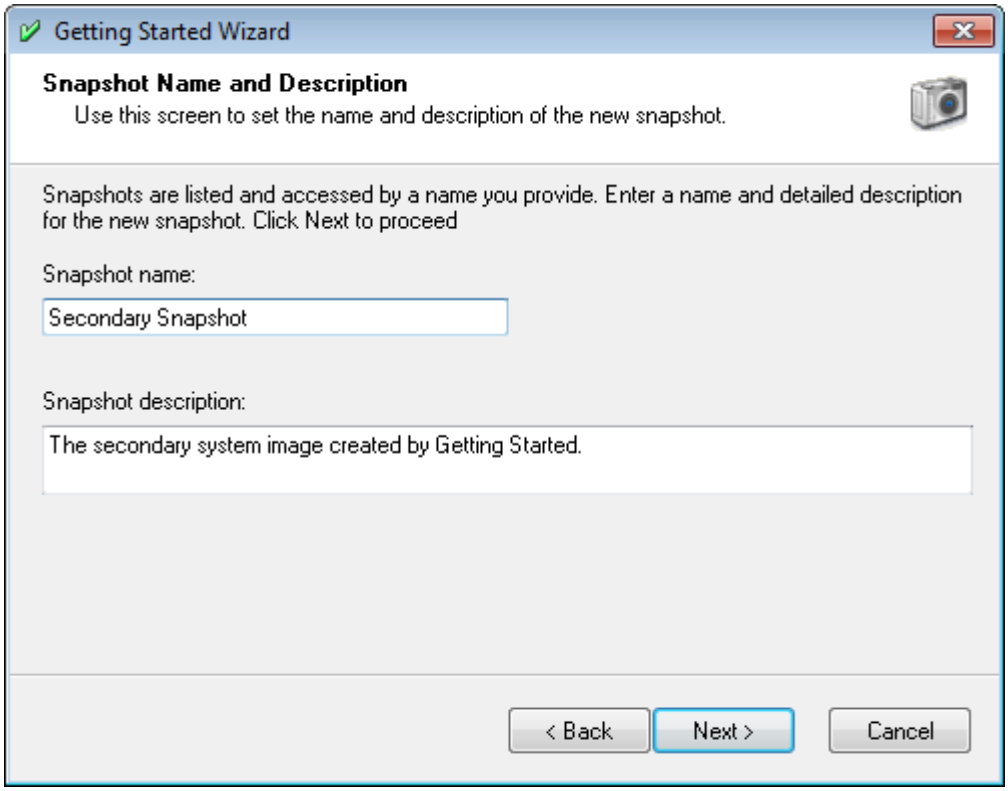


Click Next to proceed:

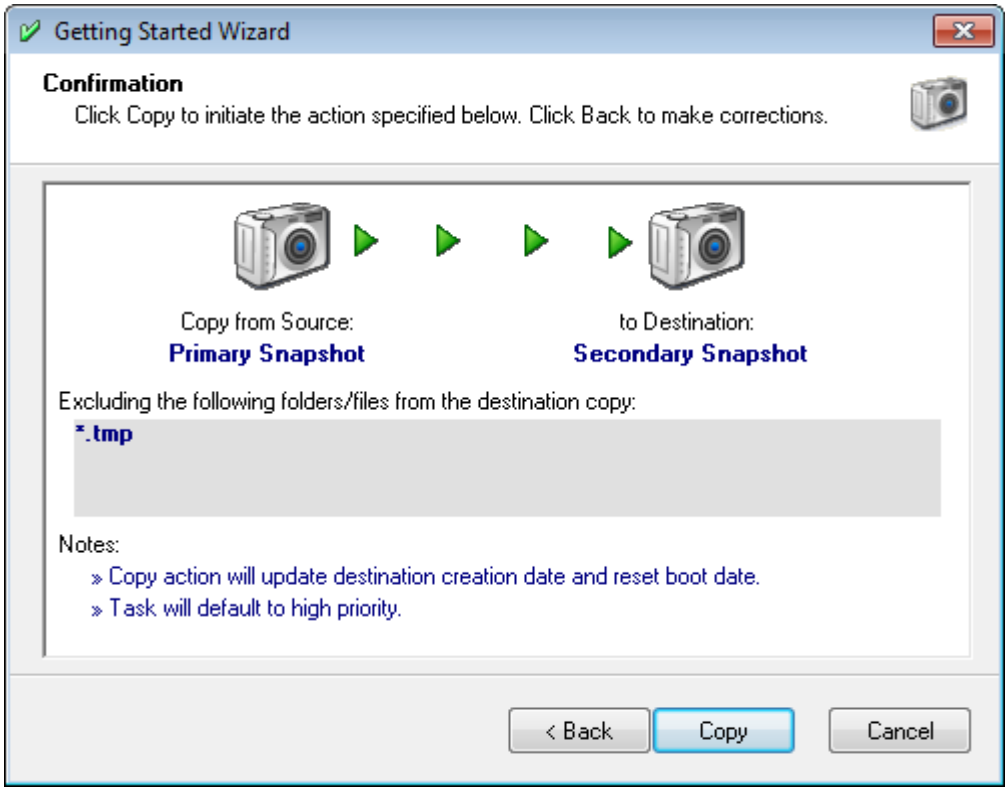


Depending on how you intend to use InstantRecovery, you may want to specify your Anchored Data before creating your first snapshot. See Introduction to Data Anchoring for more information. Click Run Data Anchoring Wizard to set your anchored data now.

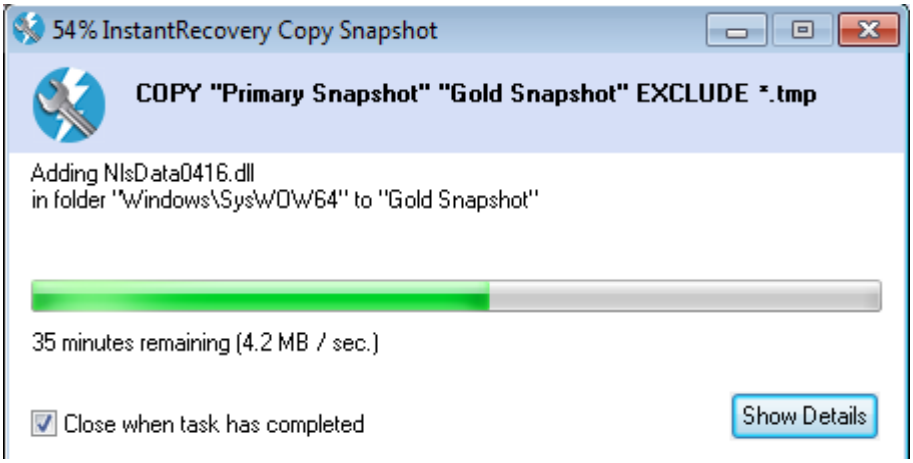
Click Next to proceed with Getting Started:



Enter a name and detailed description for your new snapshot. Click Next to proceed:



This is the final screen of the Wizard. Click Copy to start creating your new snapshot. This may take several minutes depending on the size of the snapshot and the speed of your computer. The progress of the copy task is displayed:

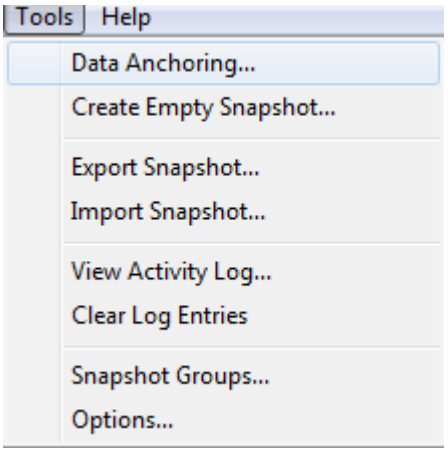


After the copy task is complete, the secondary snapshot can be used to recover from a failure of the primary snapshot.

You will want to refresh the secondary snapshot after you have made significant changes to the primary snapshot and you are confident that the changes have not introduced any problems.

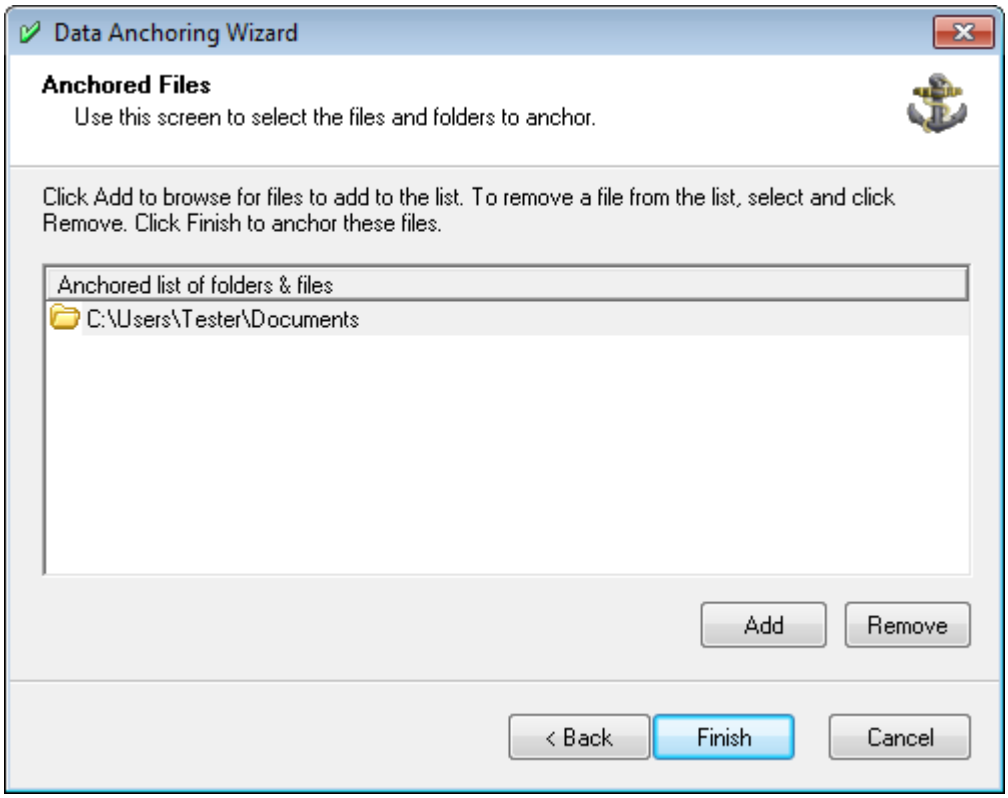
Setting Anchored Data

To specify your anchored data, choose Tools>Data Anchoring from the menu:



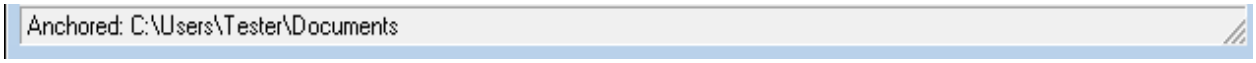
The Data Anchoring Wizard will be launched:

Click Next to proceed:



Click the Add button and browse for a file or folder to add to your anchored data list. To remove a file or folder from the list, select it and click Remove. Click Finish to anchor the designated files.

The list of anchored files is shown in the Status Bar:

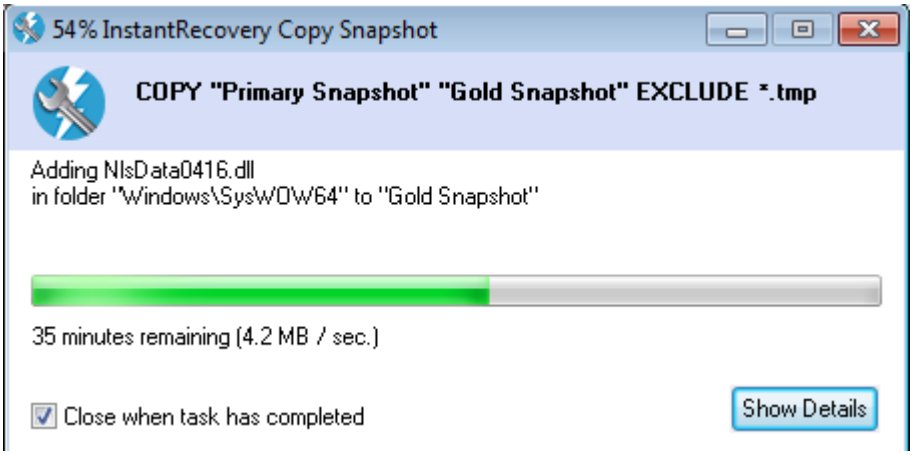


Controlling a InstantRecovery Task

Some InstantRecovery actions require tasks that run in the background. These tasks are: COPY a snapshot, REMOVE a snapshot, and calculate the SIZE of a snapshot. When a background task is running, the InstantRecovery tray icon changes to the animated busy icon:

Visible and Non-visible Tasks

By default, the progress of a Scheduled Task is not visible - the only indication is the busy tray icon. By default, the progress of a Manual Task (a task initiated from the Menu) is visible:



You can make a non-visible task visible by double-clicking or right-clicking the tray icon.

You can make a visible task non-visible by clicking the Minimize icon in the Title Bar.

You can change the defaults using the InstantRecovery Options.

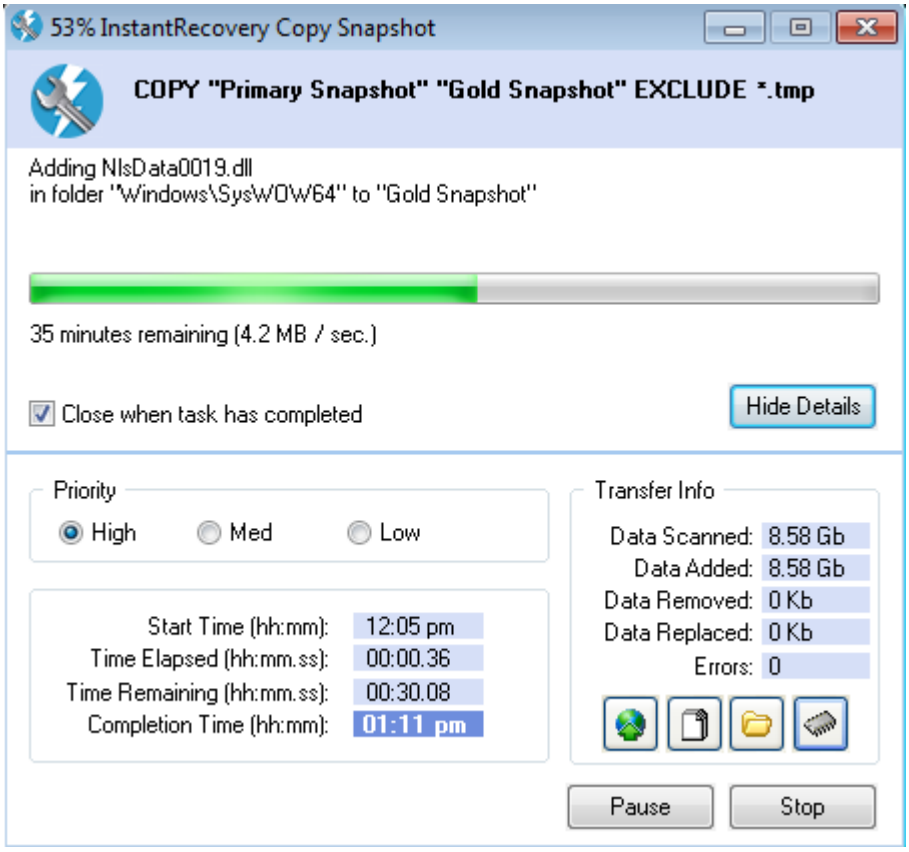
Canceling a Task

You can cancel a visible task by clicking the Close icon in the Title Bar.

If a COPY or REMOVE task is cancelled, the target snapshot is considered "partial" and is indicated by a question mark (?). You can re-issue the COPY or REMOVE task later to complete the operation. A partial snapshot may not be bootable.

Task Details

If you wish to have more information or control over a task, click the Show Details button:



Pause

You can suspend a task by clicking the Pause button. The task is suspended until you click the button again.

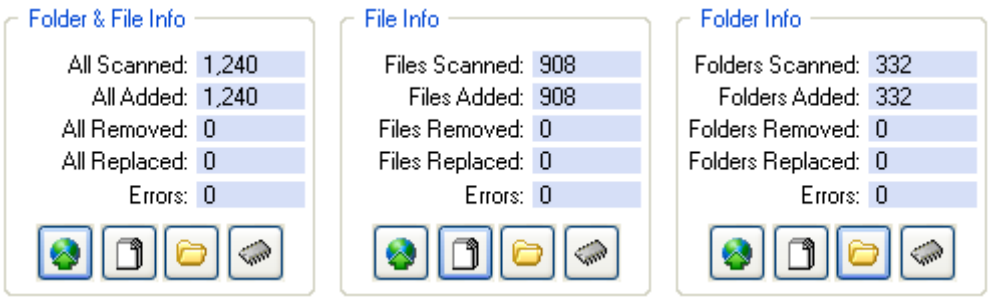
Priority

You may find that the performance of your computer becomes unacceptable while a task is running in the background. This is because a task is continuously reading and writing to the disk. Lowering the Windows task priority (via the Task Manager) will have little effect since the bottle neck is the disk - not the CPU. InstantRecovery provides a better solution having less impact on disk I/O. This allows other applications access to the disk.

High - Maximum performance for InstantRecovery.
Med - Balance between InstantRecovery and other applications.
Low - Lowest impact on system resources.

Transfer Info

This provides more detailed information on the progress of the task. You can click each of the buttons to change the information displayed:



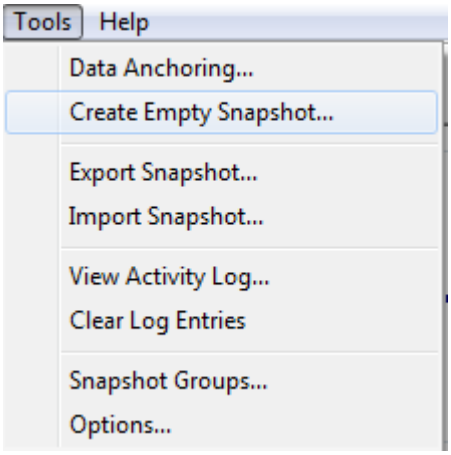
Snapshots

Creating an Empty Snapshot

Snapshots are usually created during the COPY operation; however, there may be a special situation where you will want to create an empty snapshot - creating a fresh install of an operating system. See Frequently Asked Questions for a technical note on how to do this.

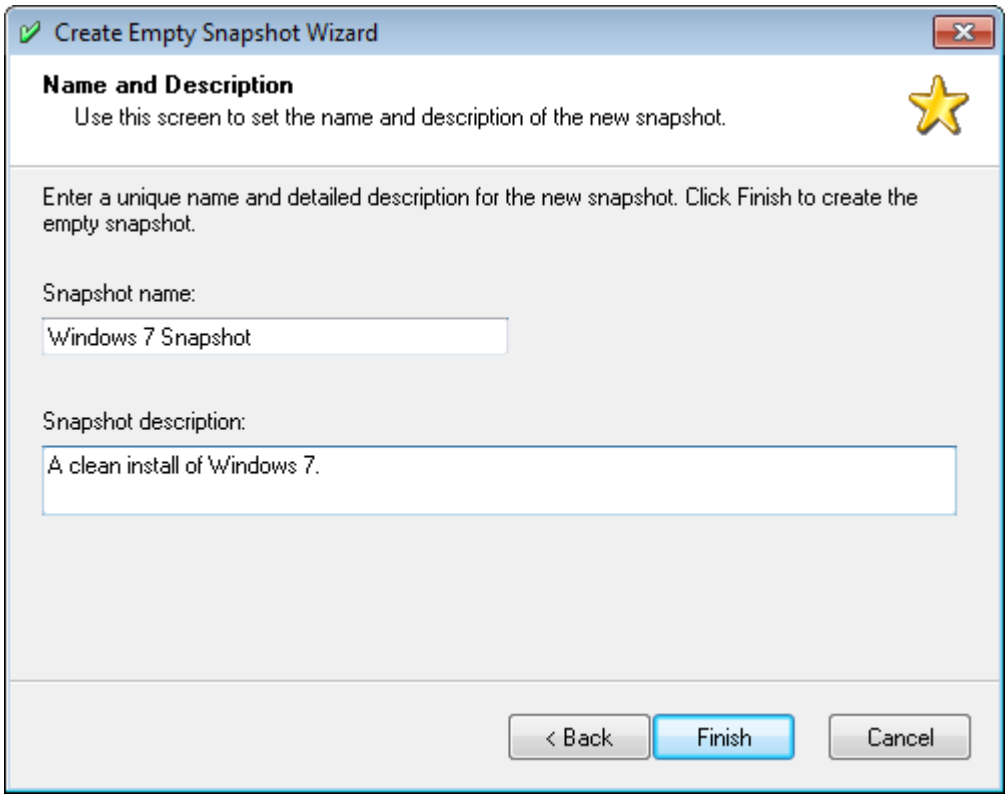
Create Empty Snapshot is disabled if the volume is encrypted with BitLocker. A fresh install of an operating system cannot be done on an encrypted volume.

To create an empty snapshot, choose Tools>Create Empty Snapshot from the menu:

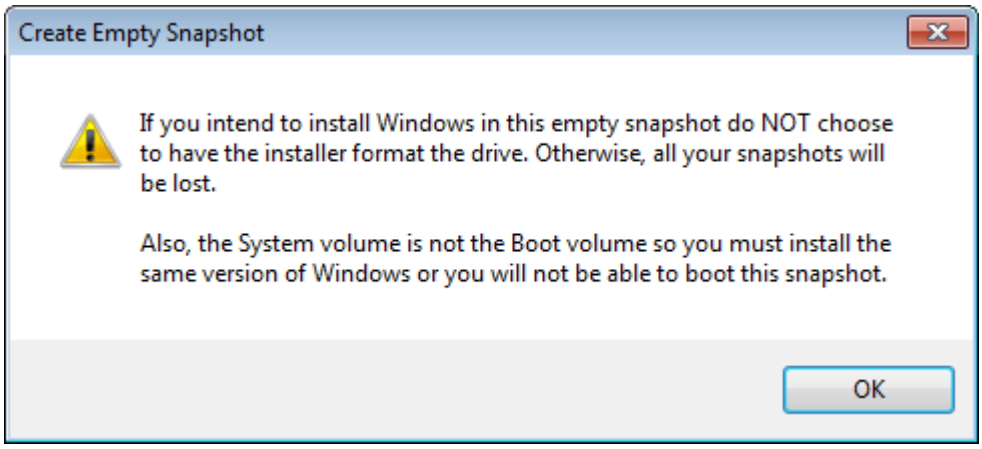


The Create Empty Snapshot Wizard will be launched:

Click Next to proceed:



Enter a name and detailed description for your new snapshot. Click Finish and you will receive the warning:

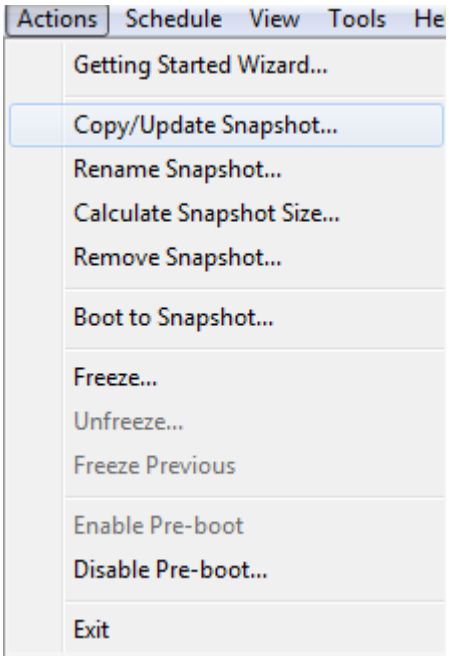


The Windows Installer will offer to format the drive. It is very important that you do not allow it to do so.

Click OK to create the snapshot.

Creating/Updating a Snapshot

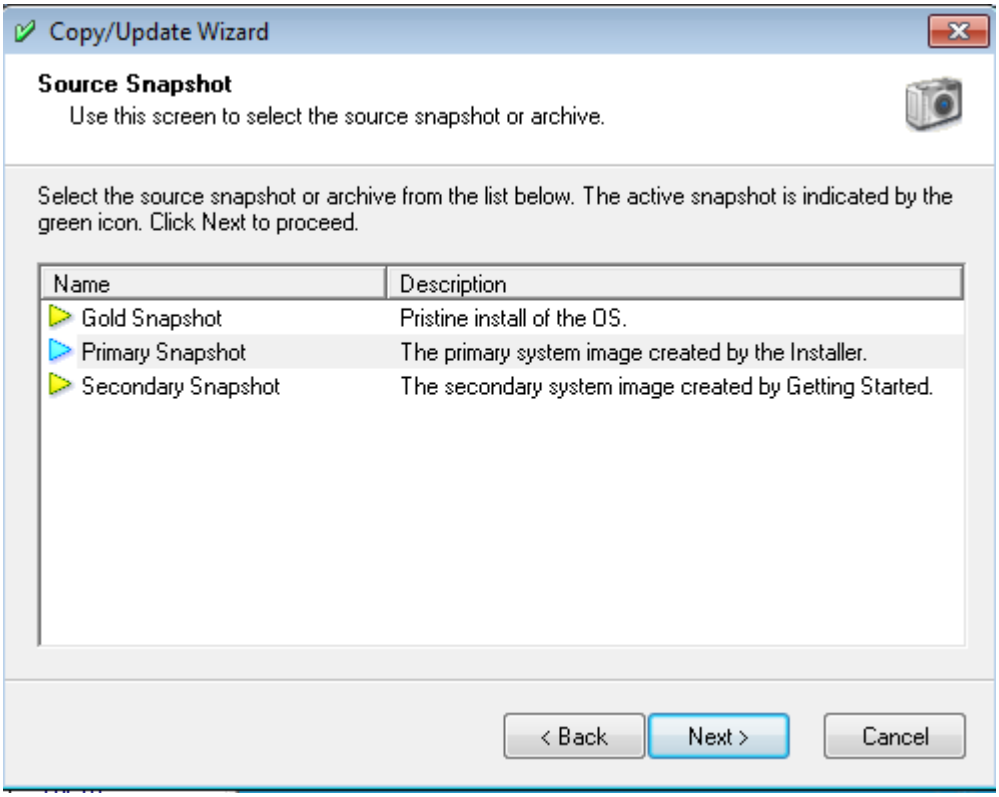
To copy a snapshot or restore an archive, choose Actions>Copy/Update Snapshot from the menu:



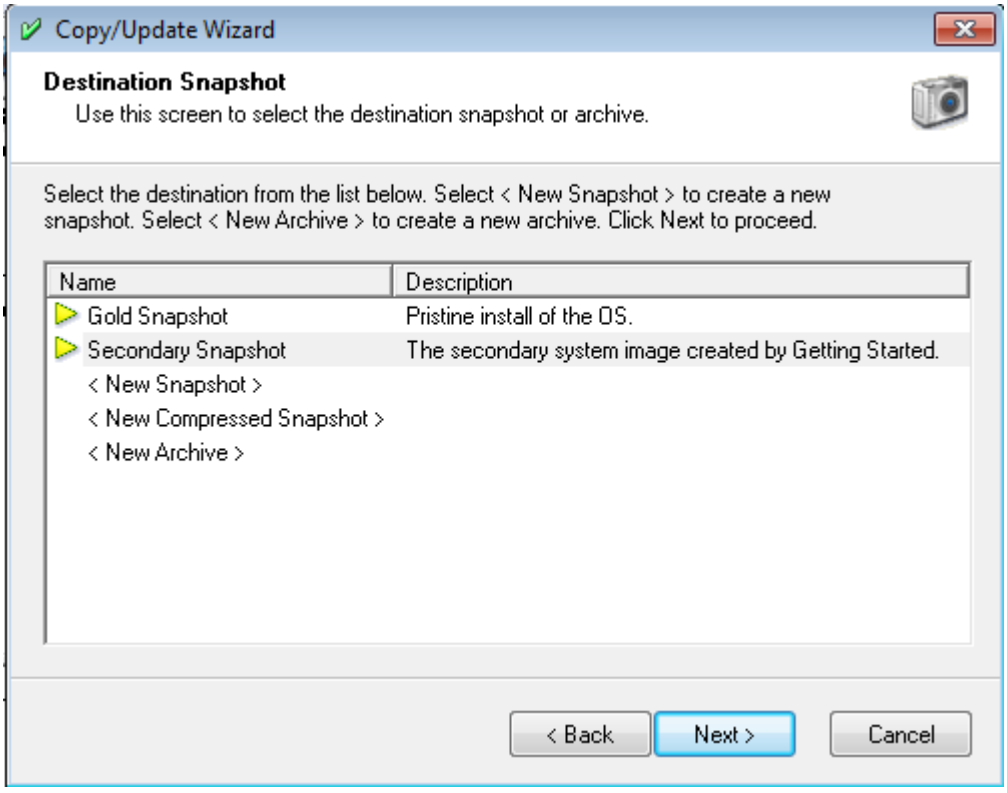
Alternatively you can right-click the source snapshot or archive and choose Copy/Update Snapshot from the pop-up menu or click the Copy icon on the toolbar:

The Copy/Update Wizard will be launched:

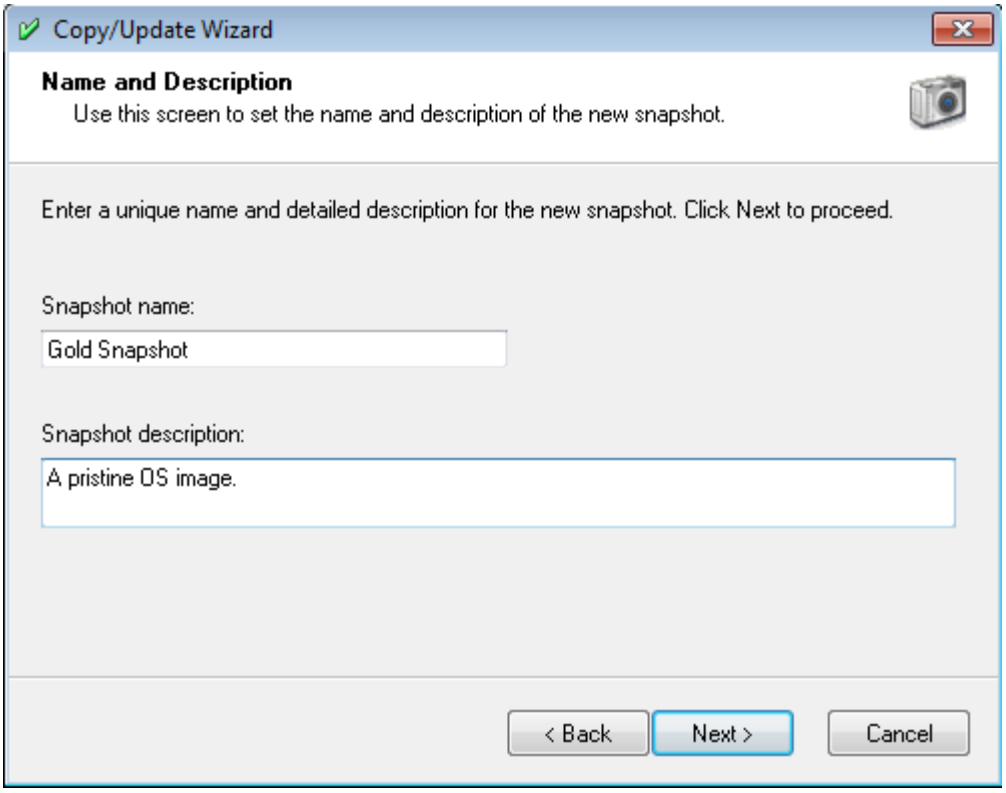
Click Next to proceed:



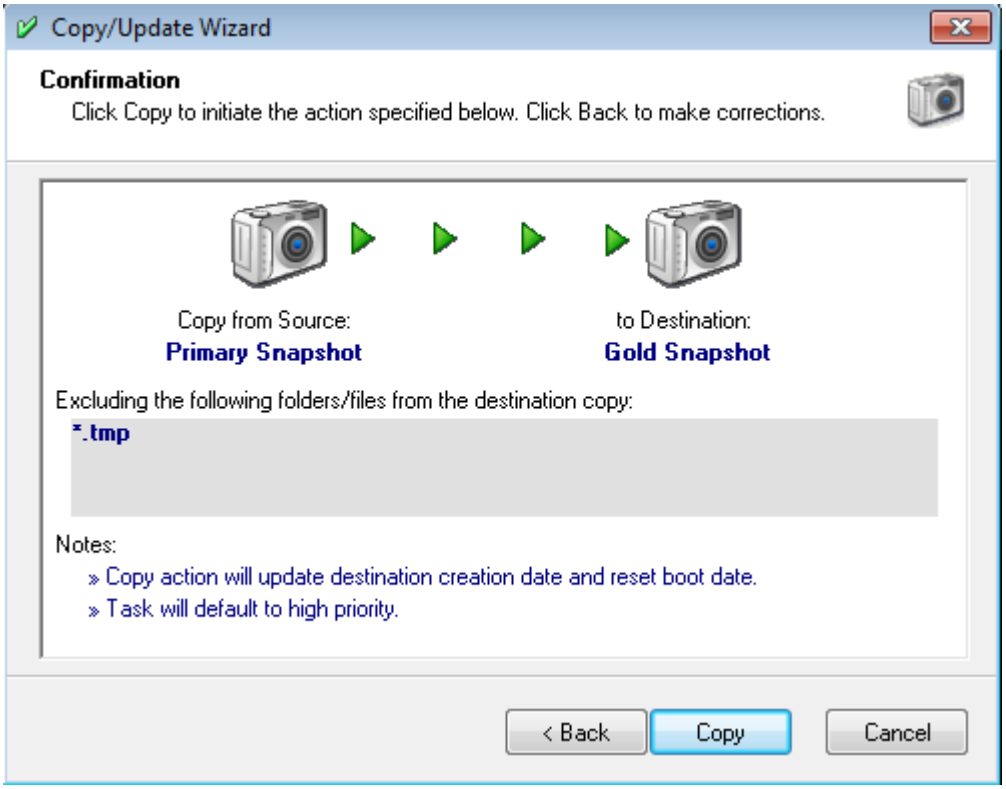
Select the snapshot or archive that will be the source of the copy operation. The active snapshot is the one with the blue arrow. Archives have the camera icon. Click Next to proceed:



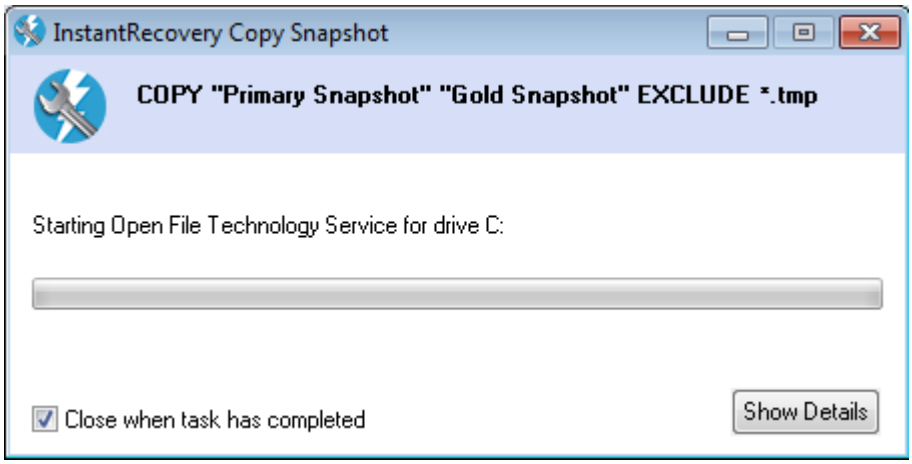
Select the snapshot or archive that will be the destination of the copy operation. To create a new snapshot, select <New Snapshot> or <New Compressed Snapshot>. To create a new archive, select <New Archive>. Click Next to proceed:



If you chose to create a new snapshot or archive, enter a unique name and detailed description for the new snapshot or archive. Click Next to proceed:



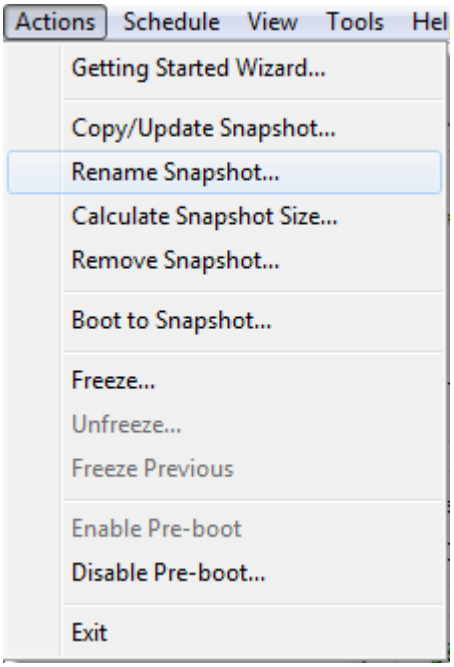
This is the final screen of the Wizard. Click Copy to start the operation. This may take several minutes depending on the size of the snapshot and the speed of your computer. The progress of the copy task is displayed:



After the copy task is complete, the destination snapshot or archive will be a point-in-time copy of the source snapshot.

Renaming a Snapshot or Changing its Description

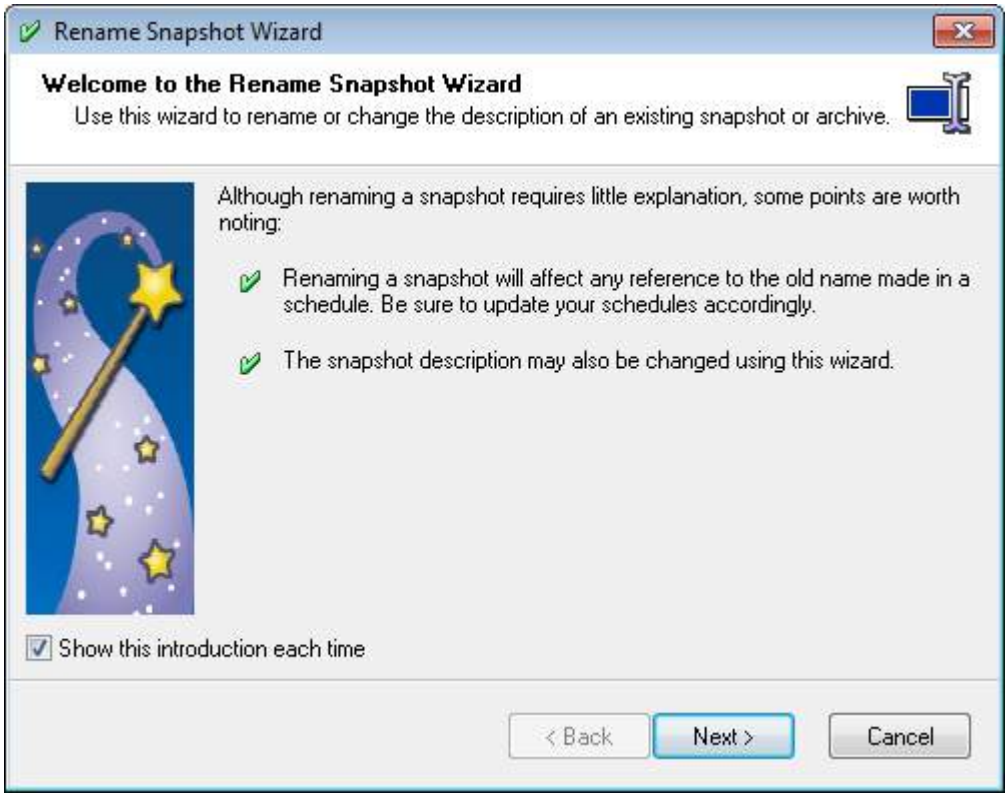
To rename a snapshot or archive choose Actions>Rename Snapshot from the menu:



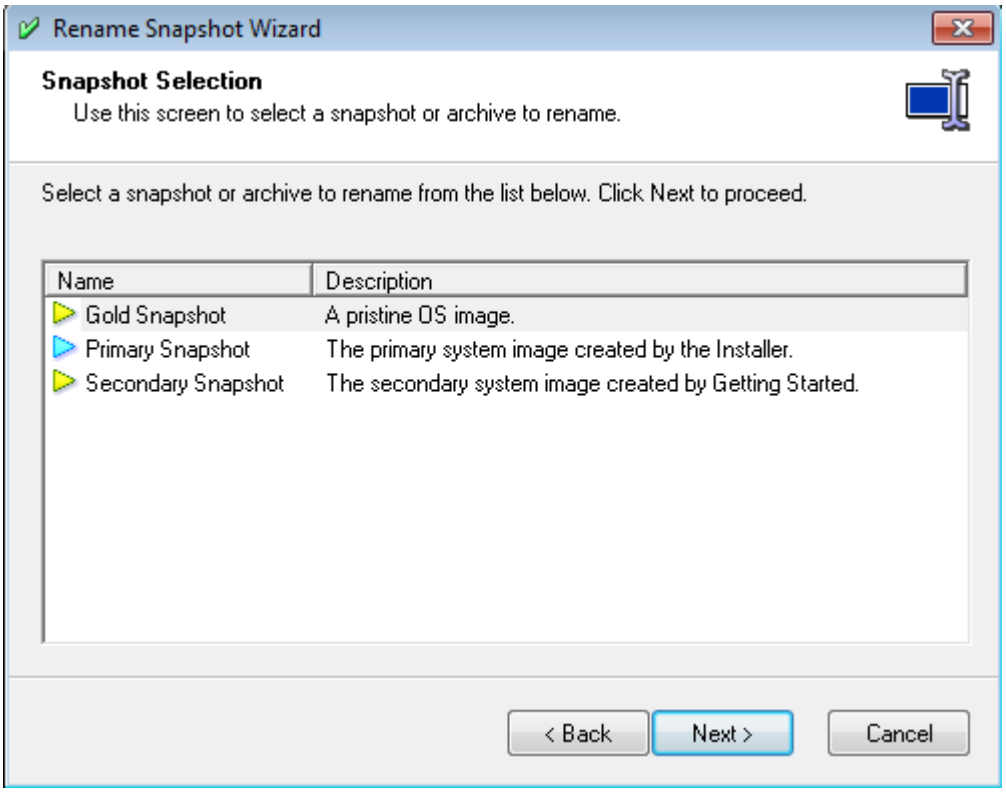
Alternatively you can right-click a snapshot or archive and choose Rename Snapshot from the pop-up menu.

The Rename Snapshot Wizard will be launched:

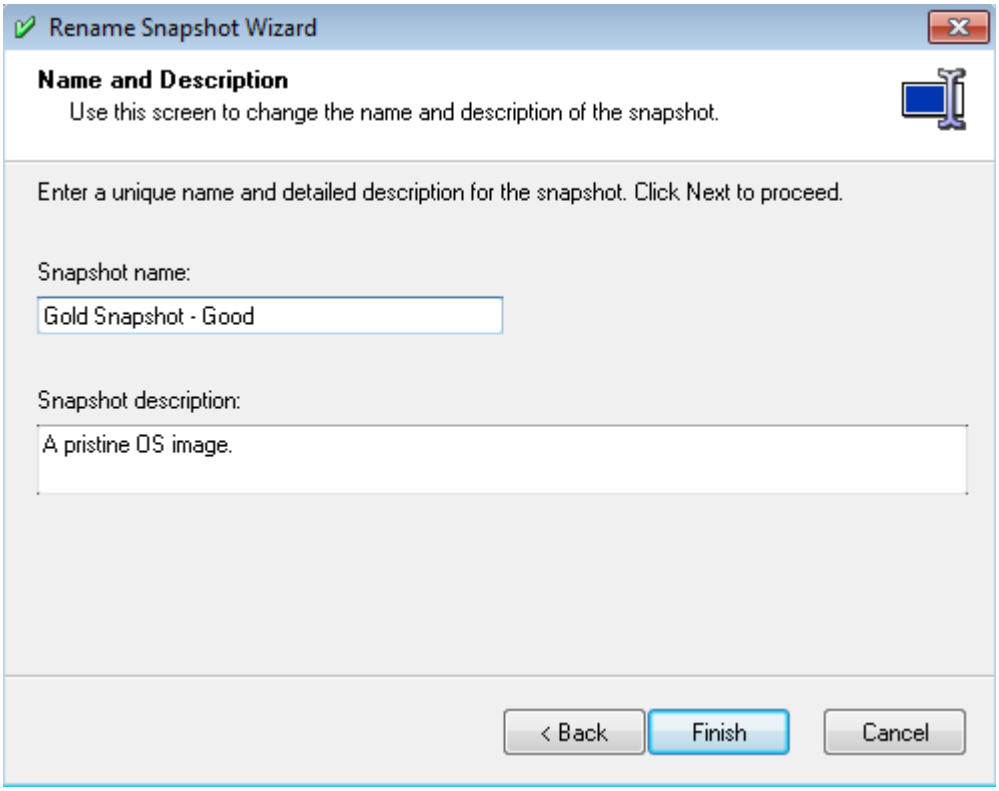
> *If a snapshot or archive has already been selected, the wizard will begin with the Name and Description screen (unless this is the first time using this wizard or the "Show this introduction each time" checkbox is checked).*



Click Next to proceed:



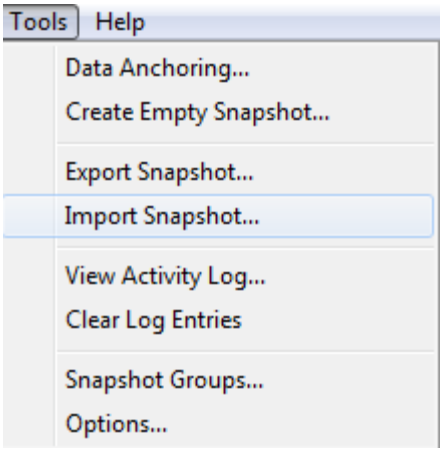
Select the snapshot or archive to rename. Click Next to proceed:



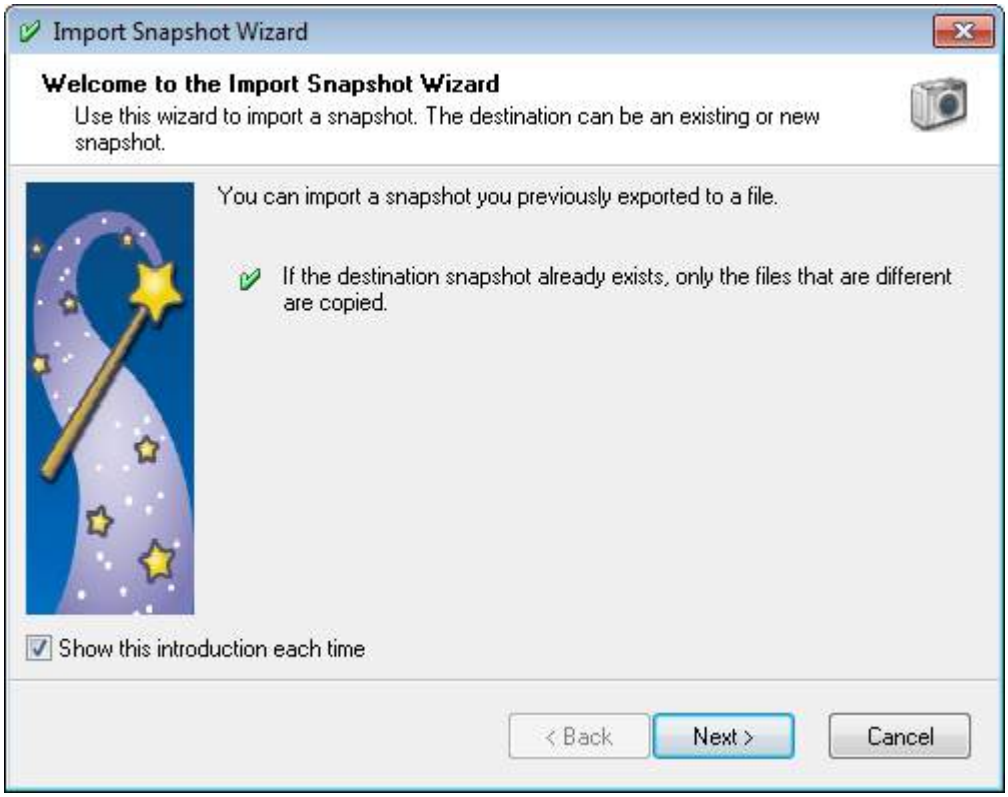
Change the name and/or description of the selected snapshot or archive. In the above example "Gold Snapshot" has been renamed to "Gold Snapshot - Good". Click Finish to make the changes.

Importing a Snapshot

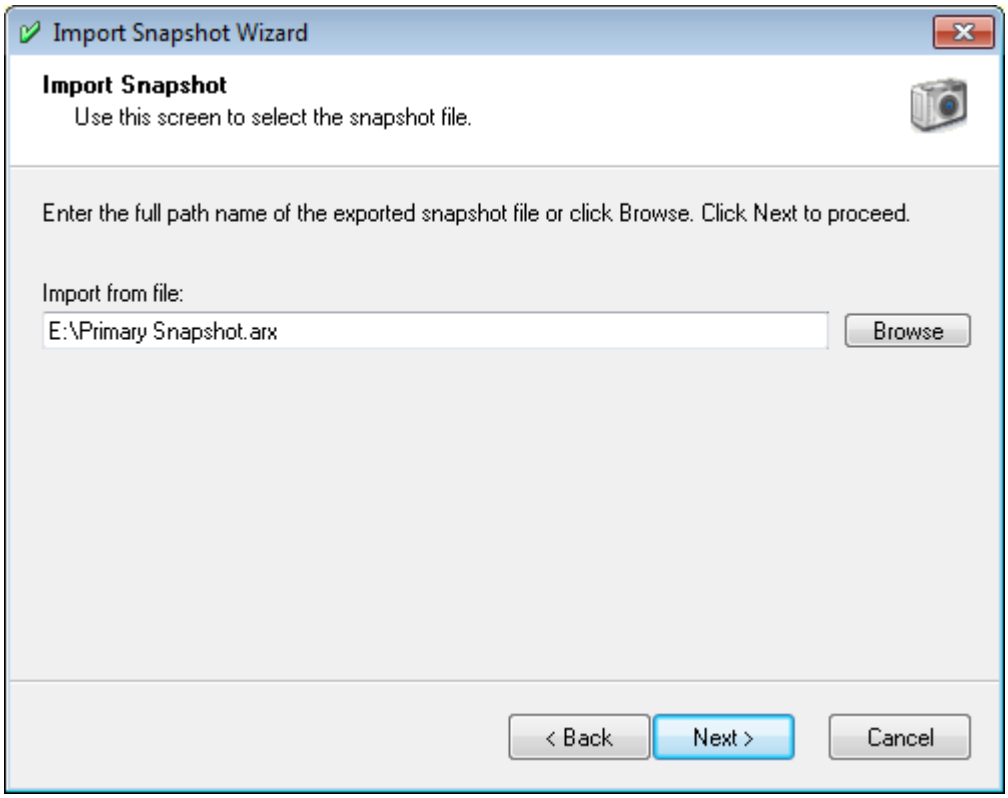
To import a snapshot you previously exported, choose Tools>Import Snapshot from the menu:



The Import Snapshot Wizard will be launched:

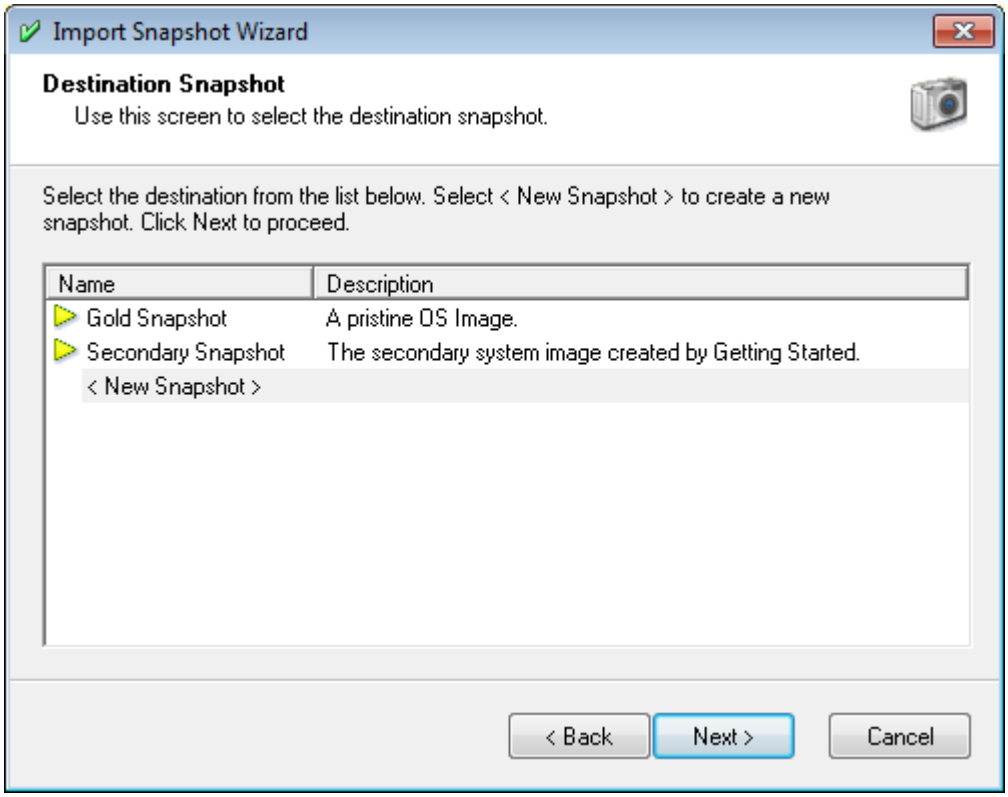


Click Next to proceed:



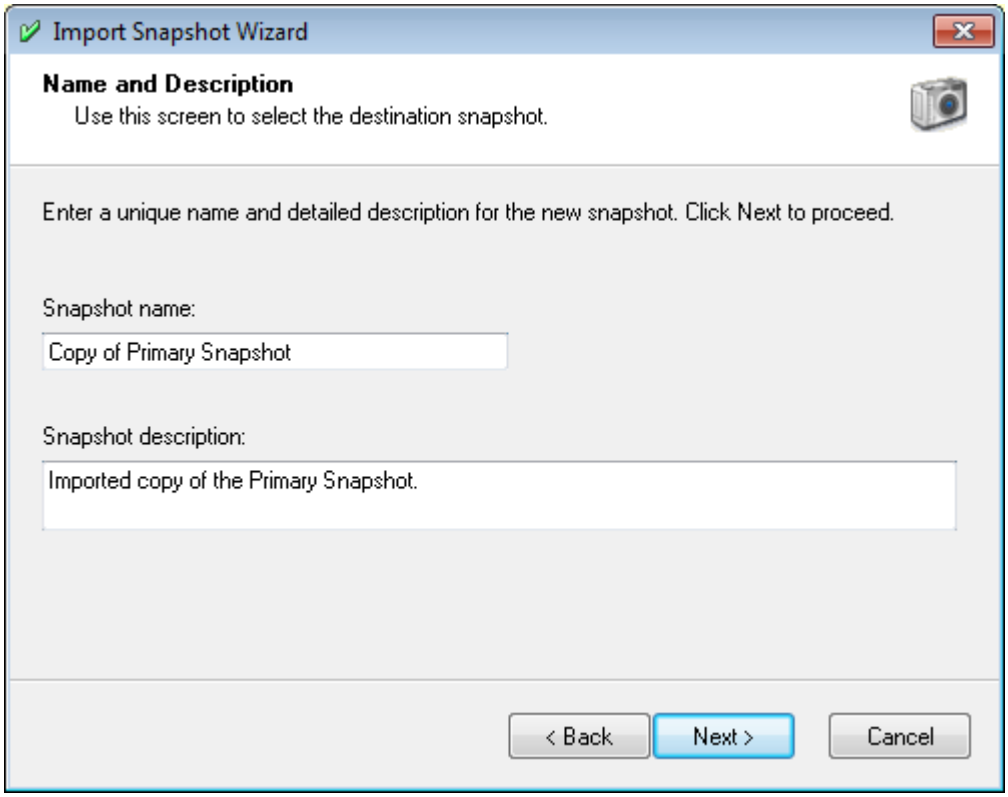
Enter the full path name of the file to import or click Browse for an Open dialog.

Click Next to proceed:



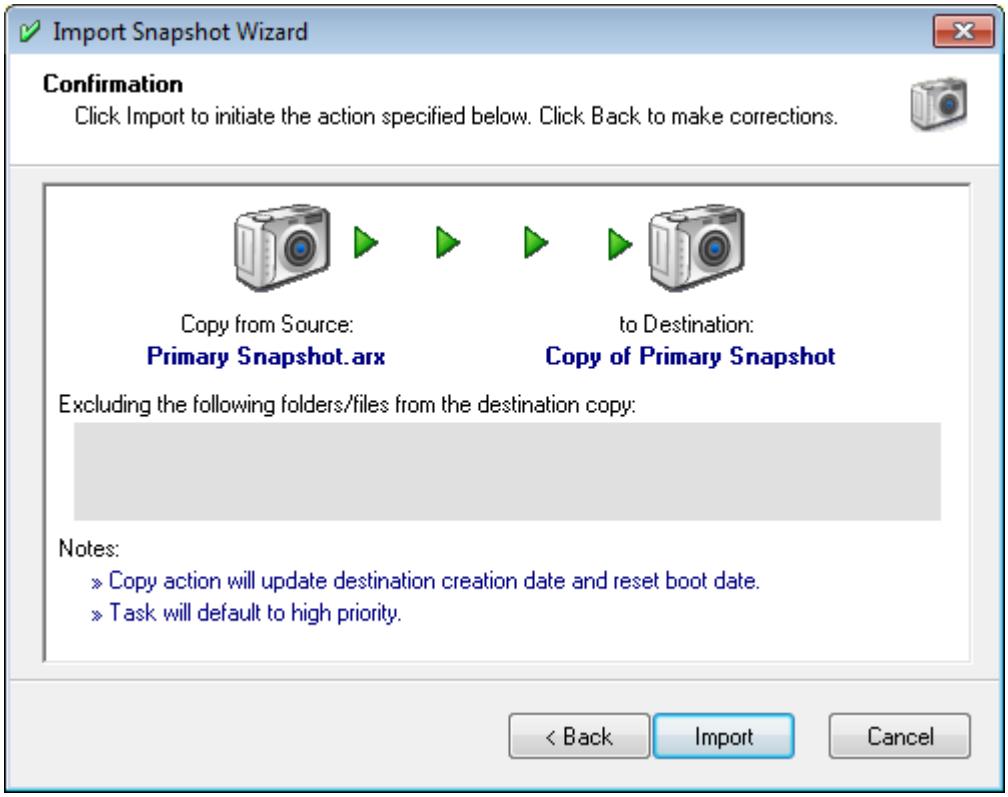
Select the snapshot that will be the destination of the import operation. To create a new snapshot select <New Snapshot>.

Click Next to proceed:

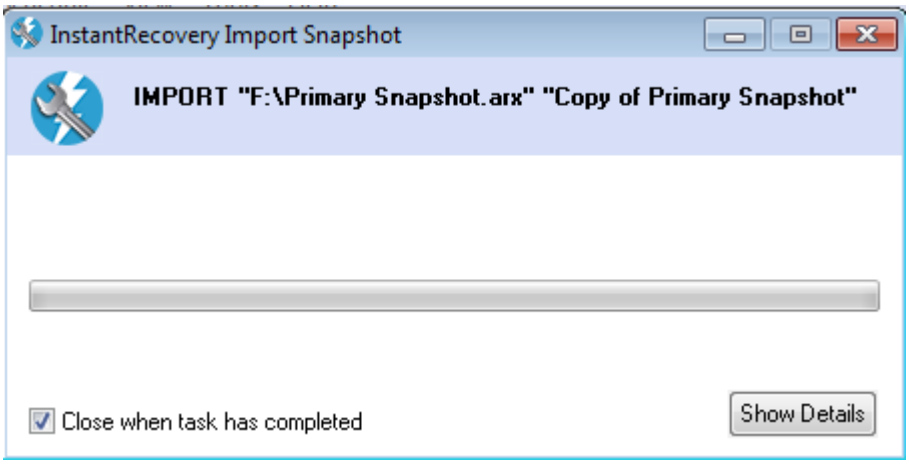


If you chose to create a new snapshot, enter a unique name and detailed description for the new snapshot.

Click Next to proceed:

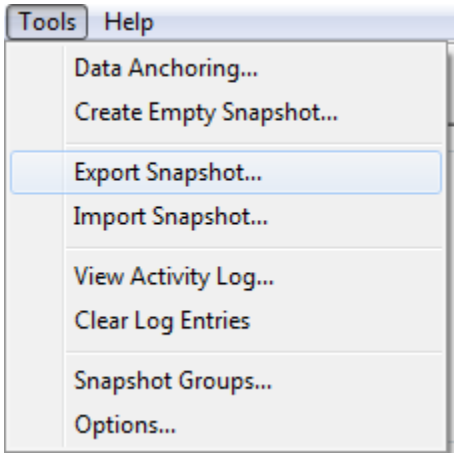


Click Import to start importing the snapshot. This may take several minutes depending on the size of the snapshot and the speed of your computer. The progress of the import task is displayed:

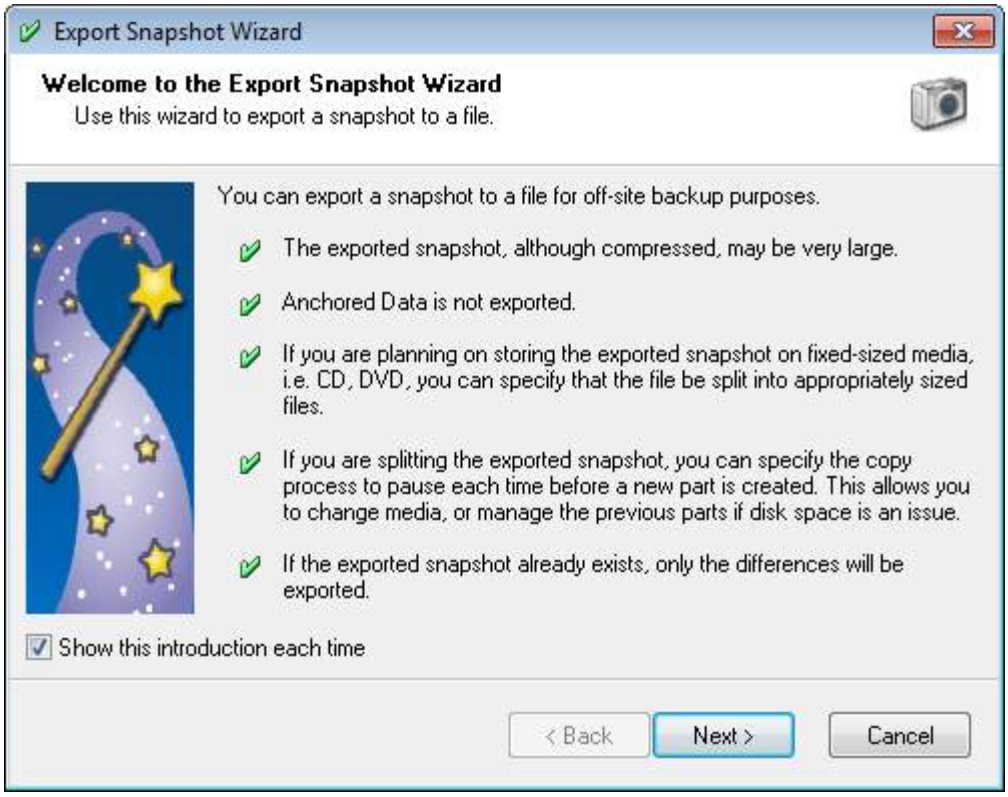


Exporting a Snapshot

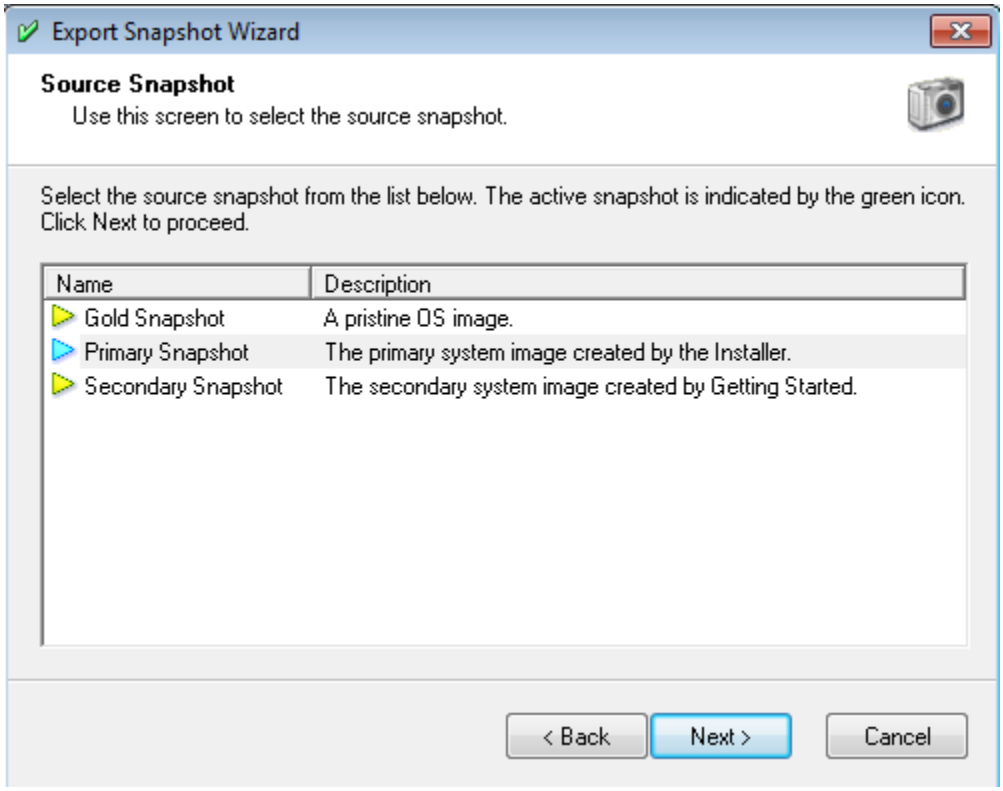
To export a snapshot to a file for off-site backup purposes, choose Tools>Export Snapshot from the menu:



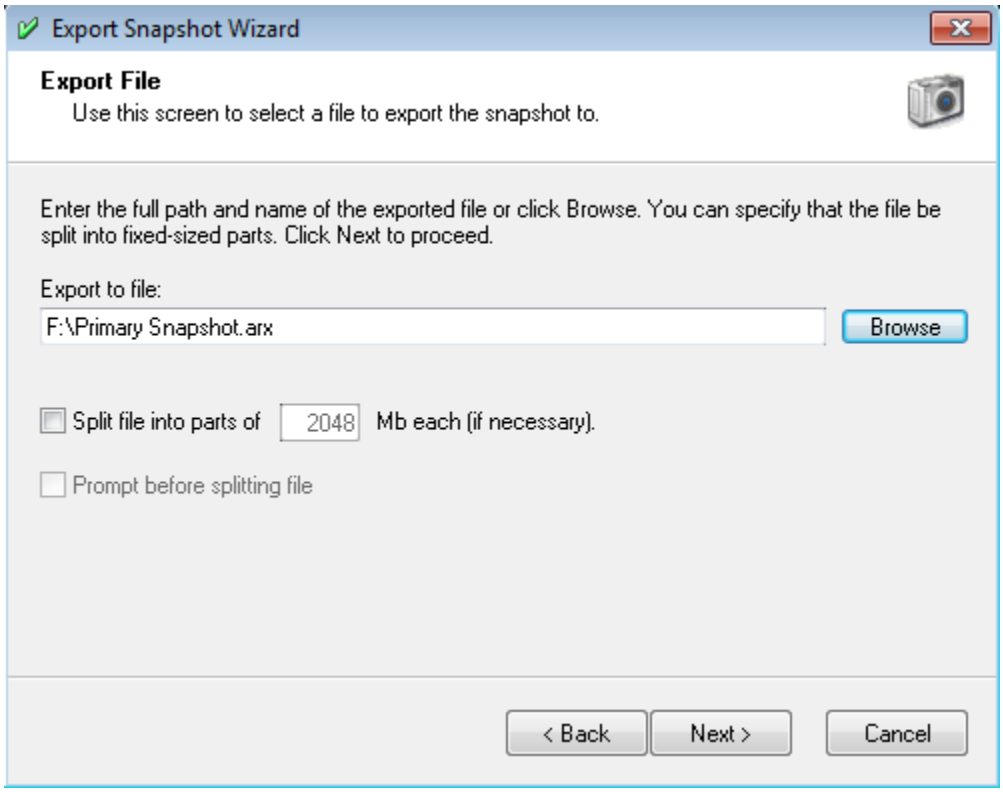
The Export Snapshot Wizard will be launched:



Click Next to proceed:



Select the snapshot to export. Click Next to proceed:

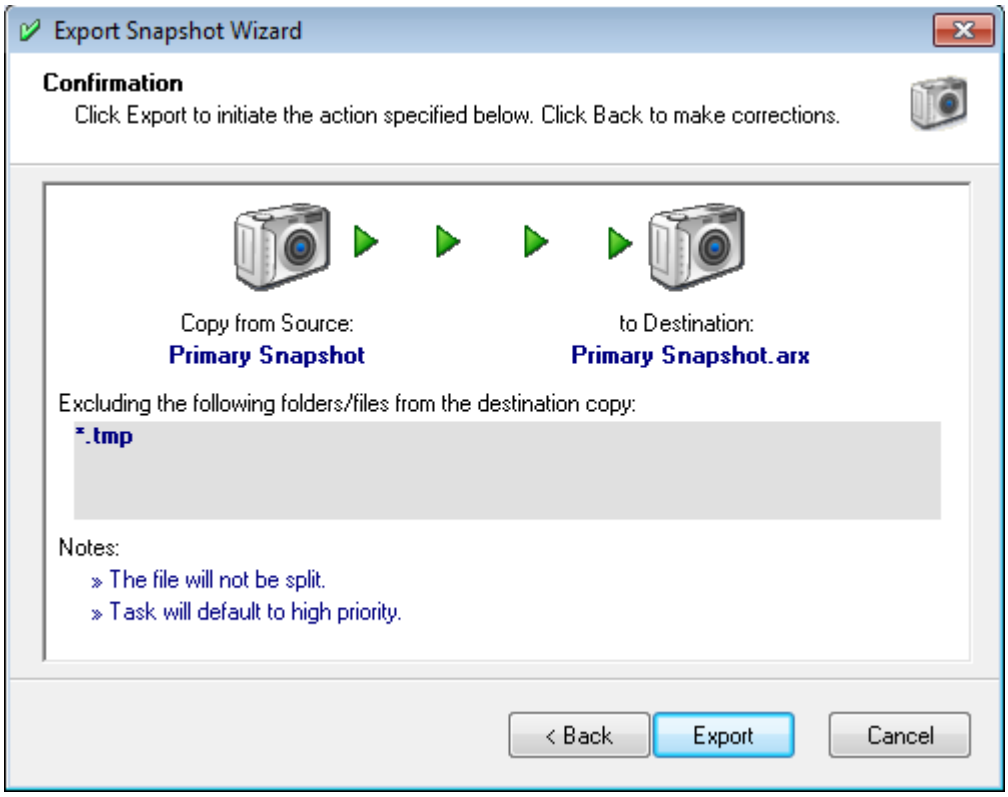


Enter the full path name of the file or click Browse for a Save dialog.

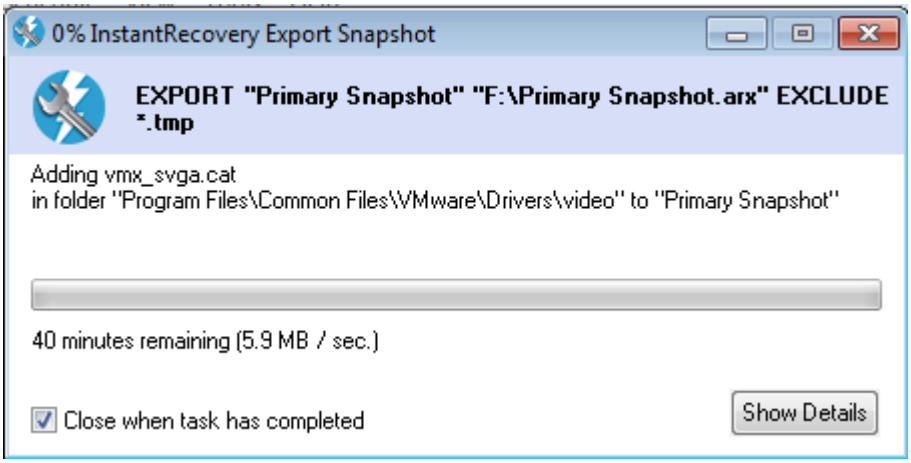
If you are intending to copy the file to fixed-sized media (such as CD or DVD), check the split file box and enter the maximum capacity of the media in Mb. The first part will have the extension .ARX, the second will have .001 and so on.

If disk space on the destination drive is an issue or you want to change the media, you can check the prompt box and you will be prompted before the copy engine starts another part of the file.

Click Next to proceed:

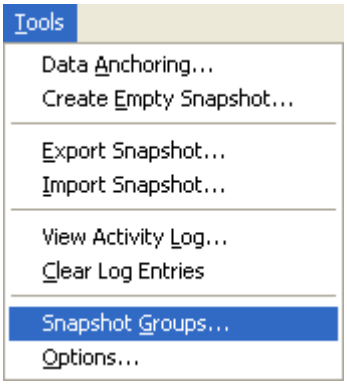


Click Export to start exporting the selected snapshot. This may take several minutes depending on the size of the snapshot and the speed of your computer. The progress of the export task is displayed:



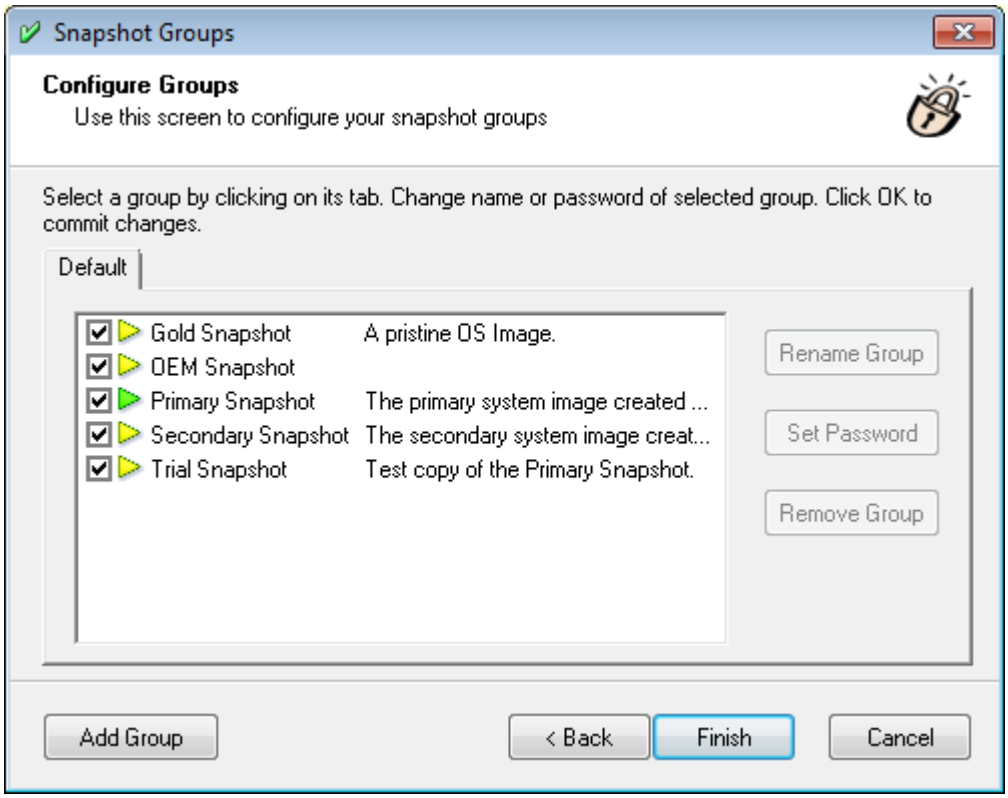
Password-Protecting Snapshots

To password-protect one or more snapshots in the pre-boot menu, you must put them in a snapshot group other than the Default group. Choose Tools>Snapshot Groups from the menu:

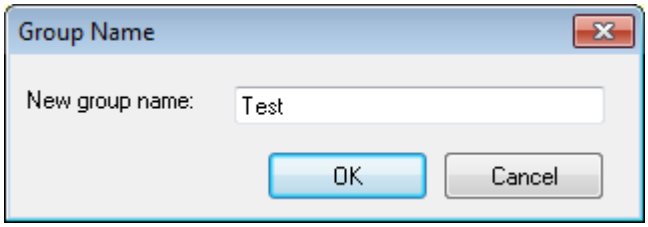


The Snapshot Groups Wizard will be launched:

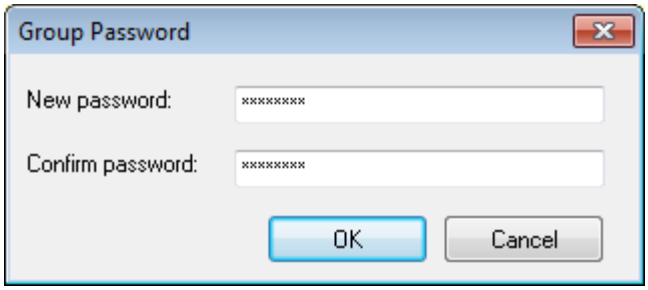
Click Next to proceed:



Initially all of your snapshots are in the Default group. This group is not password-protected. To create a password-protected group, click Add Group and you will be prompted to enter the new group's name:

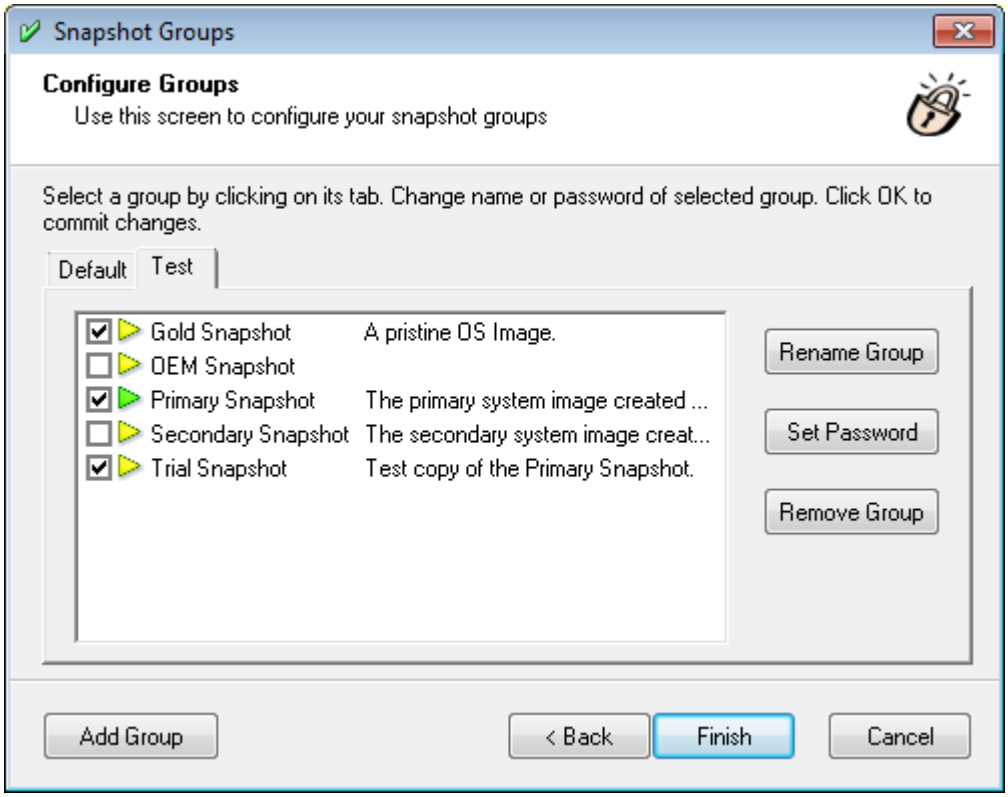


Group names can be up to 15 characters long and must be unique. Click OK and you will be prompted to enter a password for the new group:

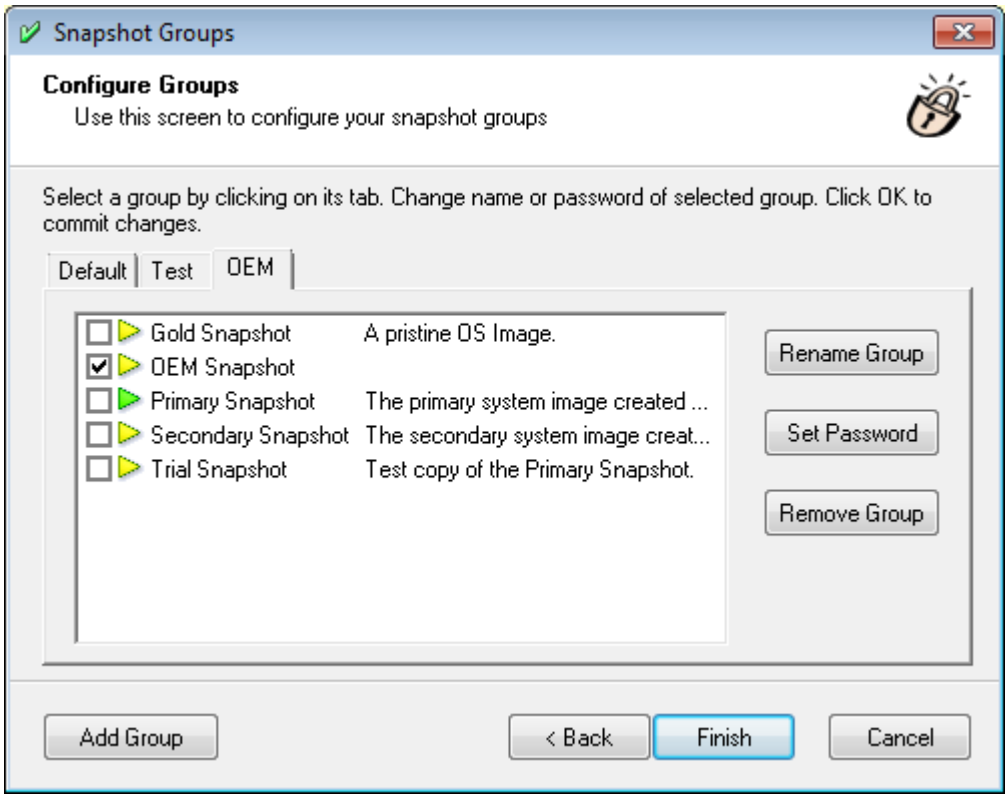


Passwords can be up to 15 characters long and must be unique. Click OK and the group will be added.

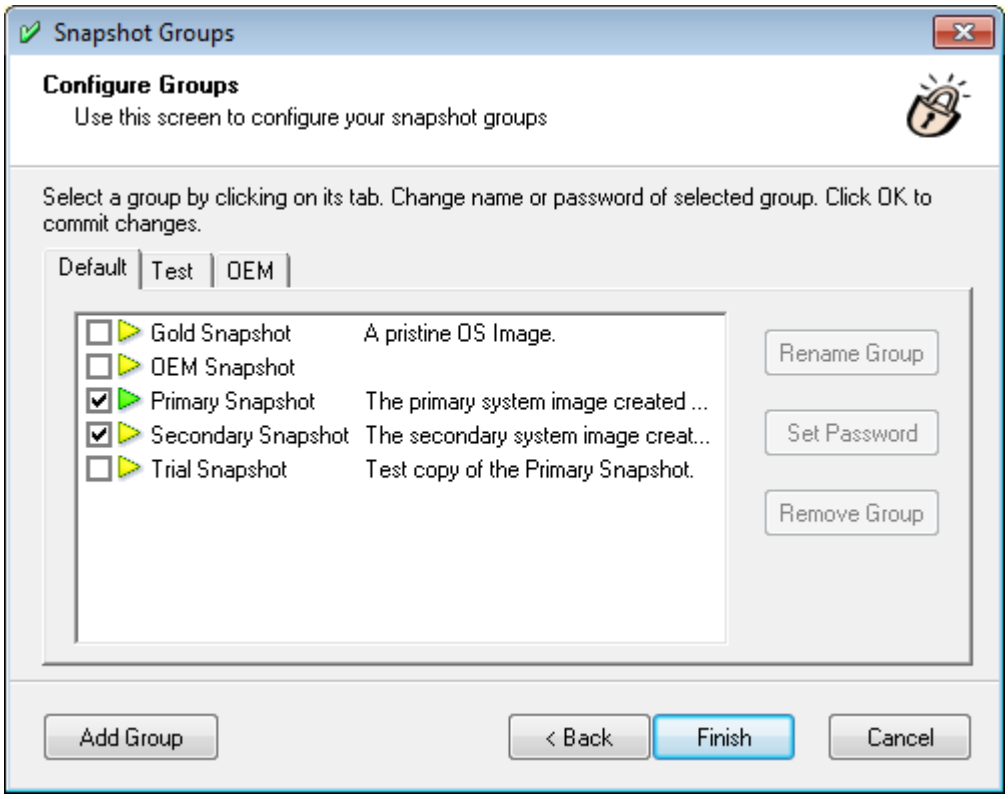
Initially, there are no snapshots in the new group. Select the snapshots you want to have in this password-protected group by clicking the check boxes in front of them:



You can add another group with a different password:



Now remove those snapshots you want password-protected from the Default group by clicking the check boxes in front of them:



Note that, in the above example, Primary Snapshot is in both the Default and Test groups. You may find it convenient to have snapshots in more than one group so they are shown together in the pre-boot menu.

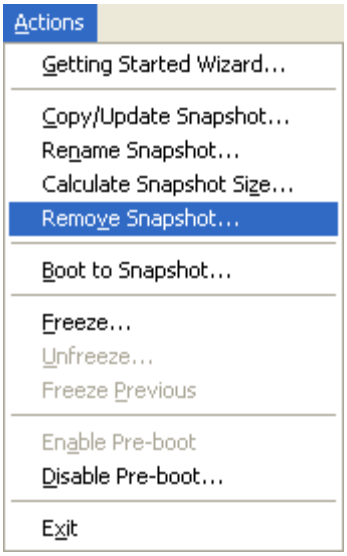
Click Finish to save your changes.

Snapshots groups are only found in the Business editions of InstantRecovery.

Snapshot groups only protect snapshots at the pre-boot menu. They are not meant to prevent a user of InstantRecovery from accessing the snapshots. You can still use Boot-To from the Manager to boot any snapshot. If you have users that you do not want to access other snapshots, make sure those users are non-admin and prevent them from using InstantRecovery.

Removing a Snapshot

To remove a snapshot or archive, choose Actions>Remove Snapshot from the menu:

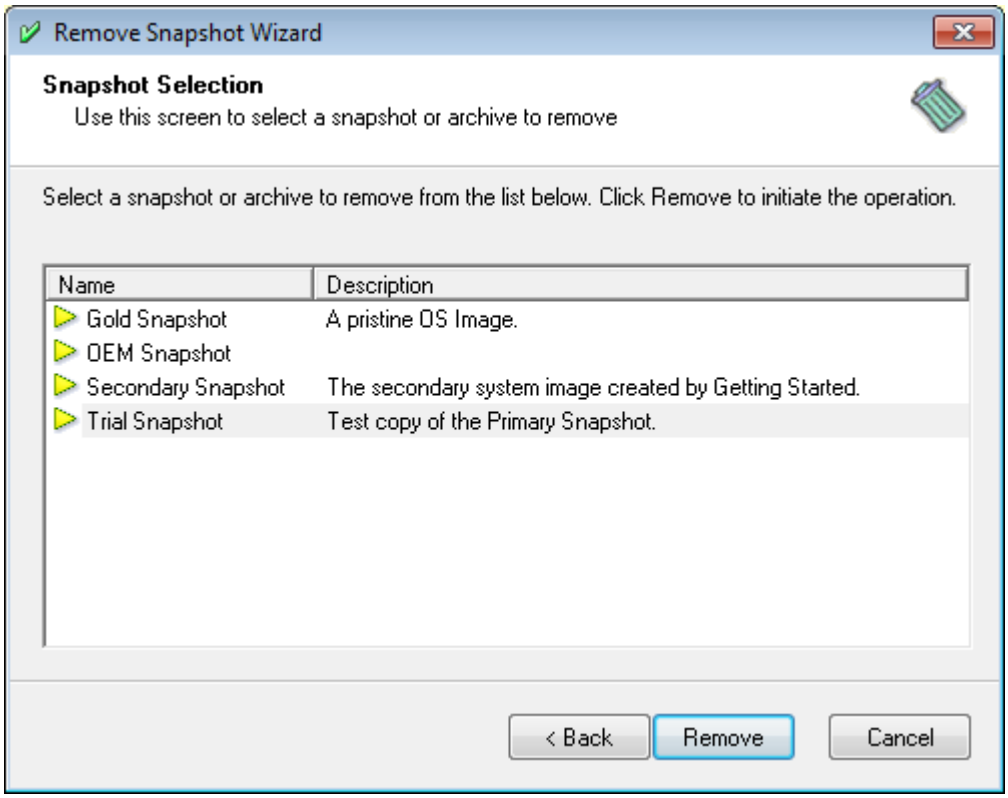


Alternatively you can right-click a snapshot or archive and choose Remove Snapshot from the pop-up menu or click the Remove icon on the toolbar:

The Remove Snapshot Wizard will be launched:

> *If a snapshot or archive has already been selected, the wizard is skipped and you are only prompted to confirm the removal (unless this is the first time using this wizard or the "Show this introduction each time" checkbox is checked).*

Click Next to proceed:

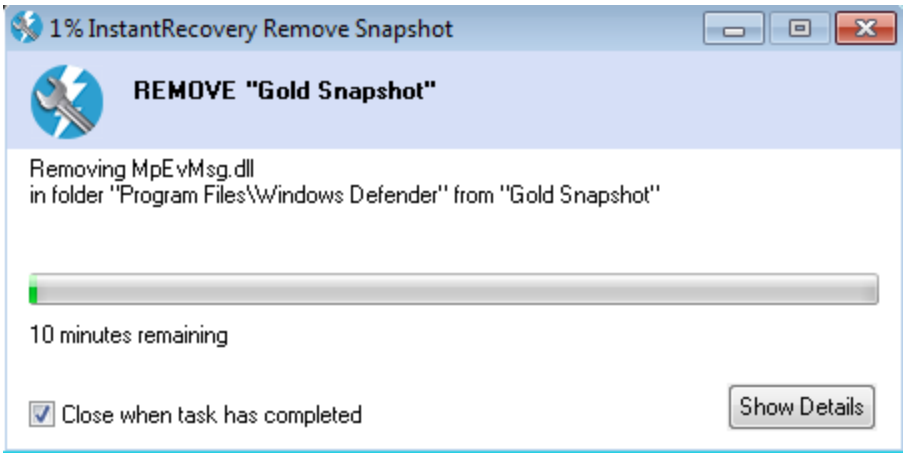


Select the snapshot or archive you wish to remove.

Note: The active snapshot is not listed because it cannot be removed.

Click Remove and you will be asked to confirm the operation:

Click Yes to start removing the selected snapshot or archive. This may take several minutes depending on the size of the snapshot and the speed of your computer. The progress of the remove task is displayed:

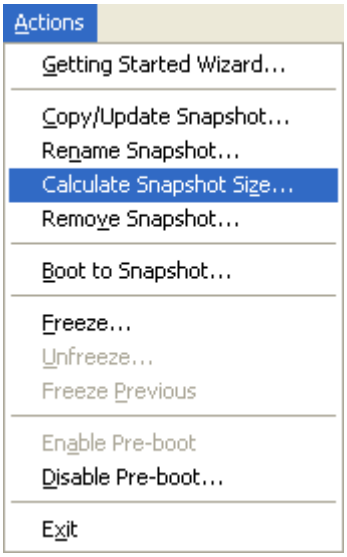


You should remove or modify any schedules that use this snapshot or archive as a source.

Calculating the Size of a Snapshot

Typically you will not have to calculate the size of a snapshot since the size of the destination snapshot is set after the copy operation. However, the size of the active snapshot can vary and you may wish to know its current size.

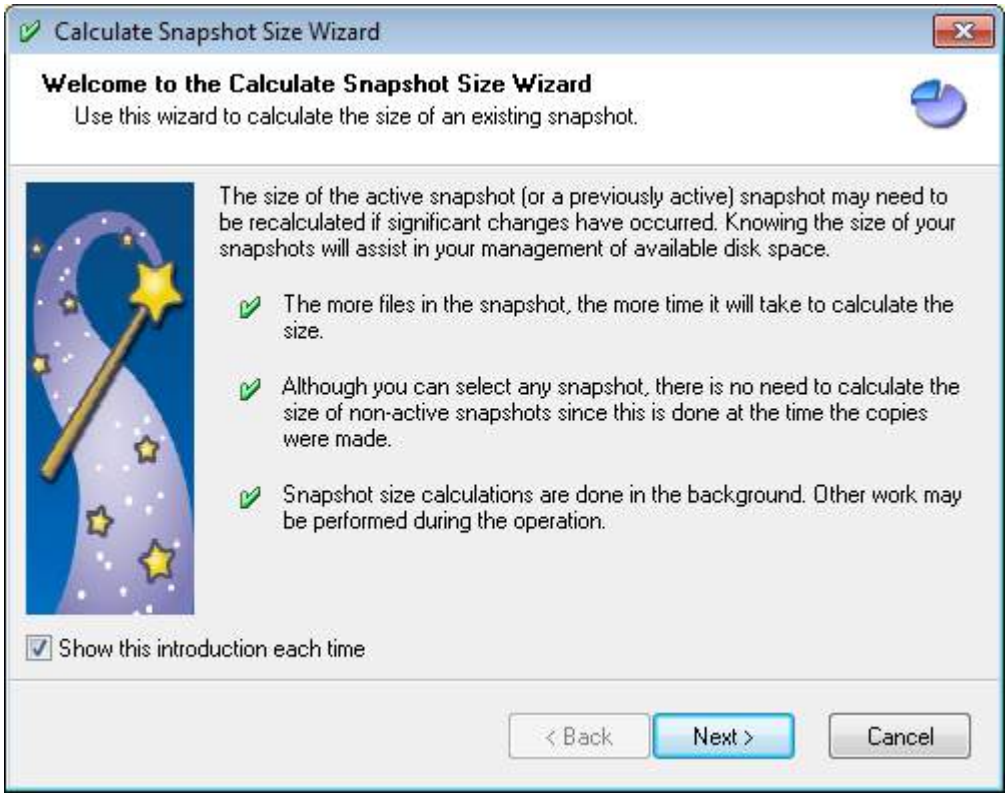
To calculate the size of a snapshot, choose Actions>Calculate Snapshot Size from the menu:



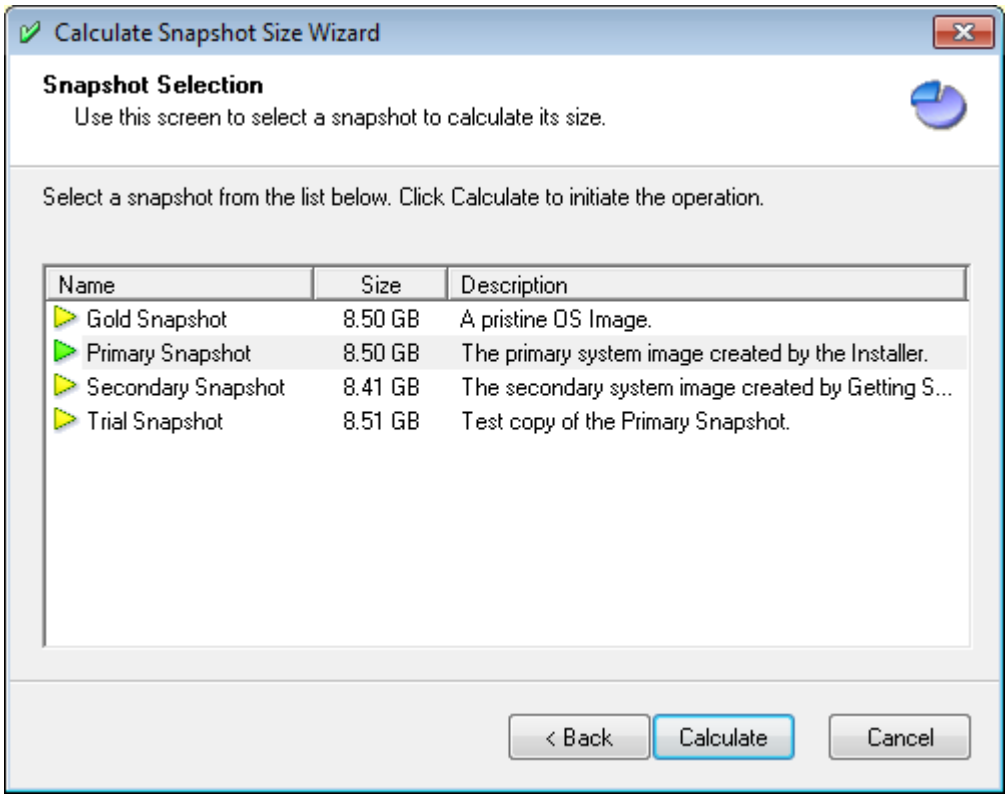
Alternatively you can right-click a snapshot and choose Calculate Snapshot Size from the pop-up menu or click the Calculate Size icon on the toolbar:

The Calculate Snapshot Size Wizard will be launched:

> *If a snapshot has already been selected, the wizard is skipped and InstantRecovery begins calculating the size of the snapshot immediately (unless this is the first time using this wizard or the "Show this introduction each time" checkbox is checked).*

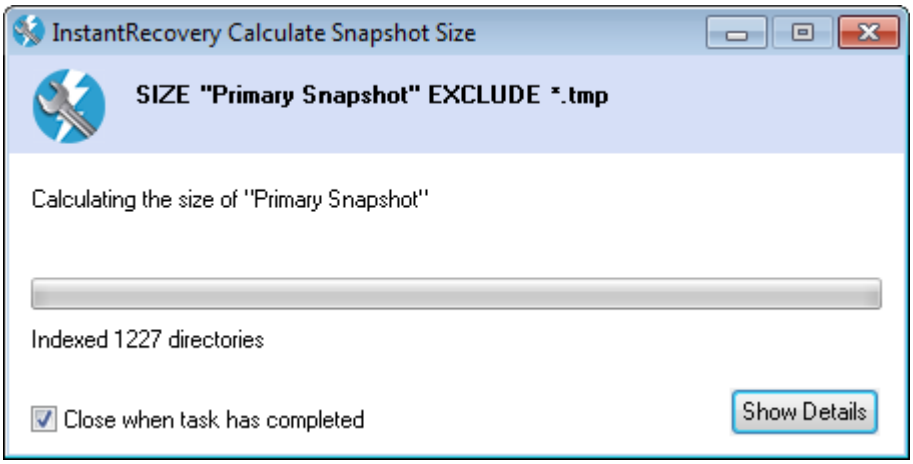


Click Next to proceed:



Select the snapshot whose size is to be calculated.

Click Calculate to initiate the operation. This may take several minutes depending on the size of the snapshot and the speed of your computer. The progress of the copy task is displayed:

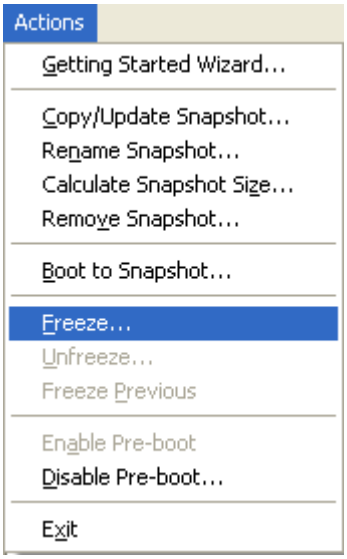


The progress bar is not updated during a SIZE operation since the number of directories to be indexed is not known before the operation.

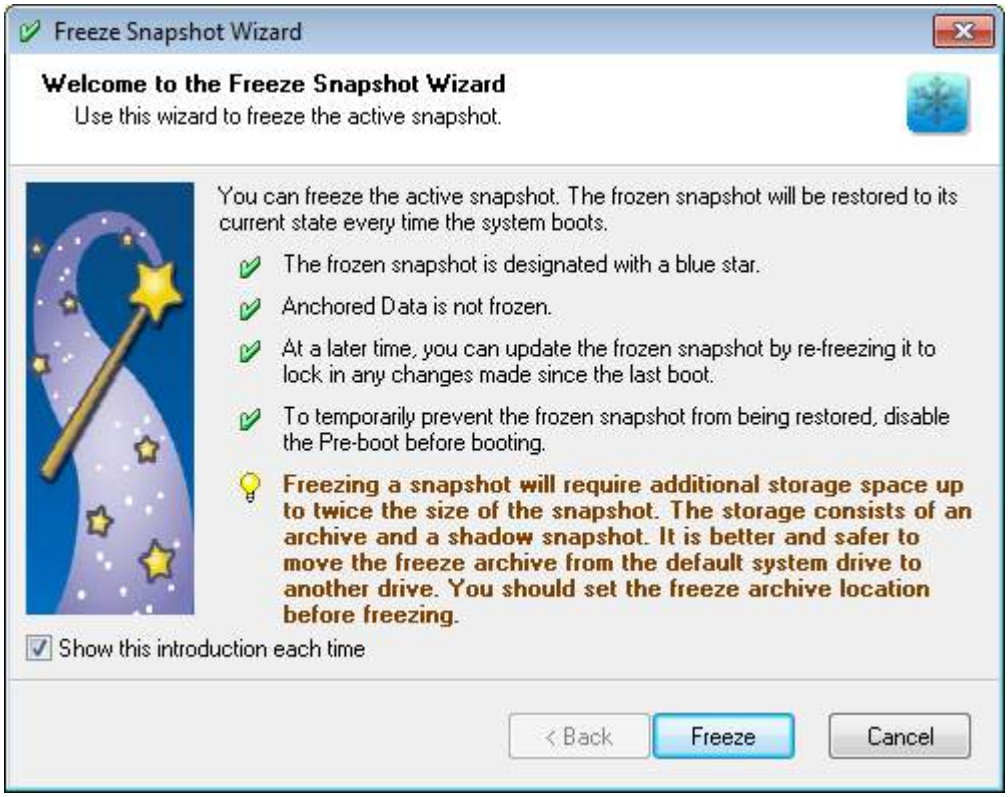
Freezing a Snapshot

Freeze is only found in the Business editions of InstantRecovery.

To freeze your active snapshot, choose Actions>Freeze from the menu:

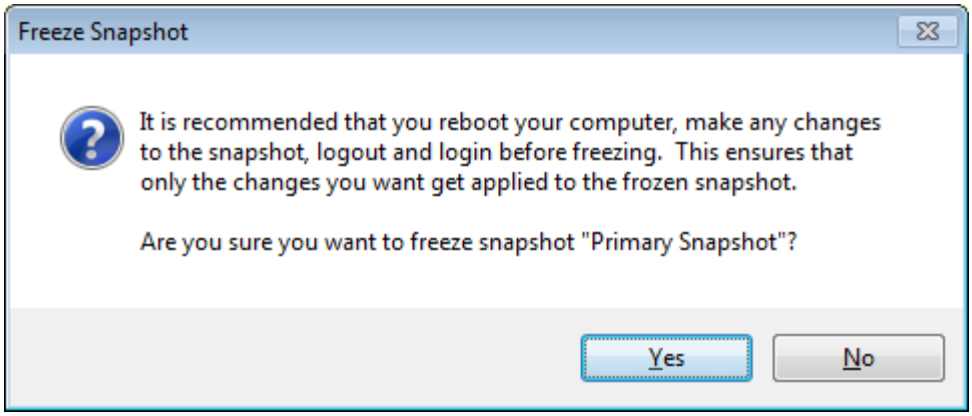


The Freeze Snapshot Wizard will be launched:



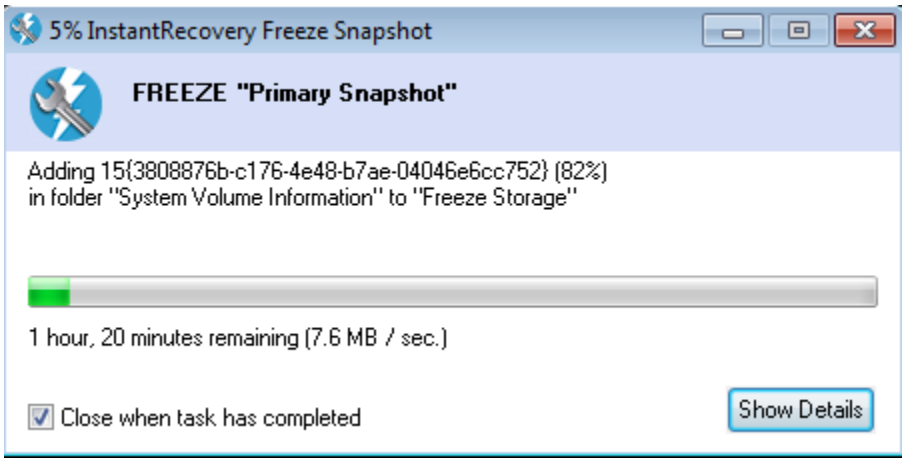
Freezing a snapshot will require additional storage space up to twice the size of the snapshot. The storage consists of an archive and a shadow snapshot. It is better and safer to move the freeze archive from the default system drive to another drive. You should set the freeze archive location before freezing. See Freeze Options to learn how to set the freeze archive location.

Click Freeze and you will be asked to confirm the operation:

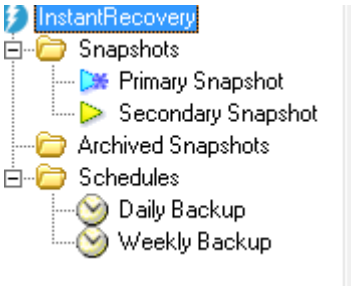


Since the current state of your system will be frozen, you will want to make sure it is as clean as possible. Before freezing the active snapshot, you should have rebooted your computer; run Disk Cleanup on the system drive; and then logged out and back in to save your user settings.

Click Yes to start the freeze operation. This may take several minutes depending on the size of the snapshot and the speed of your computer. The progress of the freeze task is displayed:



After the operation is complete, the frozen snapshot will be designated with a blue star over the snapshot icon:



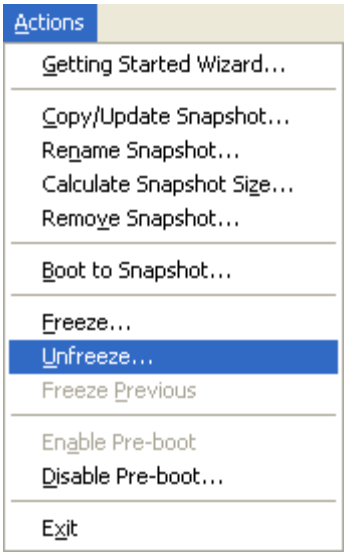
Every time you boot the frozen snapshot it will be restored to the frozen state. InstantRecovery begins repairing the changes made during the previous session immediately at startup. If it has not completed the repair by the time you log in, you will be asked to wait:

You can turn off the wait prompt from Advanced Options and the repair process will not be affected. However, rebooting the computer before the process completes may result in your system being in an undetermined state. Rebooting again and waiting for the repair to complete will fix this.

Unfreezing a Snapshot

Freeze is only found in the Business editions of InstantRecovery.

To unfreeze your frozen snapshot, choose Actions>Unfreeze from the menu:

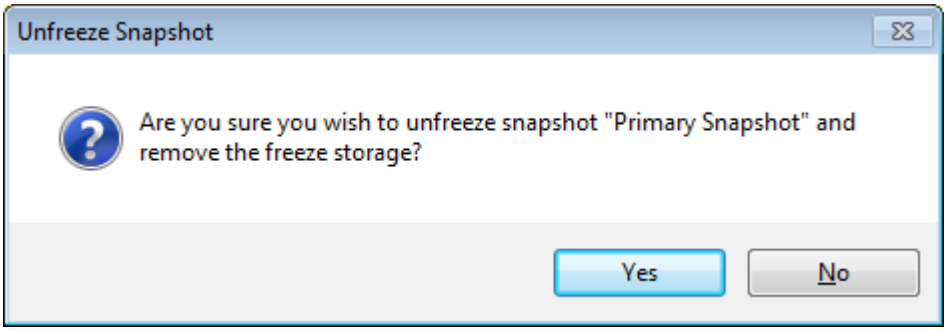


The Unfreeze Snapshot Wizard will be launched:

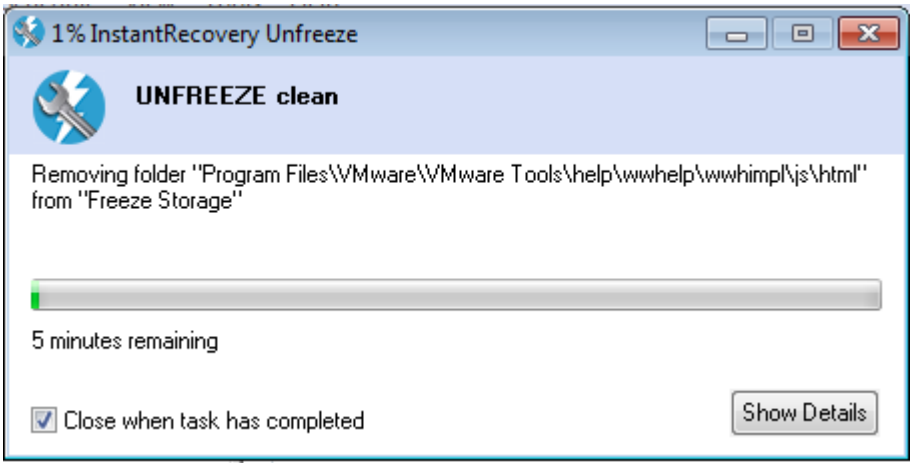
Click Next to proceed:

Choose to keep or remove the freeze storage. Select this option if you intend to refreeze the snapshot later. It will allow you to use Freeze Previous to revert the snapshot to its previous frozen state if you decide you want to undo the changes. Also, select this option if you intend to freeze another snapshot later. It will likely be much quicker even if the snapshots are different.

Click Unfreeze to proceed. You will be prompted for confirmation:

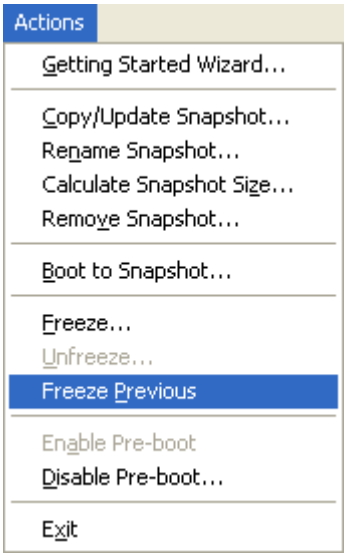


Click Yes to initiate the unfreeze operation. If you chose to remove the storage the progress of the task is displayed:

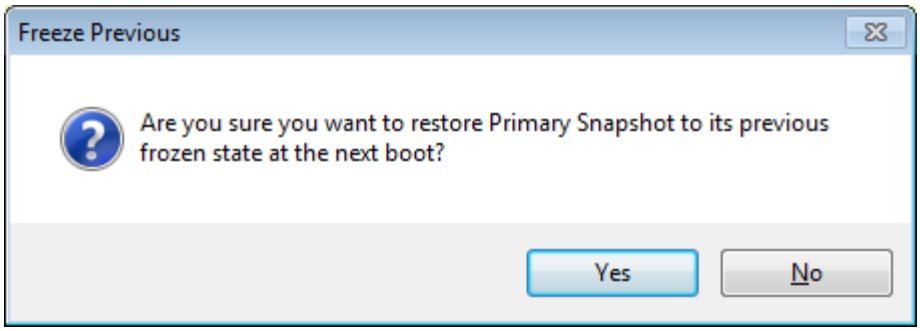


Reverting a Snapshot to Its Previous Frozen State

To revert a snapshot to its previously frozen state, choose Actions>Freeze Previous from the menu:



You will be prompted for confirmation:



Click Yes to revert the snapshot to its previously frozen state.

The snapshot will be marked as frozen but will not revert until the next boot.

You must have kept the freeze storage intact to revert. Starting another freeze operation or moving the freeze archive to another drive will prevent you from reverting.

Freeze Previous will revert the previously frozen snapshot no matter what the current active snapshot is.

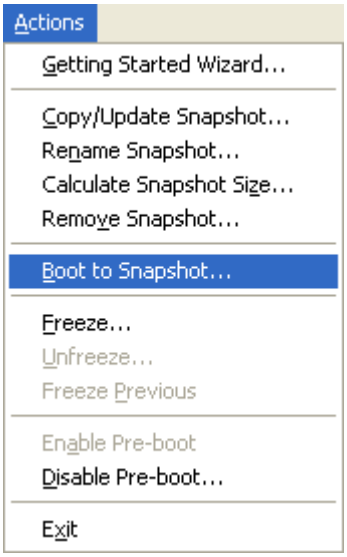
Booting to Another Snapshot

There are two methods you can use to boot to another snapshot:

1. Use Boot to Snapshot.
2. Press the hotkey (default F1) during the pre-boot.

Boot to Snapshot

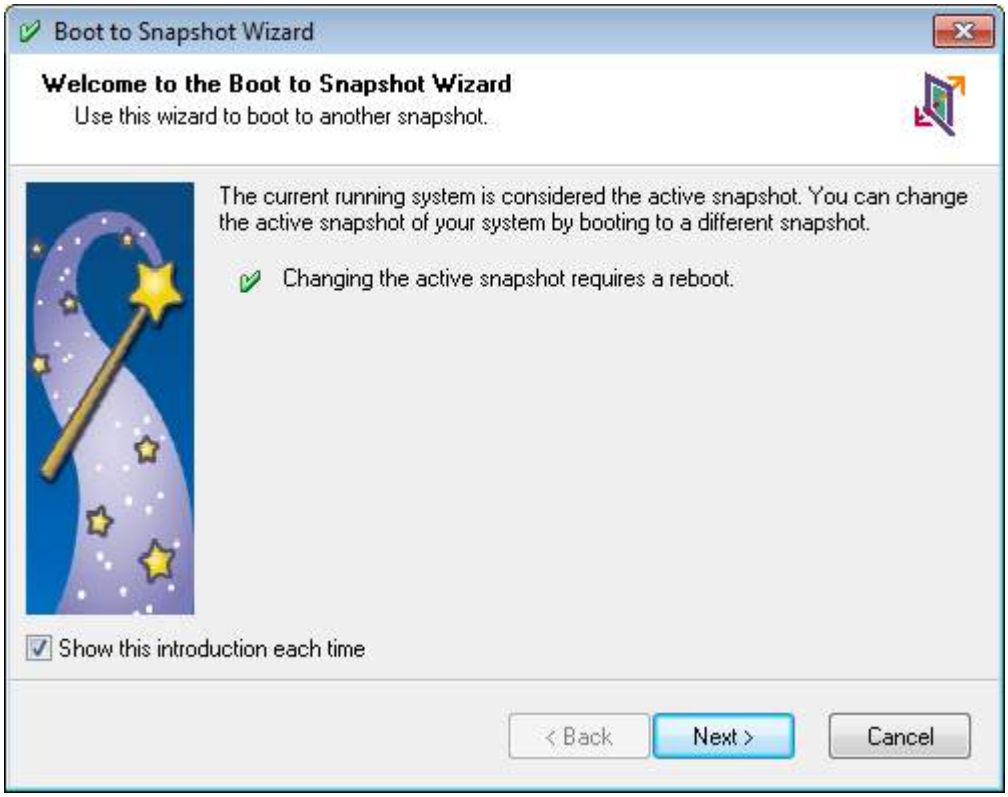
If you are within the operating system interface, to boot a snapshot, choose Actions>Boot to Snapshot from the menu:



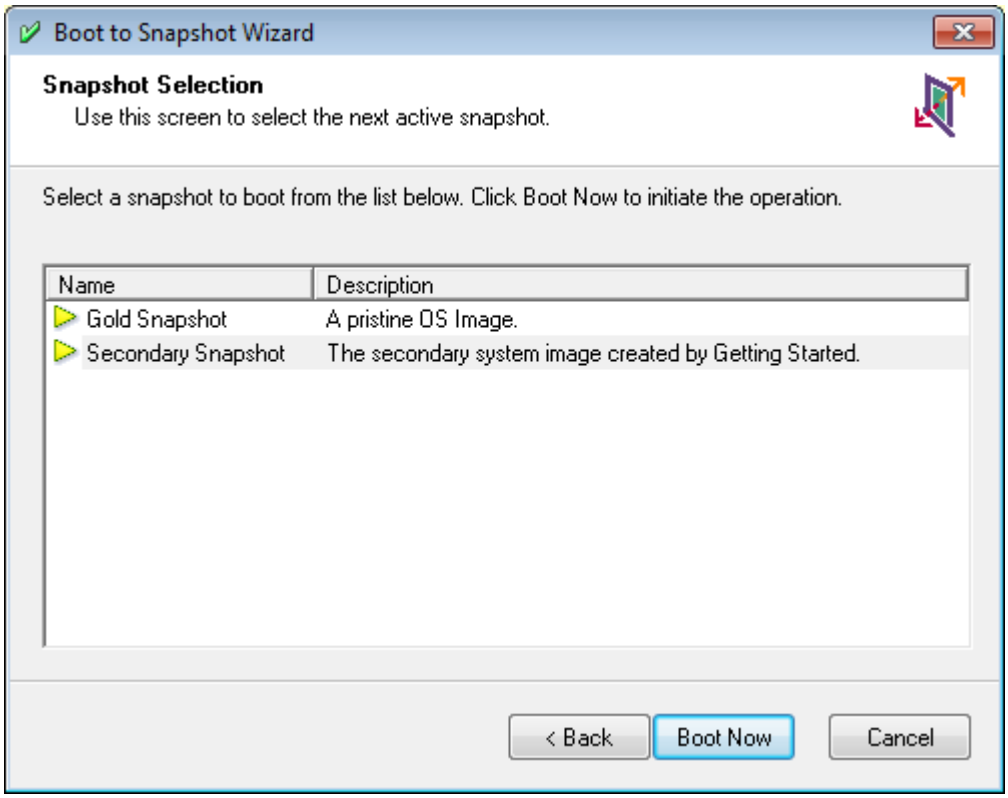
Alternatively you can right-click a snapshot and choose Boot to Snapshot from the pop-up menu.

The Boot to Snapshot Wizard will be launched:

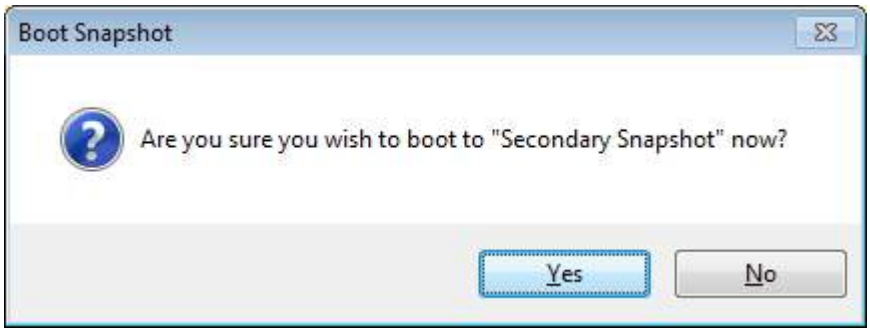
> *If a snapshot has already been selected, the wizard is skipped and you are only prompted to confirm the boot to snapshot (unless this is the first time using this wizard or the "Show this introduction each time" checkbox is checked).*



Click Next to proceed:



Select the snapshot you wish to boot. Click Boot Now and you will be asked to confirm the operation:



If you answer Yes, Windows will attempt to reboot your computer. After the reboot your active snapshot will be the one you selected (e.g. Secondary Snapshot).

If Windows cannot shutdown (e.g. an application refuses to close) the boot to the selected snapshot will occur the next time you boot your computer unless you run the InstantRecovery Manager. If the InstantRecovery Manager is run again, the boot to snapshot is cancelled.

When you login after swapping to another snapshot, the InstantRecovery tray icon notifies you that you have booted to another snapshot:

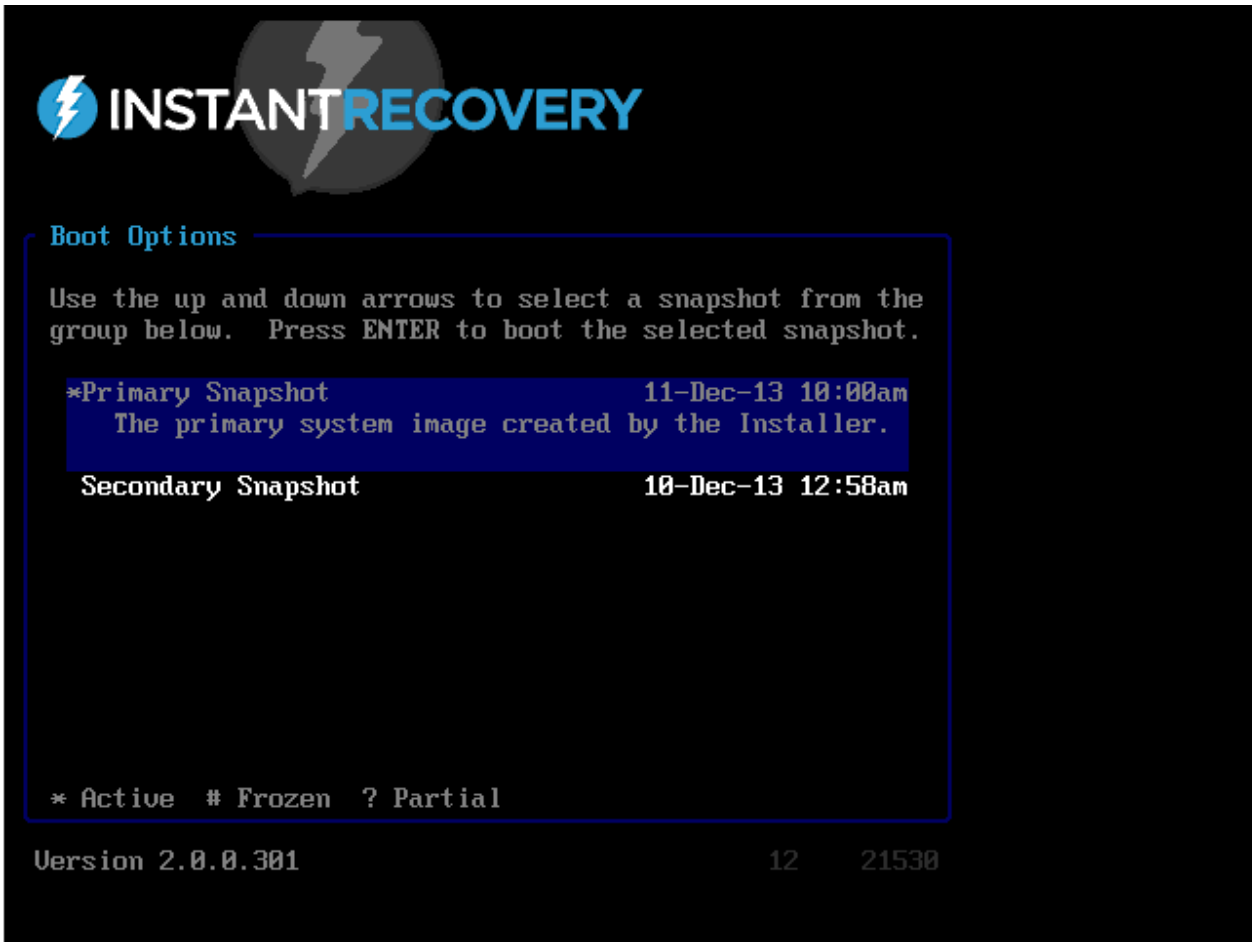
You can also hold the mouse over the tray icon and the tip message will tell you the active snapshot:

Pre-boot Hotkey without BitLocker

When InstantRecovery is installed and enabled you will see the following when your computer boots:

If you do not press the Hotkey (default is F1) or if you press any other key than the Hotkey, your computer boots normally.

If you press the Hotkey before the red progress bar reaches the end, the InstantRecovery pre-boot menu loads:



Using the arrow keys select the snapshot you wish to boot and press Enter. You will be prompted for confirmation before any changes are made to the disk. If you do not want to boot the selected snapshot, reboot your computer with Ctrl-Alt-Del.

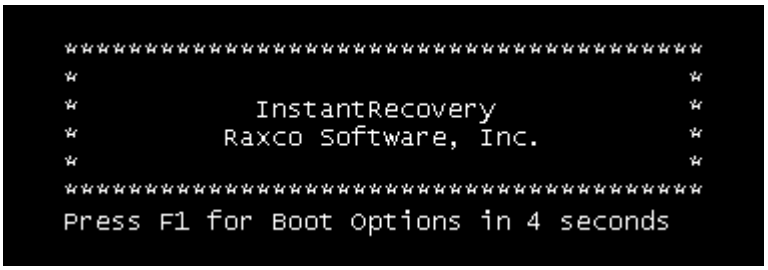
The active snapshot is designated with an asterisk (*). Selecting this snapshot is the same as if you had not pressed the Hotkey - the computer boots the same snapshot.

The frozen snapshot (if any) is designated with a number sign (#).

Partial snapshots, those where the copy/update function was halted, are designated with a question mark (?). These snapshots may not be bootable.

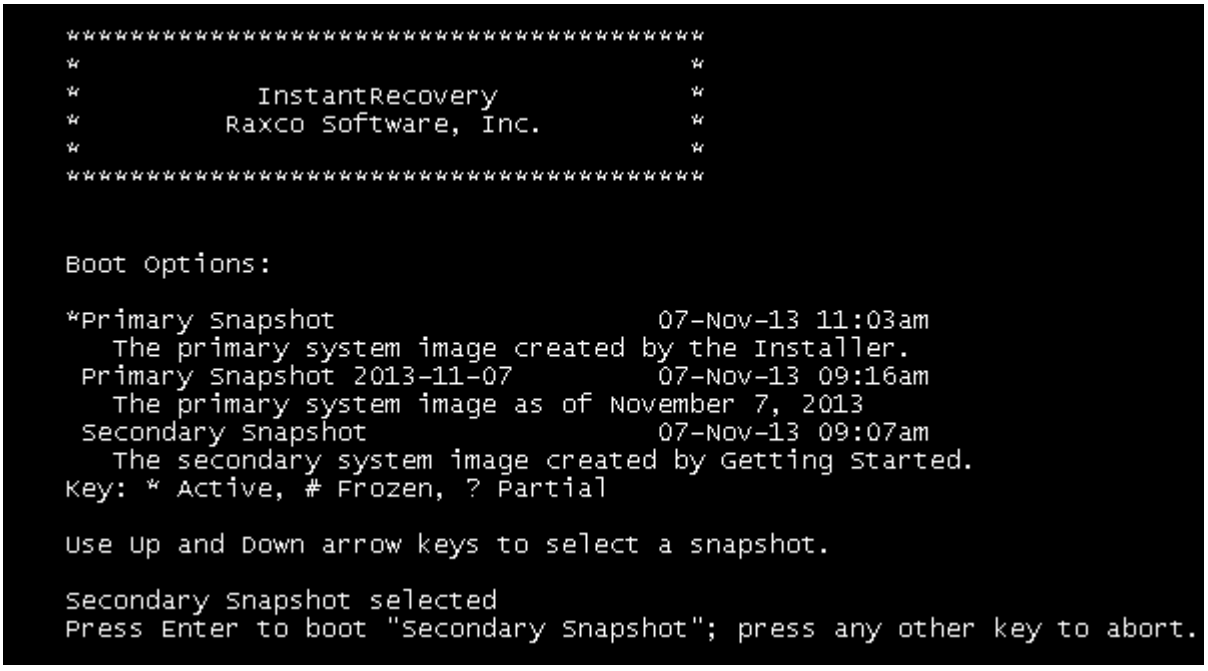
Pre-boot Hotkey with BitLocker

If BitLocker is installed the pre-boot hotkey is available after BitLocker is loaded but before Windows starts. You will see the Windows logo and then the hotkey prompt:



If you do not press the Hotkey (default is F1) or if you press any other key than the Hotkey, your computer boots normally.

If you press the Hotkey before the countdown reaches 0, the InstantRecovery pre-boot menu loads:



Using the arrow keys select the snapshot you wish to boot and press Enter. You will be prompted for confirmation before any changes are made to the disk.

Snapshot Groups

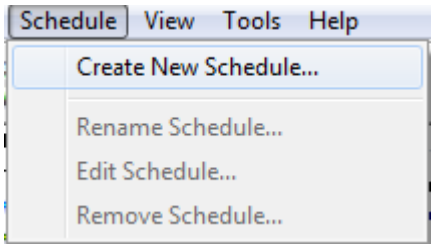
Note: Snapshot Groups are only available in InstantRecovery Server.

When the pre-boot menu first loads, only the snapshots in the Default group are displayed. To view the snapshots in other groups, press the hotkey again. You will be prompted to enter the password for that group. To return to the Default group, press the hotkey and then press ENTER for the password.

Schedules

Creating a New Schedule

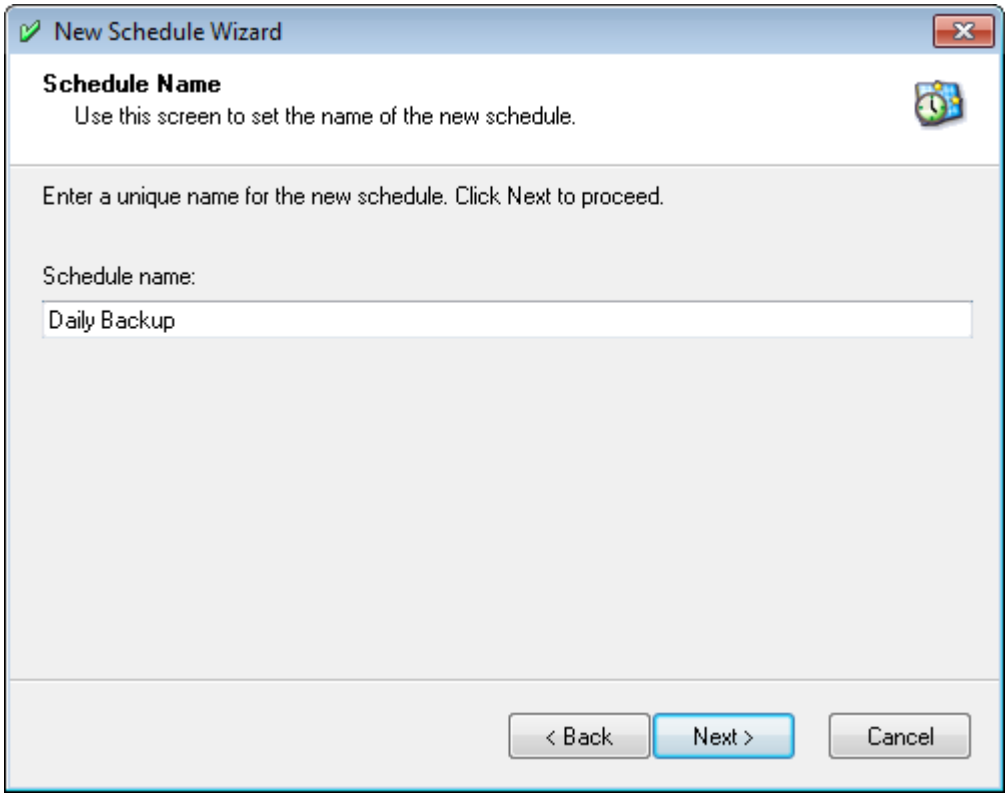
Choose Schedule>Create New Schedule from the menu:



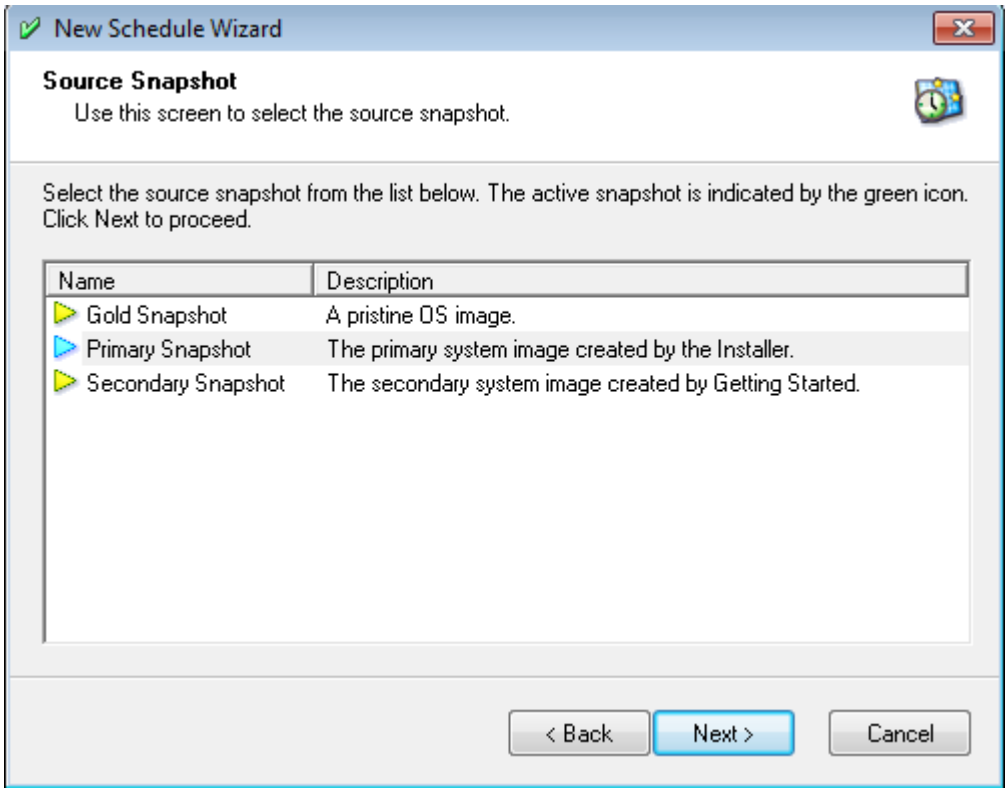
Alternatively you can right-click in the schedules area and choose Create New Schedule from the pop-up menu or click the New Schedule icon on the toolbar:

The Create New Schedule Wizard will be launched:

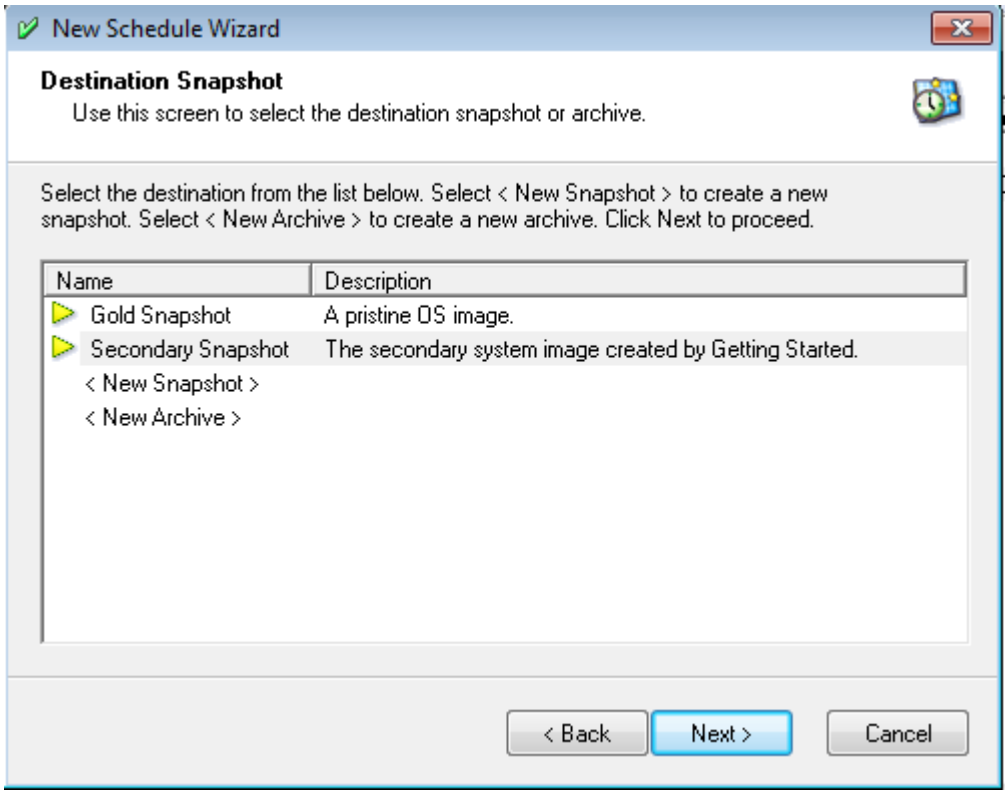
Click Next to proceed:



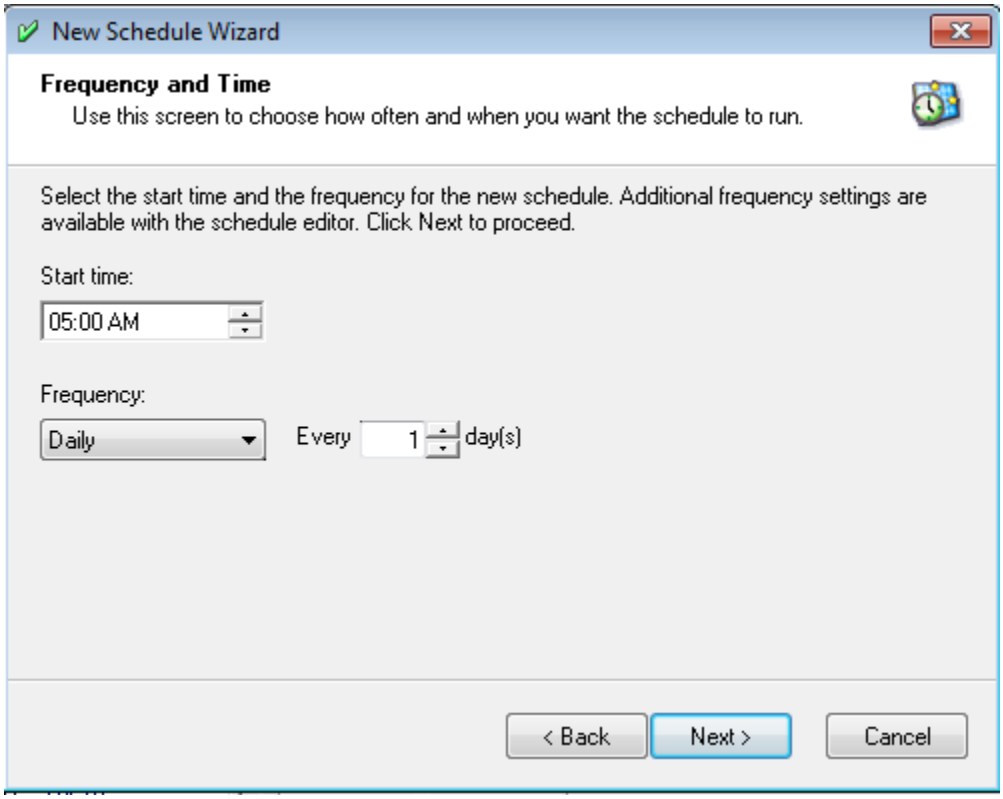
Enter a unique and descriptive name for the new schedule. Click Next to proceed:



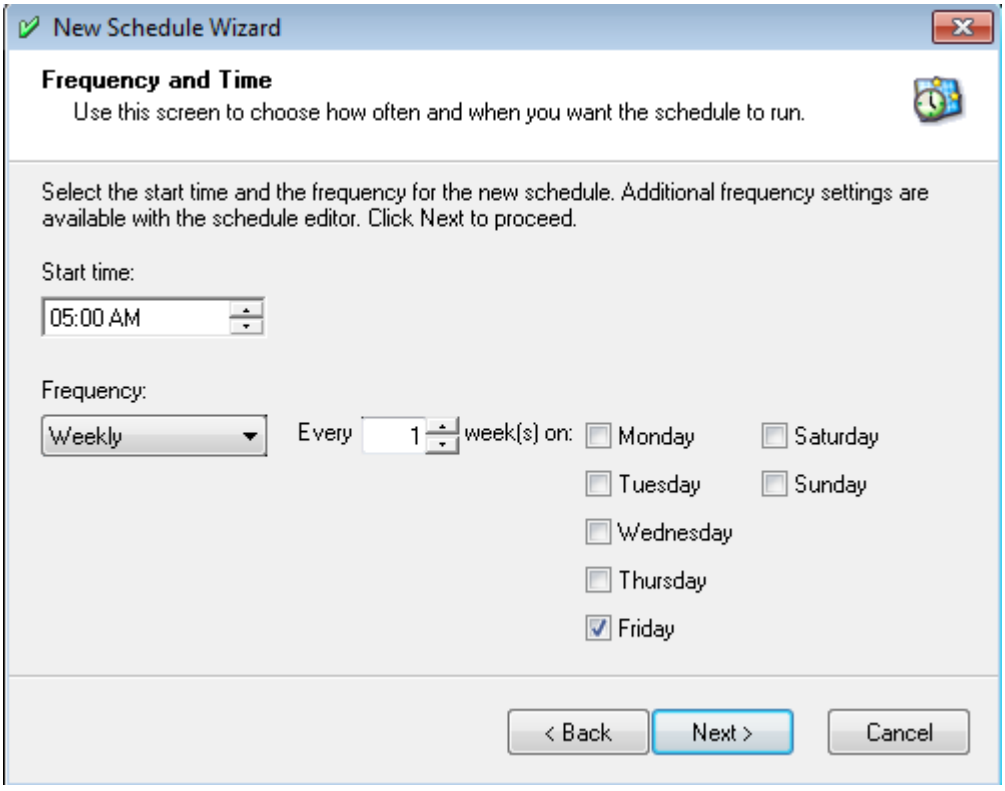
Select the snapshot that will be the source of the copy operation. The active snapshot is the one with the blue arrow. Click Next to proceed:



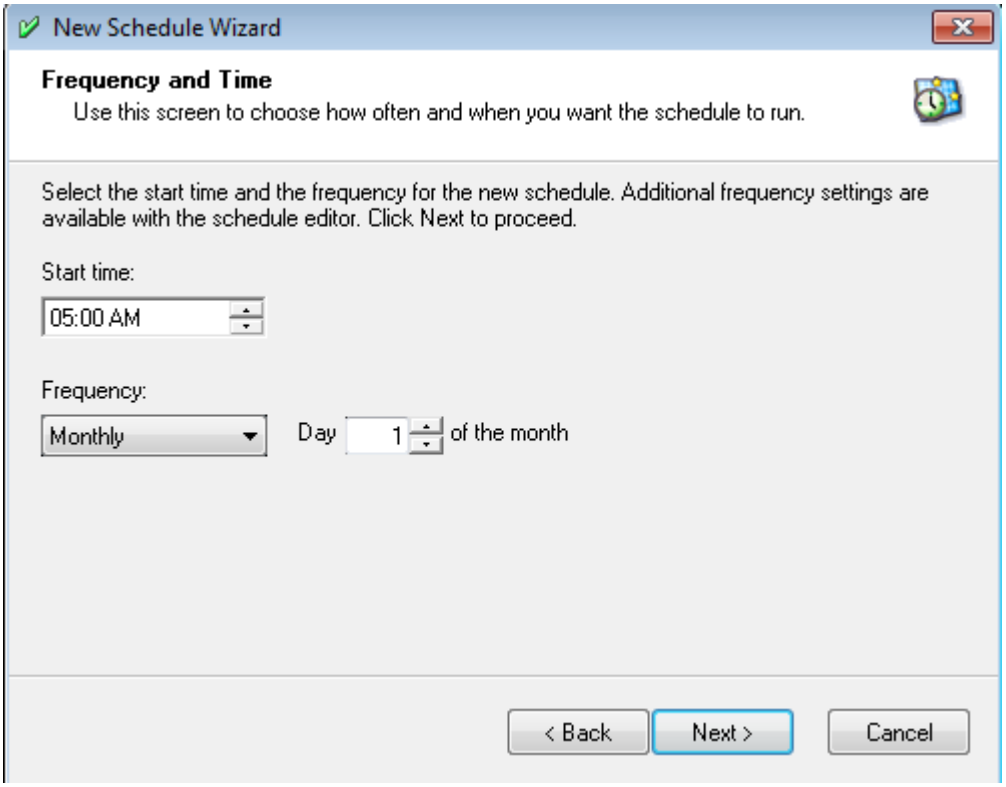
Select the snapshot or archive that will be the destination of the copy operation. To create a new snapshot, select <New Snapshot>. To create a new archive, select <New Archive>. Click Next to proceed:



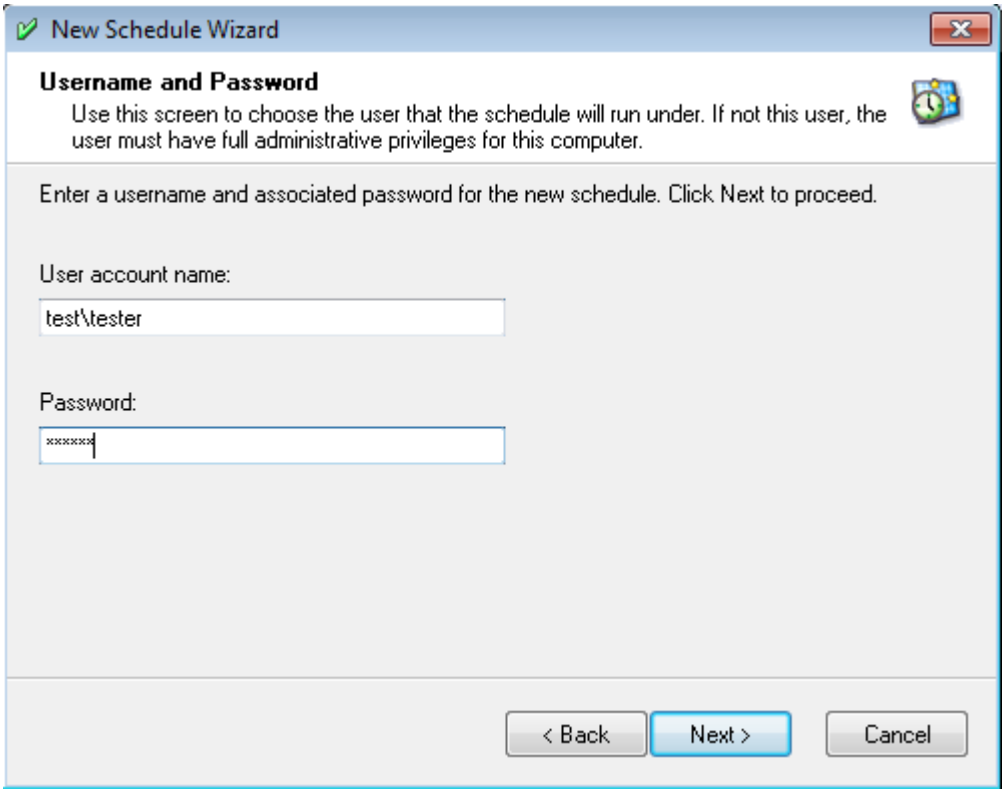
Set the start time and the frequency for the new schedule. You have the choice of Daily (above), Weekly:



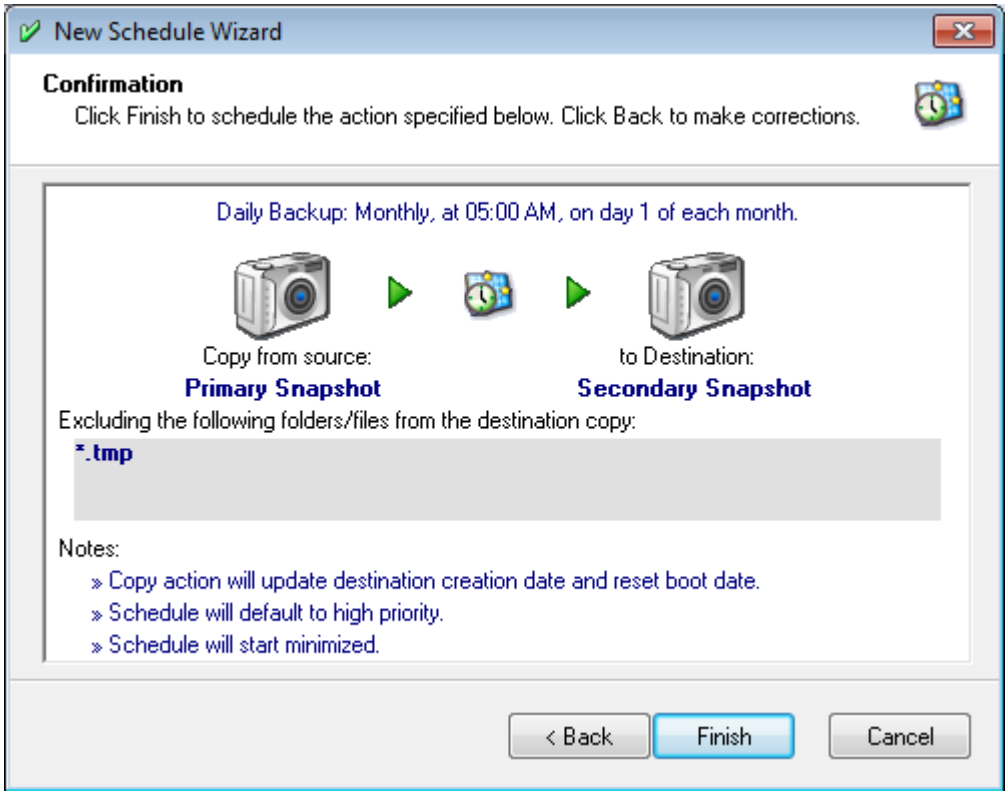
or Monthly:



Addition frequency settings are available with the Schedule Editor. Click Next to Proceed:



Enter the username and password that the schedule will run under. The user must have full administrative privileges. The password is required. The schedule will not run if the user does not have a password. Click Next to proceed:



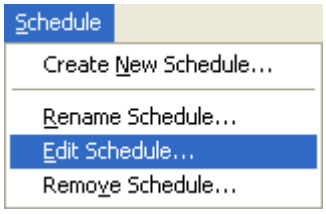
Click Finish to create the schedule.

See Also:

[Introduction to Schedules]
[Schedule Options]
[Controlling a InstantRecovery Task]

Modifying a Schedule

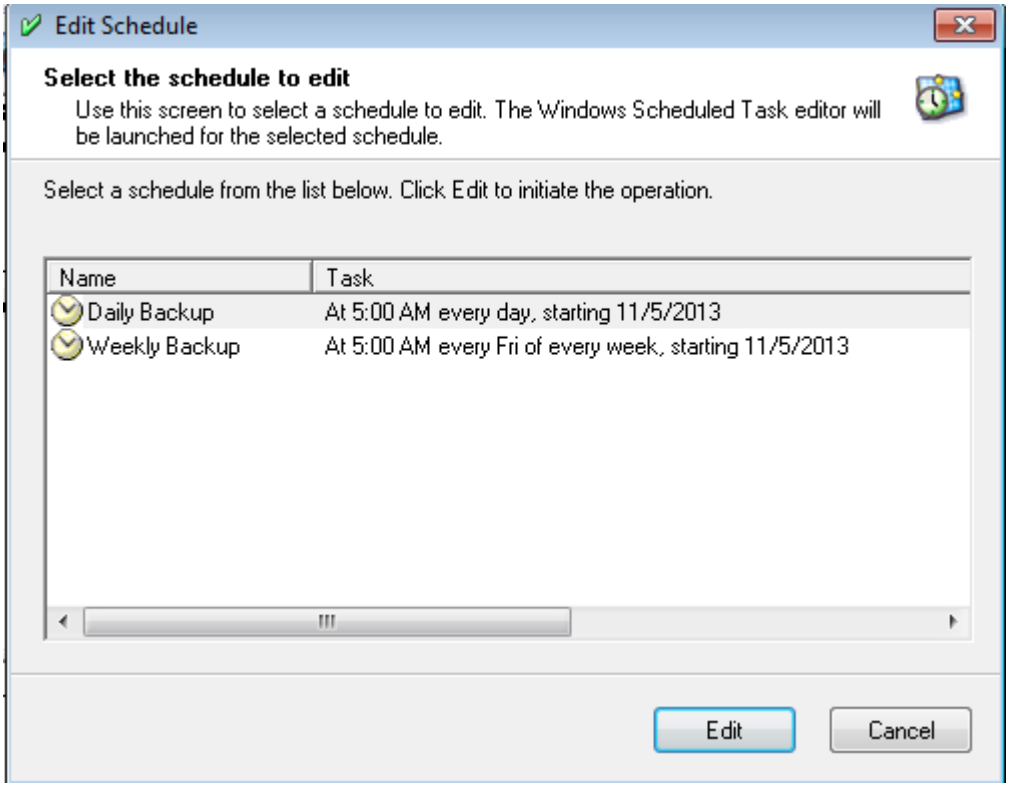
Choose Schedule>Edit Schedule from the menu:



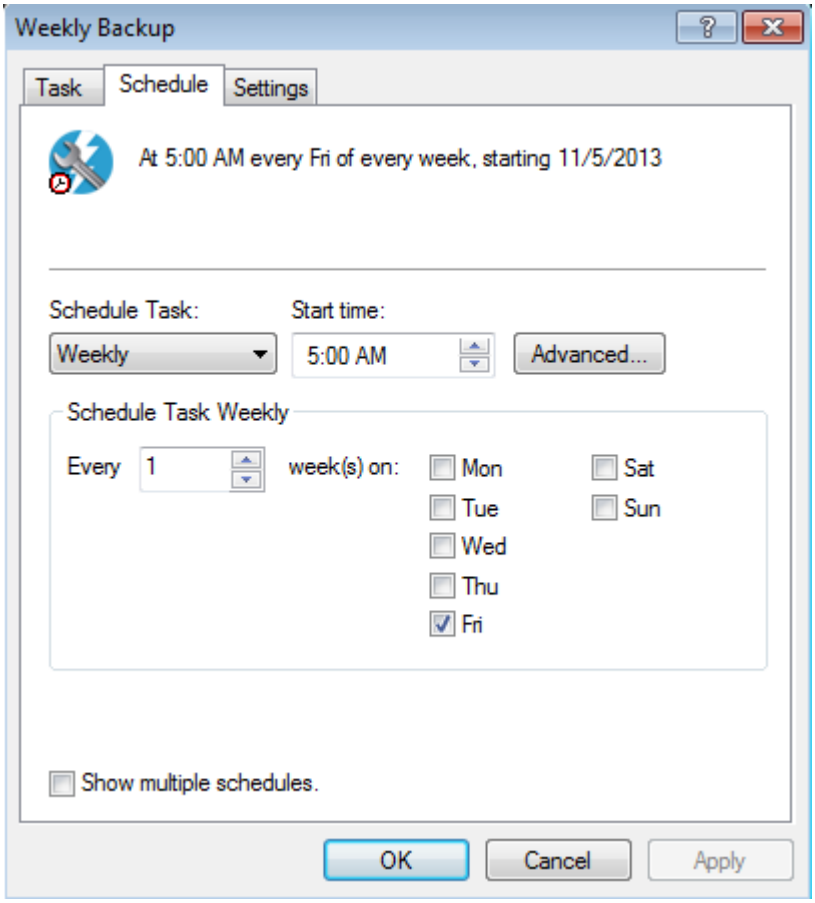
Alternatively you can right-click a schedule and choose Edit Schedule from the pop-up menu.

The Edit Schedule dialog will be launched:

If a schedule has already been selected, the dialog is skipped.



Click Edit to launch the Windows Scheduled Task Editor:

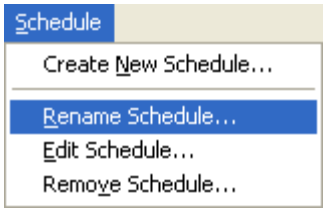


The only user modifiable part of a InstantRecovery schedule is the frequency settings on the Schedule tab above. If you need to change the source or destination snapshot, you should remove the schedule and create a new one with the changes.

Click OK to save the changes.

Renaming a Schedule

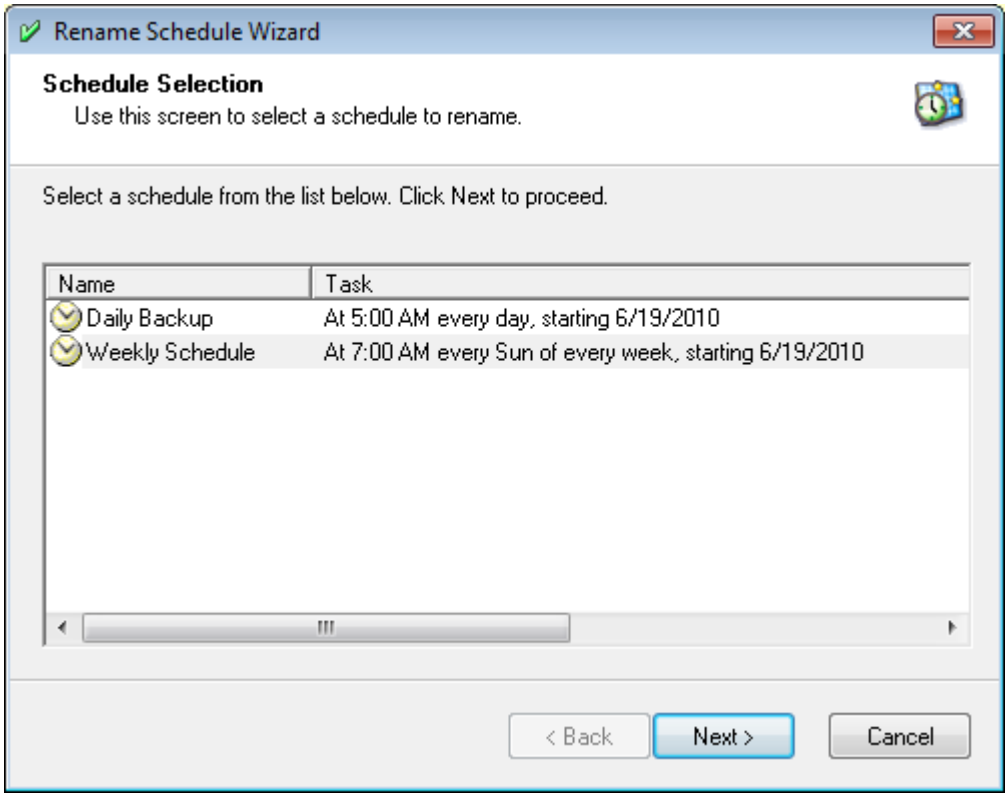
Choose Schedule>Rename Schedule from the menu:



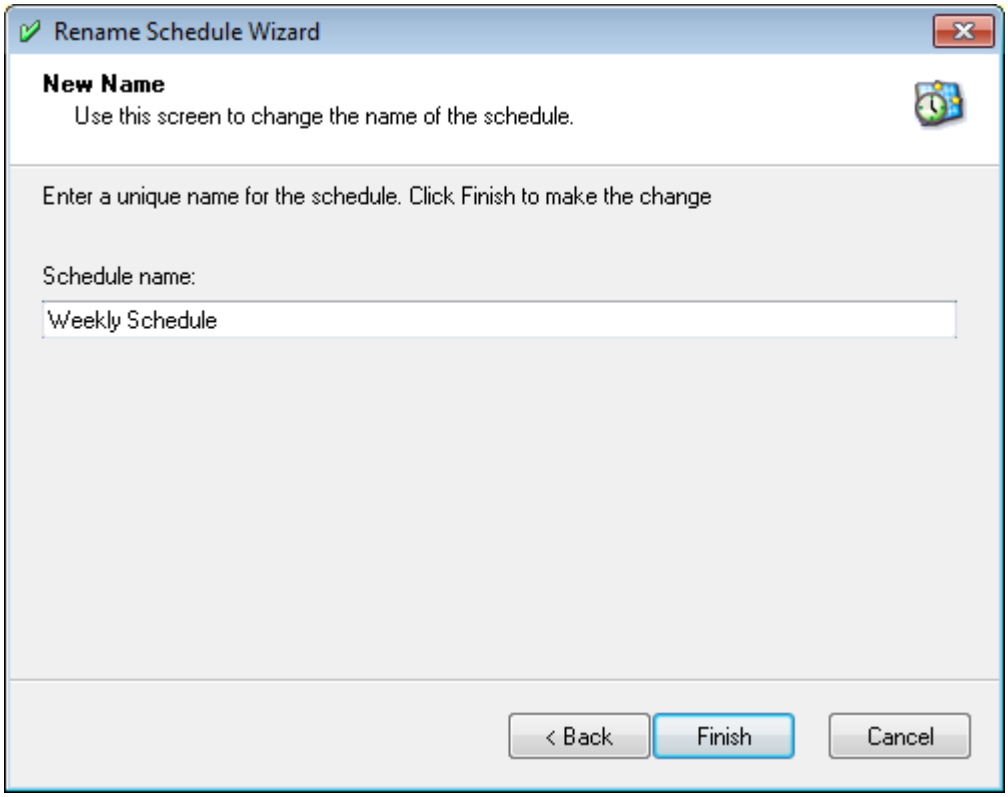
Alternatively you can right-click a schedule and choose Rename Schedule from the pop-up menu.

The Rename Schedule Wizard will be launched:

If a schedule has already been selected, the selection screen below is skipped.



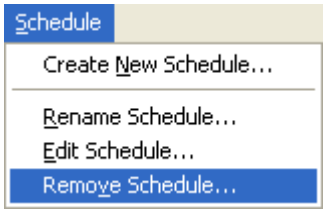
Select a schedule from the list and click Next to proceed:



Enter a new name for the schedule and click Finish to make the change.

Removing a Schedule

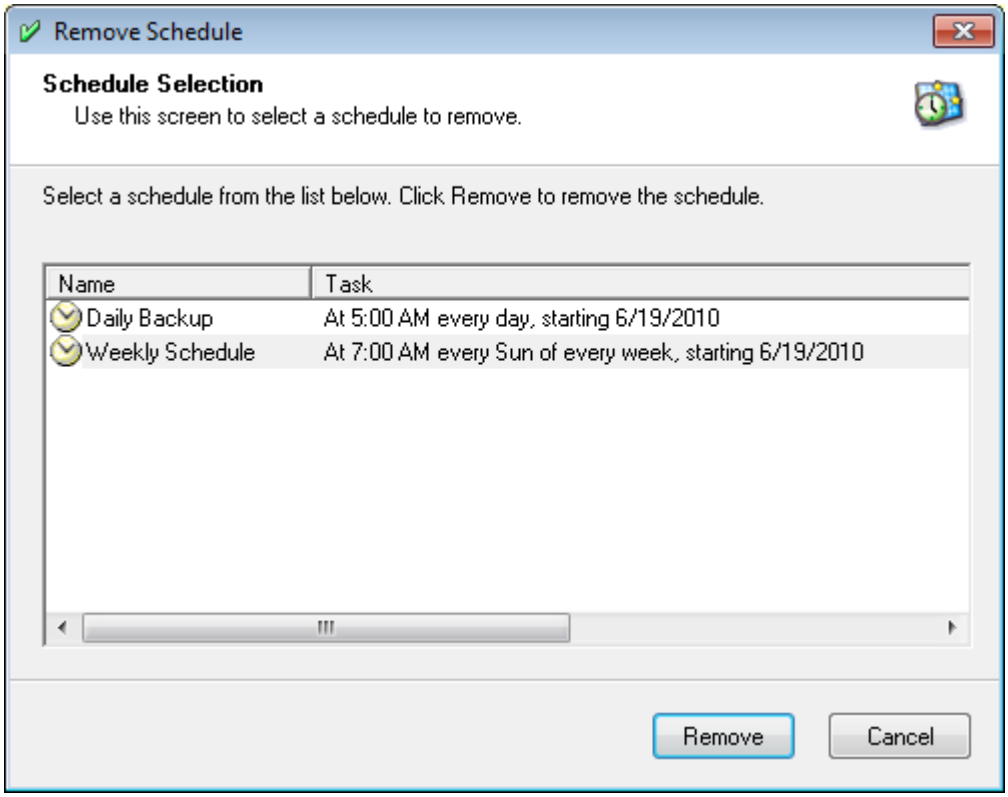
Choose Schedule>Remove Schedule from the menu:



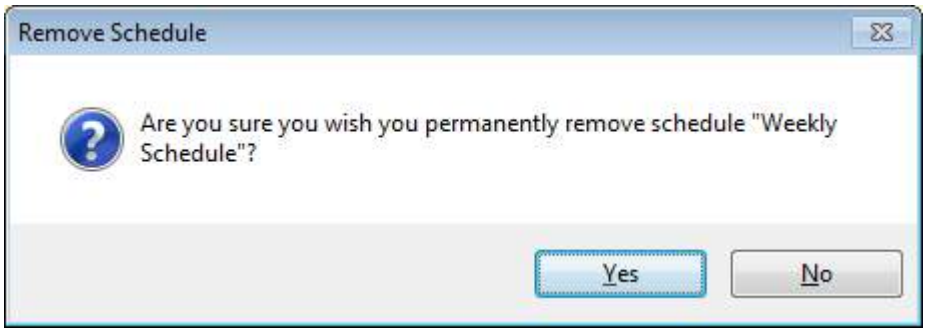
Alternatively you can right-click a schedule and choose Remove Schedule from the pop-up menu.

The Remove Schedule dialog will be launched:

> *If a schedule has already been selected, the dialog is skipped.*



Select the schedule to remove and click Remove. You will be prompted for confirmation:

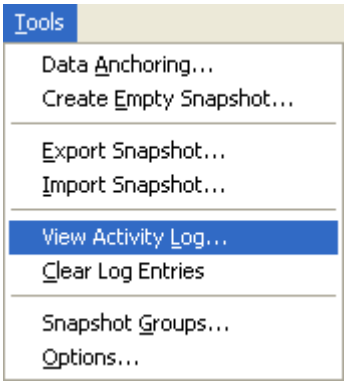


Click Yes to remove the schedule.

Logs

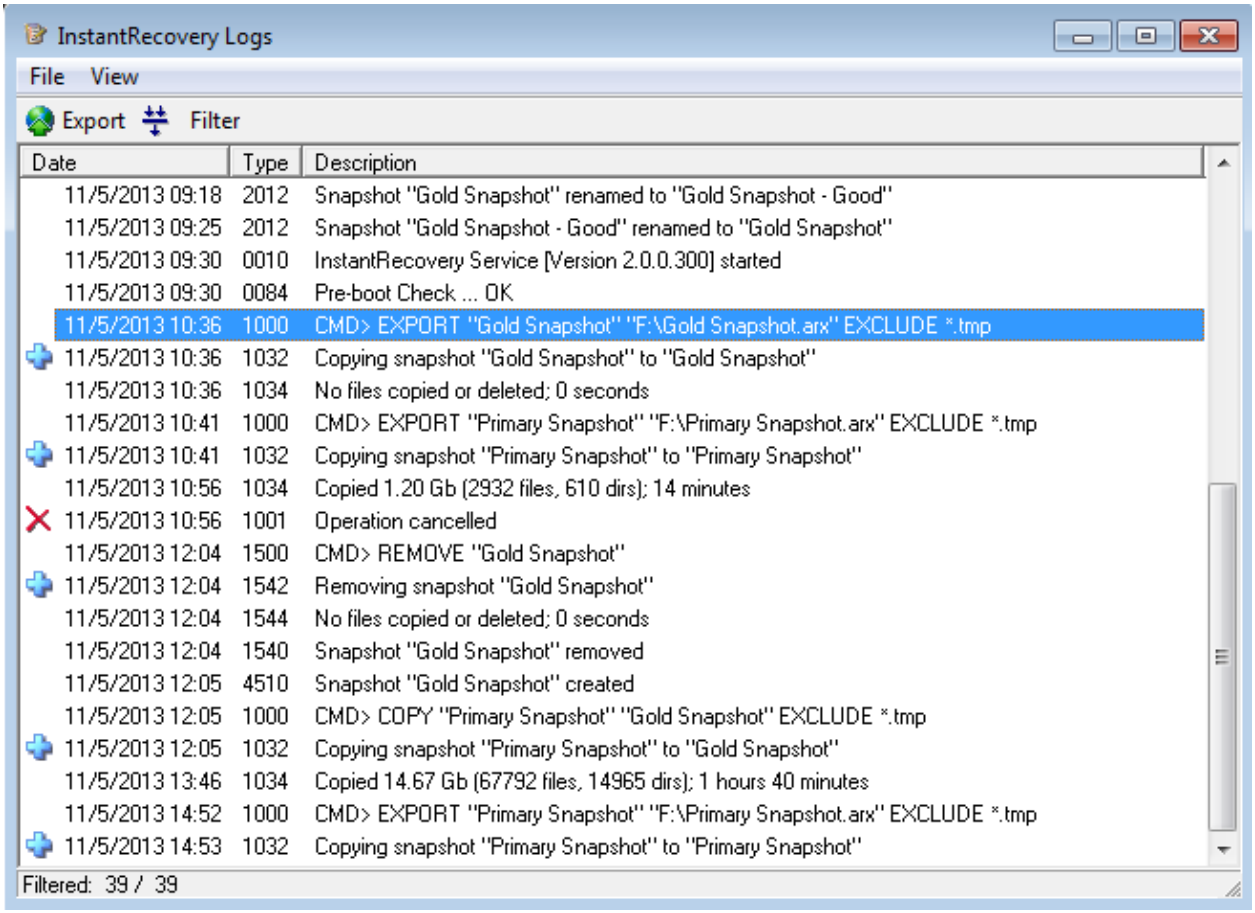
Viewing the Activity Log

To view the InstantRecovery Activity Log, choose Tools>View Activity Log from the menu:

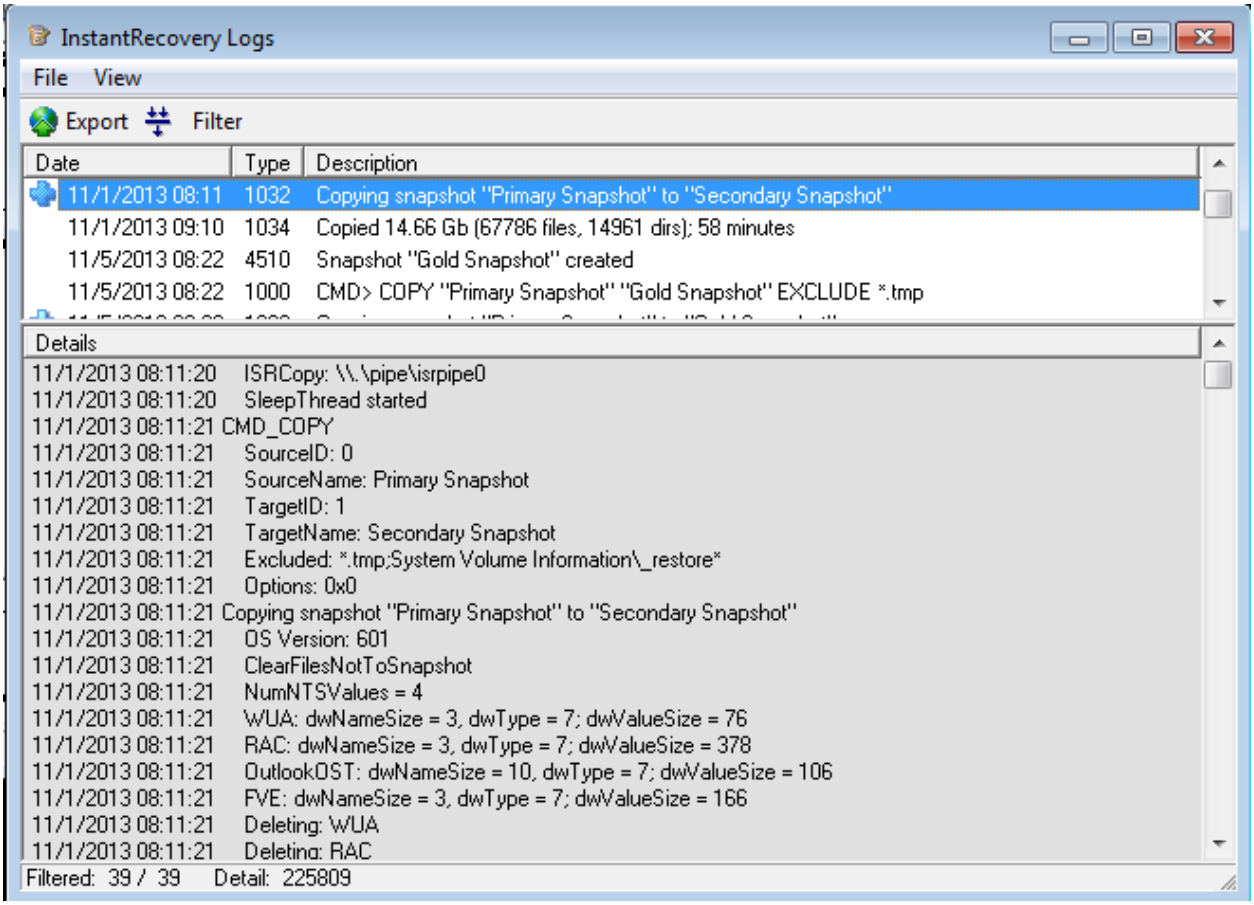


Alternatively you can click the Activity Log icon on the toolbar:

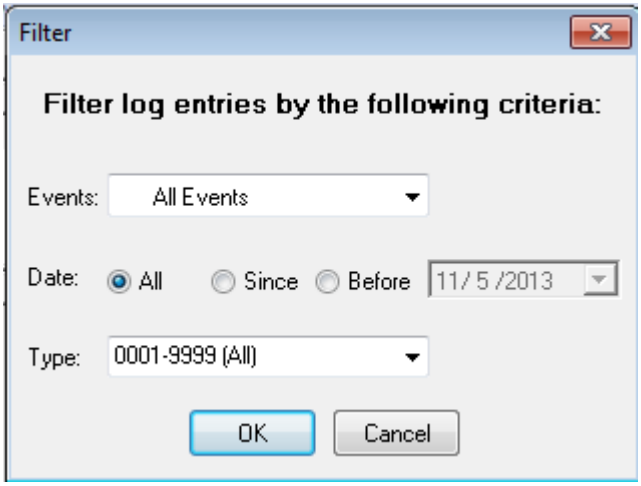
The InstantRecovery Activity Log Viewer will be launched:



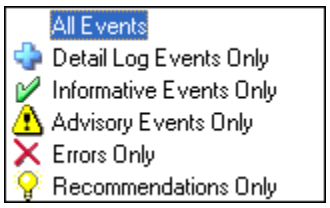
This program allows you to view, filter and export the InstantRecovery Activity Log. Log entries marked with a blue plus (+) indicate that there are details associated with this entry. Click one of these entries to view the details:



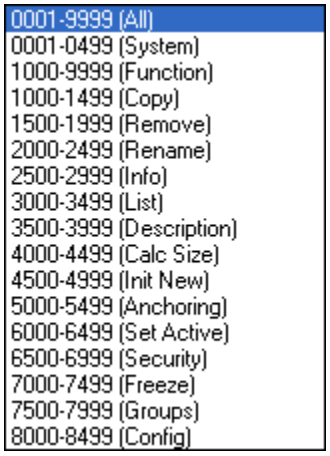
The log entries can be filtered by event, date or type. Choose View>Filter from the menu or click on the Filter toolbar icon:



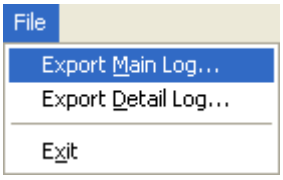
Events are:



Types are:



The filtered main log or the detail log can be exported to a text file for printing or archive. Choose the File menu or click on the Export toolbar icon:

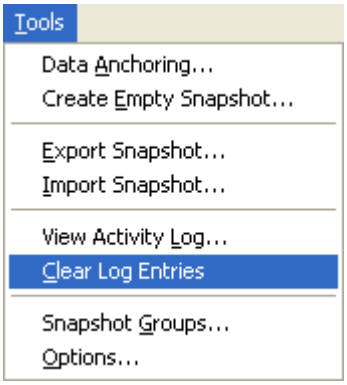


Select Main or Detail Log to export. You will be prompted to select the name and location of the exported log.

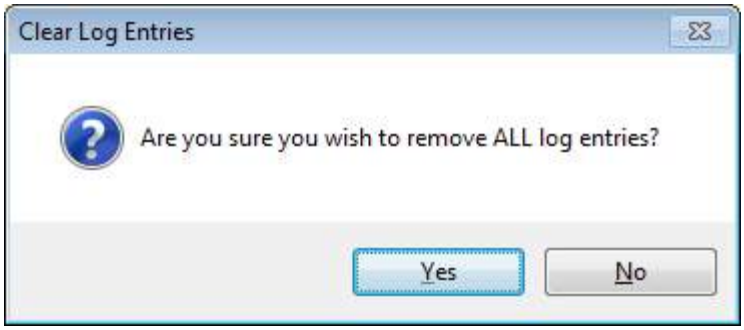
Clearing the Log Entries

Normally there is no reason to clear the InstantRecovery Activity Log - log entries are automatically purged after they reach a specified age.

To clear the Activity Log, choose Tools>Clear Log Entries from the menu:



You will be prompted to confirm the action:



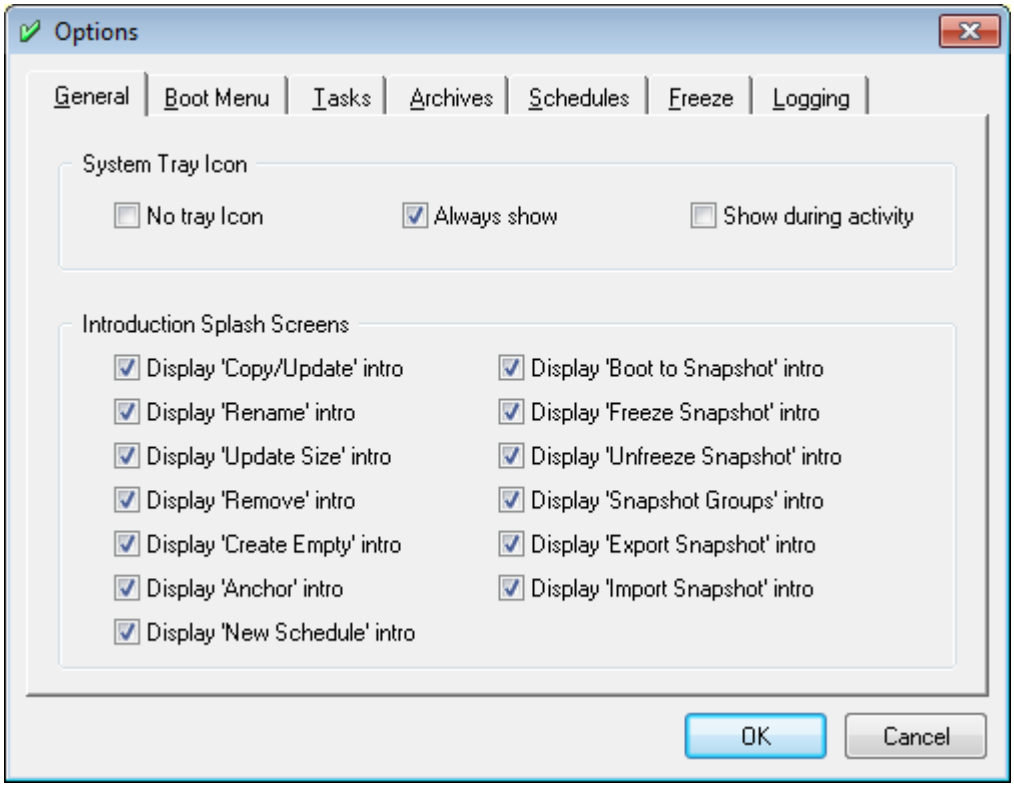
If you answer Yes, the log will contain only an entry noting the clear event.

Options

General Options

The Options area offers several user choices to customize InstantRecovery to your specific needs. Options are found in the user interface pull-down menu, Tools>Options. Click the top tabs to select the various option groups.

The "General" tab contains the following program customizations. After changing an option, click "OK" to accept changes or "Cancel" to leave options unchanged and return to the main user interface.



System Tray Icon

InstantRecovery can provide a visible indication of its status via a small icon located in the Windows system tray. Unless the tray icon is set to No Tray Icon, if a serious error has occurred, the tray icon will appear with a red colored 'X'.

Double-clicking on the system tray icon will bring up the main interface. If a task is currently in operation, the status of the task will be displayed and made the topmost window.

Right clicking on the system tray icon will display a popup menu to allow the selection of opening the main interface or any processing task (copy, remove, size calculation).

No Tray Icon

Do not use the system tray icon.

Note that if this option is selected, the Manager will not automatically refresh when data changes. You must press F5 to refresh the display.

Always Show

Always show the system tray icon and reflect the current status of InstantRecovery. If any task is currently being processed (copy, remove, size calculation) a small animated clock will appear over the icon.

Show During Activity

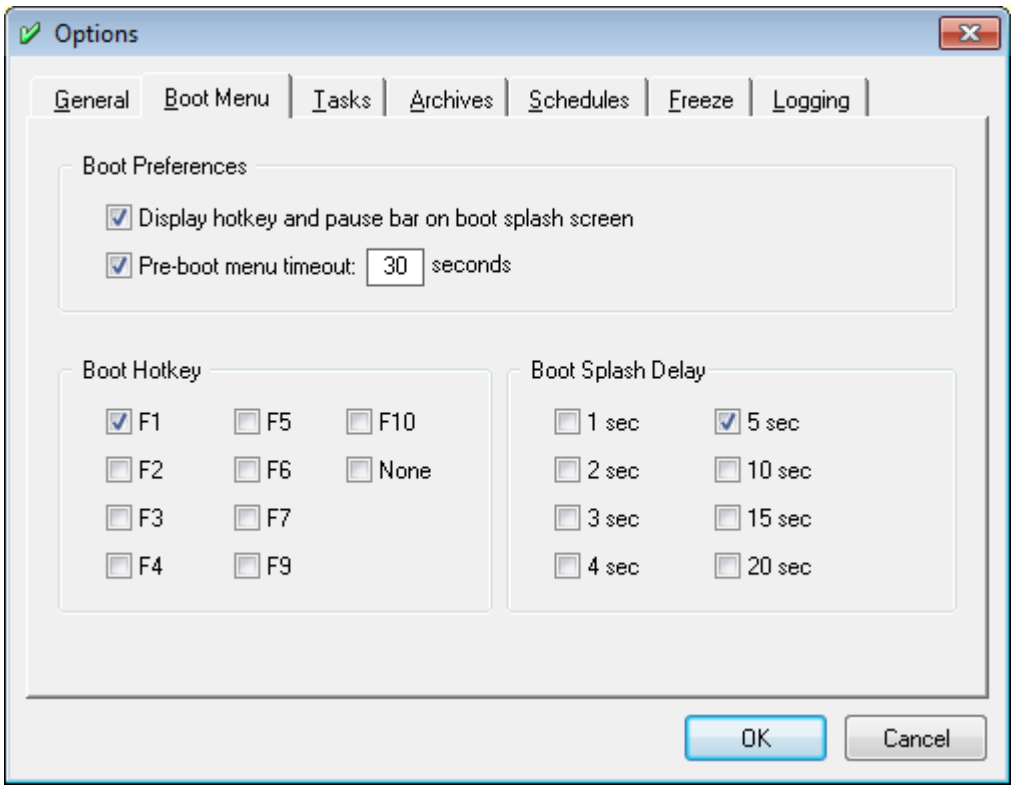
Show During Activity will only show the system tray icon during a processing task (copy, remove, size calculation). A small-animated clock will appear over the icon. After all tasks have completed the icon will be removed from the system tray, but InstantRecovery continues to protect your system.

Introduction Splash Screens

Many of the program's wizards have an opening screen that displays important information concerning the requested action. You can manually set the default condition to not display these introduction screens. A checked condition defaults the screen to be displayed.

Boot Menu Options

The "Boot Menu" tab contains customizations to the pre-Windows boot menu. After changing an option, click "OK" to accept the changes or "Cancel" to leave options unchanged and return to the main user interface.



Boot Preferences

Display hotkey and pause bar:

> The pre-Windows boot splash screen logo is always displayed when the product is installed and enabled. The hotkey and pause bar, which is waiting for a user to press the hot key during its timeout, can be hidden from view. The system will continue to pause for the hotkey entry during this time.

Pre-boot menu timeout:

> By default, after the boot hotkey is pressed, if no key is pressed for 30 seconds, the boot menu will timeout and the computer will boot normally. You can disable this behavior or change the timeout period from as short as 10 seconds to as long as two minutes.

Boot Hotkey

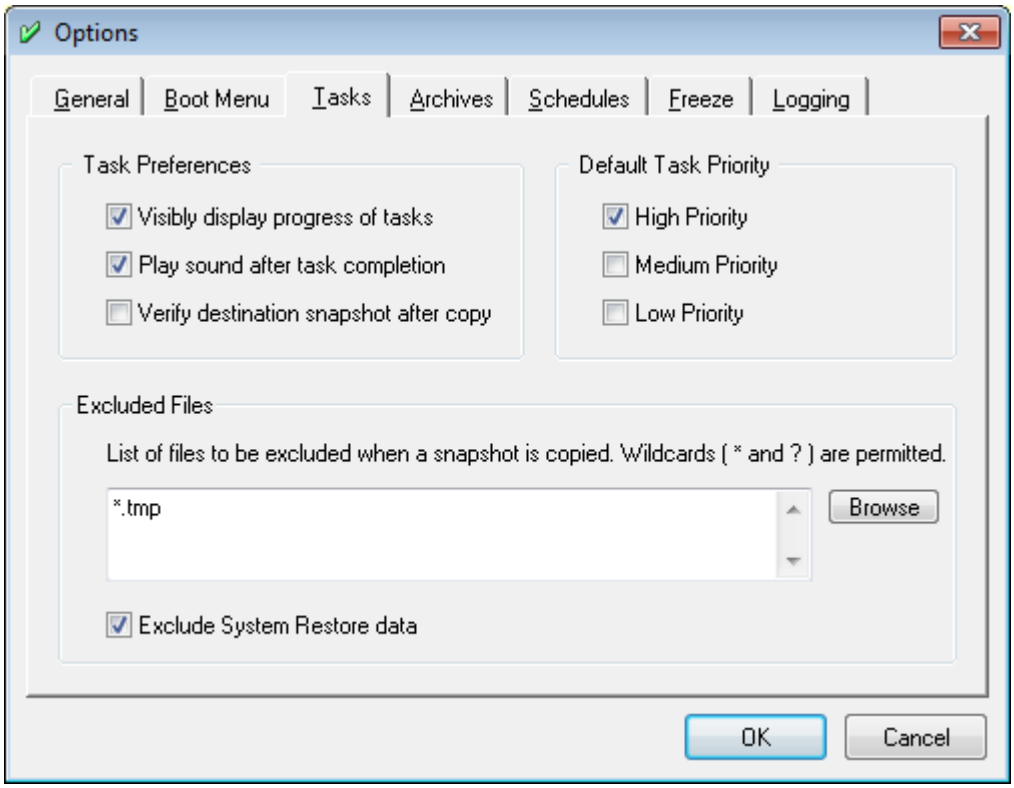
During the boot process when the product splash screen is displayed, a pause occurs while waiting for the user to press the boot hotkey. The hotkey is used to display the alternate OS snapshots that can be booted. Your choice of hotkey may be selected from any of the keyboard functions shown. F8 has been removed since it is the default key to access the internal Windows boot menu. To always display and wait at the boot screen, select the 'None' option.

Boot Splash Delay

This is the delay when waiting for the boot hotkey to be pressed.

Task Options

The "Tasks" tab contains customizations to the manually run process during Copy, Remove, or Size calculation actions. After changing an option, click "OK" to accept the changes or "Cancel" to leave the options unchanged and return to the main user interface.



Task Preferences

Visibly display progress of tasks:

> By default, a manually started action brings up a window showing the status and progress of the action. Un-checking this option will start the action with the window hidden.

Play sound after task completion:

> When a task completes, a sound (chirp) is played. Un-checking this option will cause the sound not to play.

Verify destination snapshot after copy:

> After the copy completes, verification can occur as a confirmation that the destination files were copied.

Default Task Priority

A manually started action will process in the background with an assigned priority. The priority used will determine the impact of the action on the system processor and disk activity. A higher

priority will complete the action sooner, but uses more system resources. If you would like the action to take a longer background role and use less system resources, select a lower priority.

Excluded Files

Enter the list of files you want excluded from copy operations. Wildcards '*' and '?' are permitted. Put each item in the list on a separate line. To add more than one item, press Shift-ENTER to go to the next line.

You can also browse for a specific file or folder to add to the list.

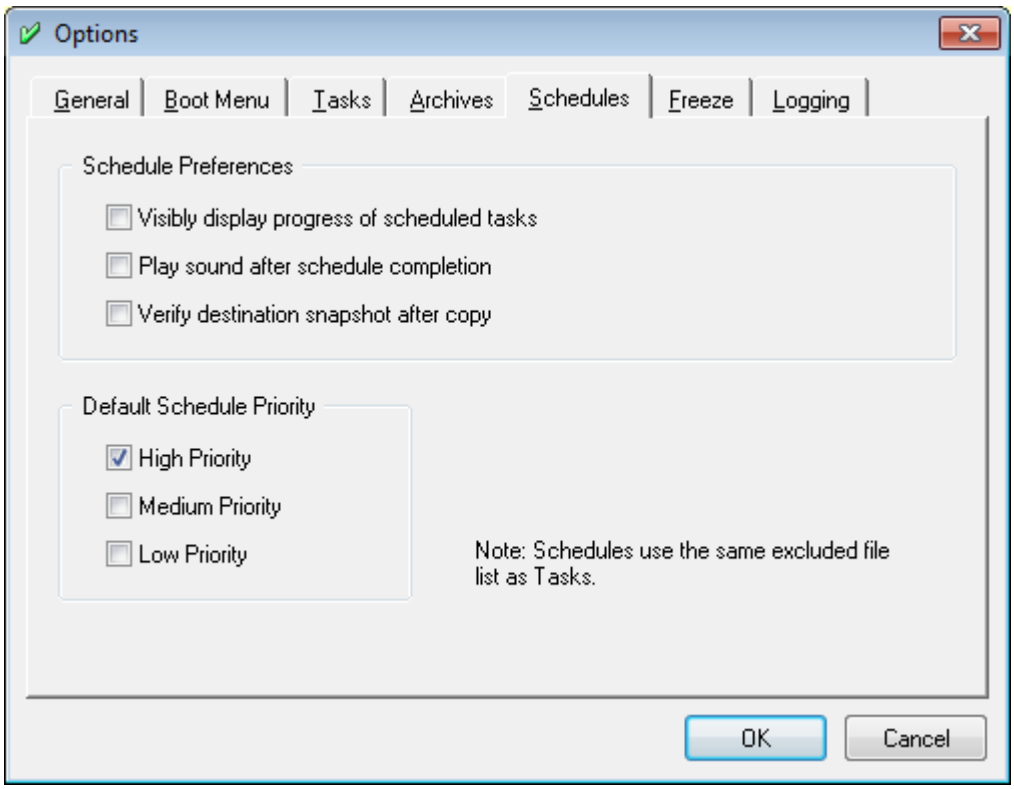
To delete an item, highlight the text of the item and press DELETE.

Exclude System Restore data:

> If checked, this option will exclude System Restore data when copying a snapshot or creating an archive. If System Restore is turned on, the destination snapshot or archive will have System Restore turned on but no restore points. If System Restore is turned off (recommended) the option has no affect.

Schedule Options

The "Schedules" tab contains customizations to the scheduled processes during a Copy, Remove, or Size calculation. After changing an option, click "OK" to accept the changes or "Cancel" to leave options unchanged and return to the main user interface.



Scheduled Task Preferences

Visibly display progress of scheduled tasks:

By default a scheduled action runs silent in the background. Checking this option will cause the window to be shown.

Play sound after schedule completion:

When a task completes, a sound (chirp) is played. Un-checking this option will cause the sound not to play.

Verify destination snapshot after copy:

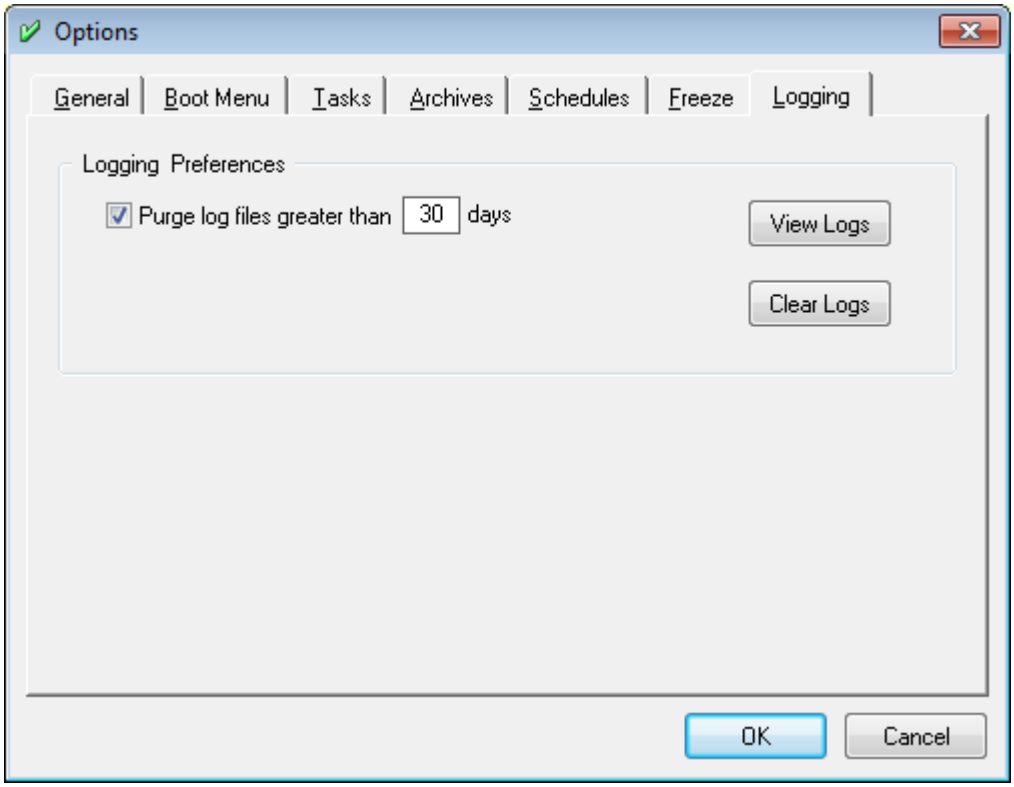
After the copy completes, verification can occur as a confirmation that the destination files were copied.

Default Task Priority

A scheduled action can process in the background with an assigned priority. The priority used will determine the impact the action has on the system processor and disk activity. A higher priority will complete the action sooner, but uses more system resources.

Logging Options

The "Logging" tab contains customizations to the activity log. After changing an option, click "OK" to accept the changes or "Cancel" to leave options unchanged and return to the main user interface.



Logging Preferences

Purge Log entries older than "x" days

> If you wish to automatically purge all log entries older than a given number of days, check this option. You also need to enter the number of days to keep log entries. Any log entries older than the number of days entered will be purged automatically.

View Logs

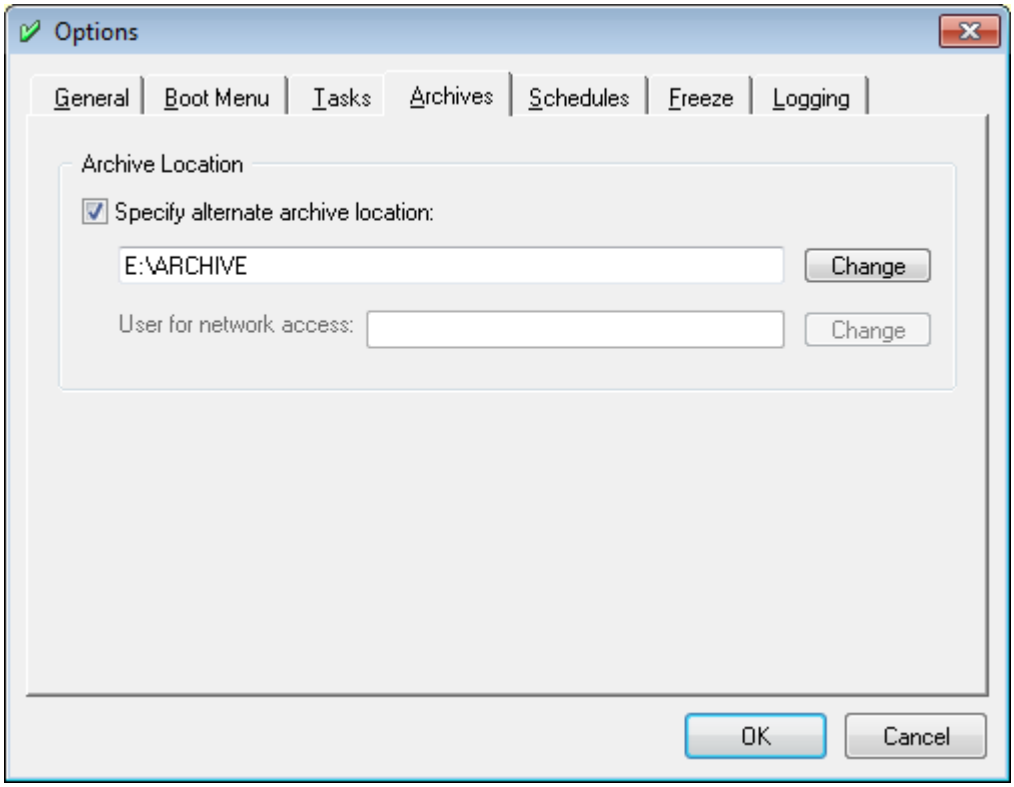
> Click to view the non-purged logs.

Clear Logs

> Click to clear ALL log entries. You will not be able to restore these once they are removed.

Archive Options

The "Archives" tab contains customizations to Archives. After changing an option, click "OK" to accept the changes or "Cancel" to leave options unchanged and return to the main user interface.



Archive Location

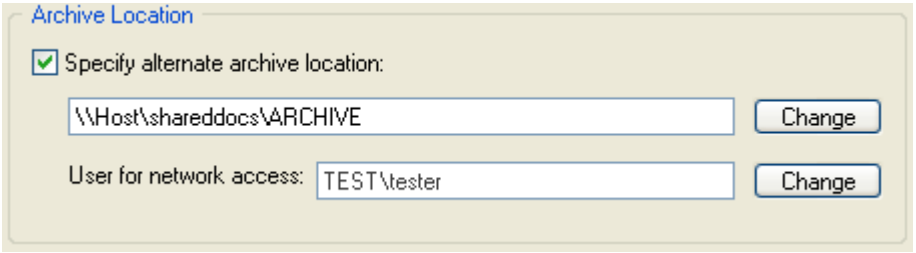
Specify an alternate archive location:

> It is better and safer to move the archive location from the default system drive to another drive. The speed will be faster (if the drives are equivalent) since the computer can be reading from one drive while writing to another.
>
> Check the box and enter the full path to the archive location or click Change to browse for a folder.

User for network access:

> If the alternate archive location is on a network drive you will be asked to supply a user and password for access:

The Archive Location will look similar to this:

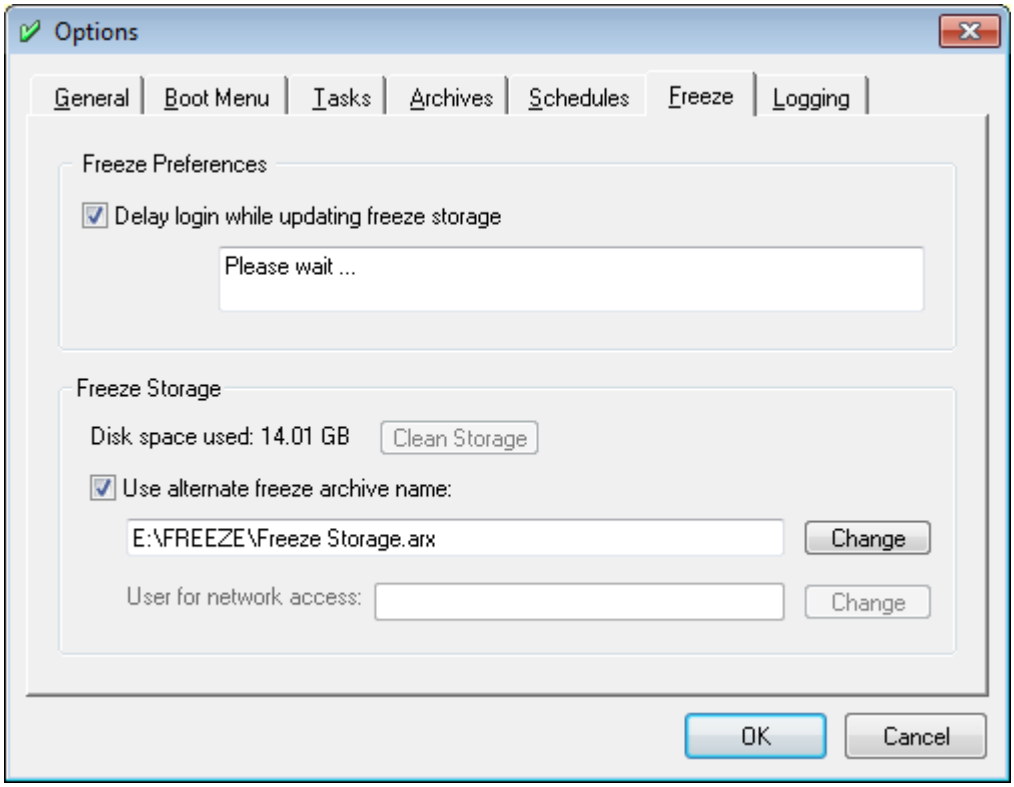


You can change the user and password later by clicking the Change button next to the user name.

Freeze Options

Freeze is only found in the Business editions of InstantRecovery.

The "Freeze" tab contains customizations to Freeze. After changing an option, click "OK" to accept the changes or "Cancel" to leave options unchanged and return to the main user interface.



Freeze Preferences

Delay login while updating freeze storage:

InstantRecovery begins repairing the changes made to the frozen snapshot immediately at startup. Check this option if you want to delay the user login until the repair is complete.

Message:

Enter the message you want displayed to the user on the delay prompt.

Freeze Storage

Disk space used:

This is the amount of additional disk space used for freeze storage. If there is no frozen snapshot you can click on Clean Storage to recover this space.

Use alternate freeze archive name:

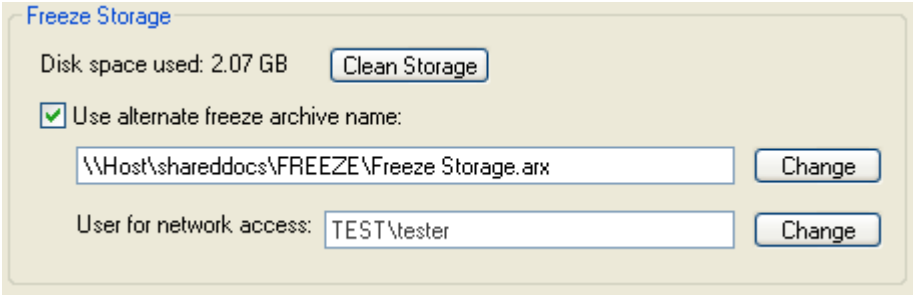
It is better and safer to move the freeze archive from the default system drive to another drive. The speed will be faster (if the drives are equivalent) since the computer can be reading from one drive while writing to another.

Check the box and enter the full path name of the alternate freeze archive or click Change to browse for a file.

User for network access:

If the alternate freeze archive is on a network drive you will be asked to supply a user and password for access:

The Freeze Storage will look similar to this:



You can change the user and password later by clicking the Change button next to the user name.

Advanced

Command Line Interface

InstantRecovery includes a command line control program: ISRControl.exe which can be used in batch files or as part of a script.

All of the operations available in the Graphical interface are also available in the Command Line interface.

Opening the Command Line Interface in Interactive Mode

To open the InstantRecovery Command Line Interface in Interactive Mode, select the Start Button, and then navigate to Programs, InstantRecovery, and finally InstantRecovery Control.

You should see a command line box appear, with the version number and the '>' prompt.

From this point on, a command is issued by typing-in the command at the '>' prompt. There is no mouse support within the command line interface.

At any time you can get a quick reference about available commands by typing HELP at the command line prompt. Also, for most commands, you can just type the commands without parameters and you will get help on that command.

You can exit the command line interface at any time with the EXIT command.

Running the Command Line Interface in Single Command Mode

You can run ISRControl.exe from a batch file or a Command Prompt and pass a single command to execute on the command line. ISRControl.exe exits after processing that command.

Getting Logging Info for Snapshots and the InstantRecovery Service

From time to time you will require detailed information about each snapshot and the status of the InstantRecovery Service. The command line interface contains several methods to retrieve information about the snapshots, and the service. It collects information about the snapshot status (active or not), the creation dates, the last modification dates, last boot dates, the approximate snapshot sizes, and a brief user description.

The InstantRecovery log is a detailed log of all events and errors. You can find this log at:

<system drive>\$ISR\$LOGS\ISR.log

Detail logs containing and folders/files processed are at:
<system drive>\$ISR\$LOGS\xxxxxxxx.log

Where xxxxxxxx is an incrementing number. A new detail log file is created for each command involving the copy engine.

ANCHOR Command

Data anchoring allows the user to select any combination of folders and files to be left intact during a failover operation. Example: the "My Documents" directory can be anchored. During an Immediate System Recovery boot, the anchored folder and files will remain intact after the recovery.

The ANCHOR command is used as follows:

> ANCHOR <folder or file>; <folder or file>; ...

Each folder or file must be delimited by a semi-colon (;). Wildcards are not allowed. The folder and/or file list must not exceed 700 characters and 32 entries.

Examples:

To anchor a specific user My Documents folder:

> ANCHOR C:\Documents and Settings\<username>\My Documents

To anchor a specific file, such as C:\temp\myfile.txt:
ANCHOR C:\temp\myfile.txt
To anchor several folders, such as C:\Games and C:\temp:
ANCHOR C:\Games; C:\Temp
To view the current anchored folders and/or files:
ANCHOR
If you anchor a folder or file that pre-exists in another snapshot, the anchored folders or files will take precedence. When the anchoring is removed the pre-existing snapshots will return to normal.

ARCHIVE Command

The ARCHIVE command provides a method to create or update an archive.

The ARCHIVE command is used as follows:

> ARCHIVE <snapshot name> <archive name> ["<description>"] [EXCLUDE <folder/file>;<folder/file>;...]

The <snapshot name> is the name of the snapshot to be copied. Wildcards (*,?) can be used to select an existing snapshot. Use double quotations when the snapshot name contains spaces.

The <archive name> is the name of the archive to create or update. If the <archive name> does not exist, a new archive will be created. Wildcards (*,?) can be used to select an existing archive. Use double quotations when the archive name contains spaces.

The <description> is the archive description. The description must not exceed 127 characters.

If folders or files exist that you do not wish to copy, use the EXCLUDE parameter. Each excluded folder and/or file must be delimited by a semi-colon (;). Wildcards (*,?) can be used to provide a grouping of folders or files.

All the folders and files in the anchored file list are automatically excluded from the copy.

Examples:

To create or update the archive "Archive of Primary":

    ARCHIVE Primary "Archive of Primary" "A backup of Primary" EXCLUDE *.tmp;C:\Games

To create or update the archive "Temp Archive" with no description or excluded files:
ARCHIVE Primary "Temp Archive"

AREMOVE Command

The AREMOVE command will remove one or more archives.

The AREMOVE command is used as follows:

    AREMOVE <archive name>

The <archive name> is the name of the archive(s) to remove. Wildcards (*,?) can be used to select one or more archives. Use double quotations when the archive name contains spaces.

Examples:

To remove an archive named "Temp Archive":

    REMOVE "Temp Archive"

To remove all archives whose names begin with "Temp":
REMOVE Temp*

ARENAME Command

The ARENAME command is used to rename and/or change the description of an archive.

The ARENAME command is used as follows:

    ARENAME <archive name> <new name> ["<description>"]

The <archive name> is the current name of an archive. Wildcards (*, ?) can be used to select the archive. Use double quotations when the archive name contains spaces.

The <new name> is the new name of the archive. Use "" if you want to just change the description.

The <description> is the archive description. The description must not exceed 127 characters.

Examples:

To rename archive "Temp Archive" to "Archive (2) of Primary" and set the description to "Another backup of Primary":

```
ARENAME "Temp Archive" "Archive (2) of Primary" "Another backup of
Primary"
```

To just change the name of archive "Archive (2) of Primary" to "2. Archive of Primary":
ARENAME "Archive (2) of Primary" "2. Archive of Primary"
To just change the description of "2. Archive of Primary":
ARENAME 2* "" "Second backup of Primary"

BATCH Command

The BATCH command allows you to execute a list of commands saved in a file. While the BATCH command can be used in interactive mode, it is probably most useful in single command mode. Each command in the file is executed in sequence. Execution stops at end of file or at the first error encountered.

The BATCH command is used as follows:

```
BATCH <file name>
```

The <file name> is the name of the file containing the command list.

Examples:

To execute the list of commands in the file named "Batch1":

```
BATCH Batch1
```

To execute the list of commands in the file named "My Commands.lst":
BATCH My Commands.lst

BOOT Command

The BOOT command boots to another snapshot.

The BOOT command is used as follows:

```
BOOT [<snapshot name>]
```

The <snapshot name> is the name of the snapshot to be booted. Wildcards (*,?) can be used to select an existing snapshot. Use double quotations when the snapshot name contains spaces.

If no snapshot specified the computer is rebooted.

Examples:

To boot the snapshot that begins with "Secondary":

BOOT Secondary*

To reboot the computer:
BOOT

CONFIG command

Most InstantRecovery configuration settings are available from the command line. The general form is
CONFIG <parameter> [<setting>]
If the <setting> is omitted the current value of the parameter is displayed.

The configuration parameters available are:

CONFIG preboot [enable | disable]
Enable or disable the InstantRecovery pre-boot.
CONFIG hotkey [F1 | . . . | F10], F0 = None
Set the pre-boot Hotkey
CONFIG keywait [delay in seconds]
Set the wait time for the Hotkey in fractions of a second.
CONFIG showprompt [yes or no]
Set if the pre-boot prompt is displayed.
CONFIG menutimeout [timeout in seconds]
Set the timeout for the pre-boot menu in seconds.
CONFIG lastboot
Get the last boot date and time (read only).
CONFIG lastswap
Get the last swap over date and time (read only)
CONFIG keeplogs [days]
Set the number of days to keep the logs: < 0 = forever. 0 = purge logs.
CONFIG license [key]
Set the license key.
CONFIG active [snapshot id]
Set the Boot to Snapshot id. InstantRecovery will boot to this snapshot at the next boot: 0 = no boot to snapshot.

InstantRecovery preferences stored in the Registry can be set with the CONFIG command:
CONFIG TrayIconAppearance [never | always | busy]

CONFIG DefaultExclusionList [exclude filelist]

CONFIG TaskVisible [false or true]

CONFIG BeepAfterTask [false or true]

CONFIG VerifyAfterCopy [false or true]

CONFIG DefaultPriority [high | medium | low]

CONFIG SchdTaskVisible [false or true]

CONFIG SchdTaskBeep [false or true]

CONFIG SchdTaskVerify [false or true]

CONFIG SchdTaskPriority [high | medium | low]

InstantRecovery options stored in the $OPT file can be set with the CONFIG command:
CONFIG ArchiveLocation [new archive location]

CONFIG ArchiveUser [new archive domain\\user]

CONFIG ArchivePassword password

CONFIG FreezeShowWait [false or true]

CONFIG FreezeWaitPrompt [prompt]

CONFIG FreezeTaskPriority [high | medium | low]

CONFIG FreezeArchiveName [new archive name]

CONFIG FreezeArchiveUser [new freeze archive domain\user]

CONFIG FreezeArchivePassword password

CONFIG ManagerPassword password

CONFIG RemotePortNumber [port]

CONNECT Command

The CONNECT command allows you to configure and control InstantRecovery on another computer.

The CONNECT command is used as follows:

CONNECT <computer>[:<port>] [<user>] [<password>]

The <computer> is the name or IP address of the remote computer you want to control.

The <port> is necessary if you want to override the default port number (48288).

You will need to supply the name and password of a user with Administrator or Domain Administrator rights on the remote computer. If you don't enter them on the command line you will be prompted for them. If you are supplying a domain user, enter the user in the form domain\user.

Examples:

To connect to the computer TEST and be prompted for the user and password:

CONNECT TEST

To connect to the computer TEST and be prompted for password for tester:
CONNECT TEST tester
To connect to the computer TEST on port 12345:
CONNECT TEST:12345

CONNECT is not available in InstantRecovery Home.

See Remote Controlling InstantRecovery.

COPY Command

The COPY command provides a method to create or update a snapshot. You can create and maintain up to ten snapshots, all maintaining a bootable point in time snapshot of your system. The COPY command always works as an incremental copy. This means that if the file is a duplicate in the snapshot, there is no need to copy it and thus it is skipped.

The COPY command is used as follows:

COPY <source name> <destination name> [EXCLUDE <folder/file>;<folder/file>;...]

The <source name> is the name of the snapshot to be copied. Wildcards (*,?) can be used to select an existing snapshot. Use double quotations when the snapshot name contains spaces.

The <destination name> is the name of the snapshot to create or update. If <destination name> does not exist, a new snapshot will be created. Wildcards (*,?) can be used to select an existing snapshot. Use double quotations when the snapshot name contains spaces.

If folders or files exist that you do not wish to copy, use the EXCLUDE parameter. Each excluded folder and/or file must be delimited by a semi-colon (;). Wildcards (*,?) can be used to provide a grouping of folders or files.

All the folders and files in the anchored file list are automatically excluded from the copy.

Examples:

To create or update snapshot "Secondary" excluding C:\Games and C:\MP3 Music:

    COPY Primary Secondary EXCLUDE C:\Games;C:\MP3 Music

To copy snapshot "Secondary" to snapshot "OEM Build" with no excluded files:
COPY Secondary "OEM Build"
Note: Using the COPY/EXCLUDE and ANCHOR commands can be very powerful. Example: You have 60 GB of MP3 files that are backed up by another source. You have no need to copy them to each Snapshot. Using the COPY and EXCLUDE function will exclude them during the snapshot copy process. Using the ANCHOR function will keep them intact after a failover.

DESC Command

The DESC command will modify the description that is linked to a specific snapshot. The description is seen at the InstantRecovery pre-Windows boot screen and during an INFO command.

The DESC command is used as follows:

    DESC <snapshot name> "<description>"

The <snapshot name> is the name of the snapshot whose description you want to set. Wildcards (*,?) can be used to select an existing snapshot. Use double quotations when the snapshot name contains spaces.

The <description> is the snapshot description. The description must not exceed 127 characters.

Examples:

To change the description of snapshot "Primary":

    DESC Primary "This is my default active snapshot."

To change the description of snapshot "OEM Build":
DESC "OEM Build" "This is my default OEM Build with latest drivers installed."

DISCONNECT Command

The DISCONNECT command disconnects from a remote computer. It has no effect if you are not connected.

The DISCONNECT command has no parameters.

EXIT Command

The EXIT command shuts down the Command Line Interface.

The EXIT command has no parameters.

EXPORT Command

The EXPORT command provides a method to export a snapshot to a file or set of files.

The EXPORT command is used as follows:

> EXPORT <snapshot name> <file name> [USER domain\user password]
> ["<maximum file size>"] [PROMPT] [EXCLUDE <folder/file>;<folder/file>;...]

The <snapshot name> is the name of the snapshot to be exported. Wildcards (*,?) can be used to select an existing snapshot. Use double quotations when the snapshot name contains spaces.

The <file name> is the full path name of the export file. Use double quotations when the file name contains spaces.

The <maximum file size> is the maximum size of each part of the file in Kb. If specified, the first part of the file will have the extension .ARX, the second part .001, and so on.

If "PROMPT" is specified after the <maximum file size> you will be prompted before another part of the file is started.

If folders or files exist that you do not wish to copy, use the EXCLUDE parameter. Each excluded folder and/or file must be delimited by a semi-colon (;). Wildcards (*,?) can be used to provide a grouping of folders or files.

All the folders and files in the anchored file list are automatically excluded from the export.

If the export file is on a network drive you will need to provide a user and password for access. Use the "USER" parameter or the USER command below.

Examples:

To export the snapshot "Primary" to the file E:\PrimaryBackup.arx excluding *.tmp and C:\Games:

> EXPORT Primary E:\PrimaryBackup.arx EXCLUDE *.tmp;C:\Games

To export the snapshot "Primary" to the files E:\PrimaryBackup.arx, E:\PrimaryBackup.001, etc. With each file a maximum of 640Mb and be prompted:

EXPORT Primary E:\PrimaryBackup.arx 655360 prompt
To export the snapshot "Primary" to the network location "\\TEST\DropBox":
EXPORT Primary "\\TEST\DropBox\Primary.arx" USER TEST\Tester password

FREEZE Command

The FREEZE command allows you to "Freeze" the active snapshot. The frozen snapshot will be restored to its current state every time the system boots.

The FREEZE command is used as follows:

FREEZE <snapshot name>

The frozen snapshot is designated with a #.

Anchored Data is not frozen.

The frozen snapshot cannot be overwritten or removed. It can, however, be copied to another snapshot.

At a later time, you can update the frozen snapshot by re-freezing it to lock in any changes made since the last boot.

To temporarily prevent the frozen snapshot from being restored, disable the Pre-boot before booting.

Freezing a snapshot will require additional disk space equal to twice the size of the snapshot.

It is recommended that you reboot your computer, make the changes to the snapshot, logout and login before freezing. This ensures "that only the changes you want get applied to the frozen snapshot.

FREEZEPREV Command

The FREEZEPREV command reverts the previously frozen snapshot to its last frozen state at the next boot. The Freeze Storage must still be intact for this to succeed.

The FREEZEPREV command has no parameters.

GROUP Command

The GROUP command allows you to create or update snapshot groups. Snapshot groups provide a method to password protect snapshots during the pre-boot. There are 1 to 4 groups numbered 0,1,2,3. Group 0 is the "Default" group and has no password. Initially, the pre-boot menu displays the snapshots in the default group. The user can view and select the snapshots in one of the other groups by entering the password for that group.

The GROUP command is used as follows:

GROUP [x] [, <password>] [, <name>] [, <snapshot>, ...]

Where x is 0, 1, 2 or 3.

Groups 1, 2 and 3 must be given a name but the name is only used by the Manager. The names and passwords must be unique. You cannot set the name or password for group 0.

After a Group command, the current settings for the group are displayed. Just the command "Group" lists all the initialized groups.

Setting the password and name initializes the group if not already initialized.

Any parameter not specified defaults to the current setting if the group has been initialized.

Wildcards can be used in the snapshot list.

A password, name or snapshot must be enclosed in quotes if it contains a comma or you want leading or trailing spaces.

Setting the password to "" clears the group. There can be no other parameters on the line.

The Active snapshot must remain a member of at least one group.

Examples:

To initialize group 1 to have the name "My Group", the password "pass1" and contain all snapshots that start with "Test":

GROUP 1, pass1, My Group, Test*

To have only the snapshots "Primary" and "Secondary" in the default group:
GROUP 0,,, Primary, Secondary
To change the password of group 1 to "frog5":
GROUP 1, frog5
To change the name of group 1 to "Test":
GROUP 1,, Test
To clear group 1:
GROUP 1, ""

IMPORT Command

The IMPORT command provides a method of importing a snapshot from a file or set of files.

The IMPORT command is used as follows:

IMPORT <file name> <snapshot name> [USER domain\user password]

The <file name> is the full path name of the import file. Use double quotations when the file name contains spaces.

The <snapshot name> is the name of the destination snapshot. If <snapshot name> does not exist, a new snapshot will be created. Wildcards (*,?) can be used to select an existing snapshot. Use double quotations when the snapshot name contains spaces.

If the import file is on a network drive you will need to provide a user and password for access. Use the "USER" parameter or the USER command below.

Example:

To import the snapshot "Copy Primary" from the file E:\PrimaryBackup.arx:

IMPORT E:\PrimaryBackup.arx "Copy Primary"

To import the snapshot "Copy Primary" from the network location "\\TEST\DropBox":
IMPORT "\\TEST\DropBox\Primary.arx" "Copy Primary" USER TEST\Tester password

INFO Command

The INFO command will provide a detailed reference to the snapshots and archives available on the system.

The INFO command is used as follows:

INFO <name>

The <name> is the name of the snapshot or archive. Wildcards (*,?) can be used to select the snapshots or archives.

If no names are specified, all the snapshots and archives are listed.

Examples:

To see the detailed information about a snapshot or archive named OEM Build:

INFO "OEM Build"

To see the detailed information on all the snapshots and archives starting with P:
INFO P*
To see the detailed information on all the snapshots and archives:
INFO
Sample Output:

```
SNAPSHOTS:
Snapshot Name:  Primary Snapshot  <Active>
```

```
Created On:     13-Sep-04 08:21AM
Last Booted:    06-Oct-04 07:41AM
Approx. Size:   N/A
Description:    The primary system image created by the Installer.
Snapshot Name:  Secondary Snapshot  <Frozen>
Created On:     05-Oct-04 11:55AM
Last Booted:    05-Oct-04 10:20PM
Approx. Size:   1.68Gb
Description:    The secondary system image created by Getting Started.
ARCHIVES:
Archive Name:   Archive of Primary Snapshot
Created On:     27-Sep-04 11:26AM
Total Size:     1.85Gb
Size on Disk:   1.08Gb
Unused Space:   0.00Gb (0%)
Description:    The primary system image created by the Installer.
```

INIT Command

To create a new snapshot "slot," the INIT command can be used. The INIT command will create the structure needed to support a new snapshot. It does not remove or delete the active, or any alternate snapshots. It does not copy the operating system, application or data files. It would be used when installing a new version of an operating system...retaining the existing snapshot.

The INIT command is used as follows:

INIT <snapshot name>

The <snapshot name> is the new name given to the new slot. The <snapshot name> must not exceed 35 characters.

Examples:

To create a new snapshot structure:

INIT "My WinXP OEM Snapshot"

INITC Command

To create a new compressed snapshot the INITC command can be used. The INITC command is identical to the INIT command except that the new snapshot will be compressed.

LIST Command

The LIST command provides a quick list of the snapshots and archives available on the system.

The LIST command is used as follows:

LIST <name>

The <name> is the name of snapshots or archives. Wildcards (*,?) can be used to select the snapshots or archives.

If no names are specified, all the snapshots and archives are listed.

Sample Output:

```
Snapshots:
  *Primary Snapshot    (0)  13-Sep-04 08:21AM 06-Oct-04 07:41AM N/A
  #Secondary Snapshot (1)  05-Oct-04 11:55AM 05-Oct-04 10:20PM   1.68Gb
Archives:
   Archive of Primary Snapshot           27-Sep-04 11:26AM    1.85Gb
```

REMOVE Command

To completely remove a snapshot, the REMOVE command can be used. The REMOVE command will delete all operating system, applications, data, and InstantRecovery structure files within the given snapshot. You cannot REMOVE the active snapshot.

The REMOVE command is used as follows:

REMOVE <snapshot name>

Examples:

To remove a snapshot named "OEM Build":

REMOVE "OEM Build"

At this point the removed snapshot is completely void of all operating system, applications, data, and InstantRecovery structure files. You will not see the snapshot list on the pre-Windows Boot screen, or the LIST / INFO commands.

RENAME Command

The RENAME command is used to rename a snapshot.

Note: If a snapshot is being referenced from a scheduled event, renaming a snapshot may cause the event to fail.

The RENAME command is used as follows:

RENAME <source name> <destination name>

The <source name> is the name of the snapshot to be renamed. Wildcards (*,?) can be used to select the snapshot. Use double quotations when the source snapshot name contains spaces.

The <destination name> is the new name of the snapshot.

Examples:

To rename snapshot "Primary", to "Secondary":

RENAME Primary Secondary

To rename snapshot "OEM Build" to "Test System":
RENAME "OEM Build" "Test System"
To rename snapshot "1. My Default Boot:" to "Test System":
RENAME 1* "Test System"

RESTORE Command

The RESTORE command provides a method to restore an archive to a snapshot.

The RESTORE command is used as follows:

RESTORE <archive name> <snapshot name>

The <archive name> is the name of the archive to restore. Wildcards (*,?) can be used to select the archive. Use double quotations when the archive name contains spaces.

The <snapshot name> is the name of the snapshot to create or update. If <snapshot name> does not exist, a new snapshot will be created. Wildcards (*,?) can be used to select an existing snapshot. Use double quotations when the snapshot name contains spaces.

Examples:

To restore the archive "Archive of Primary" to "Copy of Primary":

RESTORE "Archive of Primary" "Copy of Primary"

SIZE Command

The SIZE command will recalculate the size of an active or alternate snapshot. The InstantRecovery Service does not continuously calculate the size of the active snapshot. This would degrade your system performance. You can use this command when needed to update the approximate size calculations. However, alternate snapshot sizes are calculated after a COPY command, thus not requiring a SIZE. The SIZE command works on any snapshot.

The SIZE command is used as follows:

SIZE <snapshot name>

The <snapshot name> is the name snapshot to be renamed. Wildcards (*,?) can be used to select the snapshot.

Examples:

To SIZE snapshot "Primary":

```
SIZE Primary
```

To SIZE snapshot "1. My Default Boot:"
SIZE 1*

UNFREEZE Command

The UNFREEZE command allows you to unfreeze your frozen snapshot and optionally remove the freeze storage.

The UNFREEZE command is used as follows:

```
UNFREEZE [clean]
```

The optional parameter "clean" indicates that the freeze storage is to be removed.

If you are updating your frozen snapshot, it may be better to disable the Pre-boot, make your changes and test them. This way, if you want to discard your changes and start over, you can simply enable the Pre-boot and reboot. When you are satisfied re-freeze the snapshot and enable the Pre-boot.

USER Command

The USER command sets the user and password for network EXPORT and IMPORT. The user and password are not saved so are only valid for the current session.

The USER command is used as follows:

```
USER <domain\\user> <password>
```

VERIFY Command

The VERIFY command turns OFF or ON the copy engine verify flag. The flag is not saved so it is only valid for the current session.

The VERIFY command is used as follows:

```
VERIFY [ON | OFF]
```

Password-Protecting InstantRecovery

The Manager and Command Line Interface (CLI) can be password protected. Once set the password will be required to run the Manager and the CLI.

To set a password use the CLI command:

Config ManagerPassword <password>

The password must be between 7 and 31 characters and is case sensitive. If a password has already been set you will be prompted to supply the current password before it can be changed.

To remove the password use the command:

Config ManagerPassword -

In the CLI non-interactive mode (where the command is placed on the command line) the password must be supplied in an environment variable. The DOS command is:

Set MANAGERPASSWORD=<password>

Remote Controlling InstantRecovery

You can control InstantRecovery on a remote computer using the command line interface.

Remote Control of InstantRecovery installed on a remote computer using the command line interface is not available in InstantRecovery Home.

Connecting:

To control a remote computer, use the command:

CONNECT <computer>[:<port>] [<user>] [<password>]

Where <computer> is the name or IP address of the remote computer you want to control. For example: CONNECT Test

If you want to override the default port number, enter colon (:) followed by the base port number to use. See note below.

You will need to supply the name and password of a user with Administrator or Domain Administrator rights on the remote computer. If you don't enter them on the command line you will be prompted for them. If you are supplying a domain user, enter the user in the form domain\user.

Controlling:

While you are connected to the remote computer the prompt changes to the name of the remote computer (e.g. TEST>).

All the commands you enter affect the remote machine not the local one.

Two commands are useful with remote control:

BOOT [<snapshot>] - boots the specified snapshot. If no snapshot is specified it will reboot the computer. You are automatically disconnected. This command works in local mode also - beware.

BATCH <file> - executes each of the commands in <file> in sequence. If any command in the file fails no more commands in the file are executed. You will need this command if you write remote scripts using ISRControl.

Disconnecting:

You can disconnect and return to your local machine by entering the command DISCONNECT. You can connect to another computer by entering another CONNECT command - you are automatically disconnected from the first computer.

Notes:

For remote control, InstantRecovery uses sockets bound to the ports 48288 and 48289. You can change port numbers by using the command: CONFIG RemotePortNumber [<port>] - Where <port> is the first of the two port numbers to use - the second is always <port>+1.

To connect to a remote computer with a non-default port use :<port> following the computer name. For example: CONNECT Test:12345

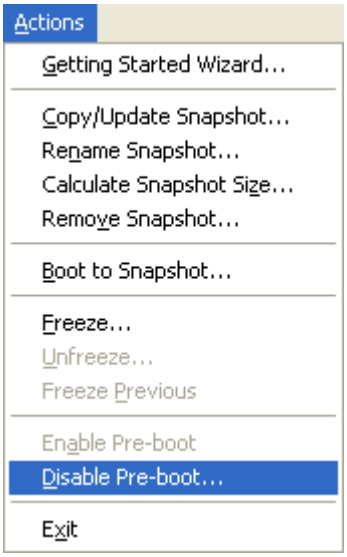
To disable remote control of a computer, set RemotePortNumber to zero.

You do not have to have InstantRecovery installed on the local computer to control a remote one. Just put ISRControl.exe and ISRCopyCtrl.dll on the local computer and double-click ISRControl.exe.

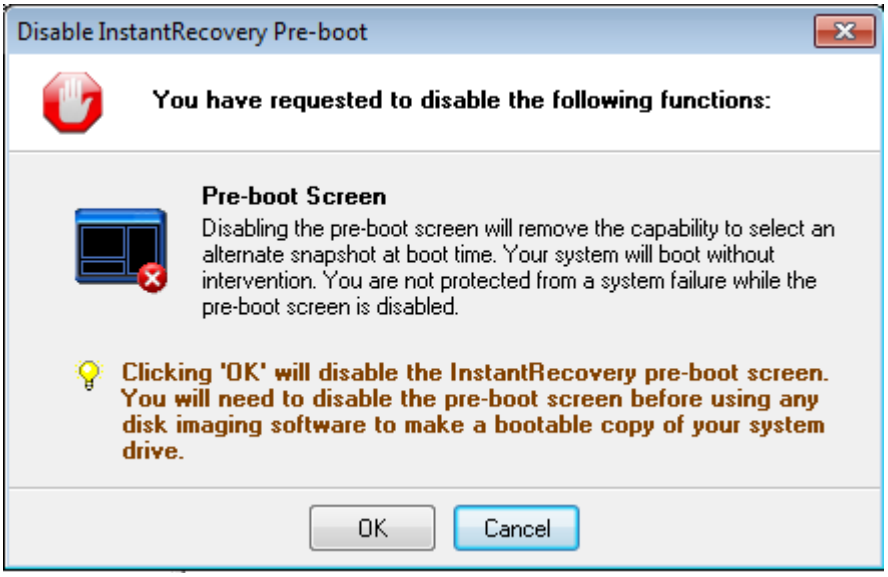
Disabling/Enabling the InstantRecovery Pre-boot

Normally you will want to leave the InstantRecovery Pre-boot enabled, but there are times where you may wish to disable the Pre-boot. For example, if you are going to use a drive imaging program to make an image of your system disk, the Pre-boot must be disabled before the image is made otherwise the image may be unbootable.

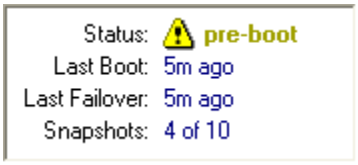
To disable the InstantRecovery Pre-boot, choose Actions>Disable Pre-boot from the menu:



The disable confirmation dialog will be shown:



Click OK to disable the InstantRecovery Pre-boot. The Status will change to:

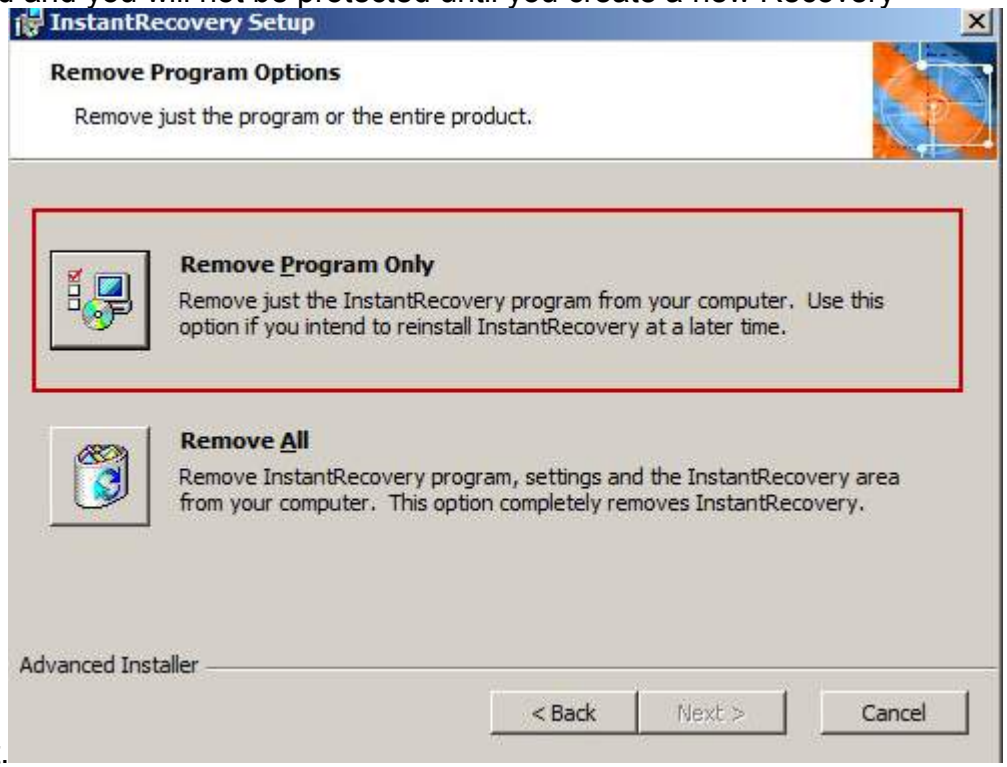


You should re-enable the InstantRecovery Pre-boot as soon as possible.

Updating InstantRecovery Software

Updating to a newer build of InstantRecovery requires several steps:

1. Uninstall the existing build of InstantRecovery. When prompted to Remove Program Only or Remove All, select **Remove Program Only**. **Warning:** If you select **Remove All** during uninstall, all of your existing Recovery Snapshots will be deleted and you will not be protected until you create a new Recovery Snapshot.



2. Install the new build of InstantRecovery. After installation, when you next run InstantRecovery, you will see your existing Recovery Snapshots.