

ABS Enterprise[®]

Bare Metal Restore Guide - StorageCraft

May 2013



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Creating ShadowProtect Boot CD

 The ShadowProtect Bare Metal Restore process is designed to be used to restore an entire system.

1. Selecting Recovery Image

 The following steps must be completed on a machine that is connected to the same network as the ABS appliance. This machine must also have a functional CD writer. These instructions are for Windows 7 or above. Seek a third party tool to burn the boot iso if on an older machine.

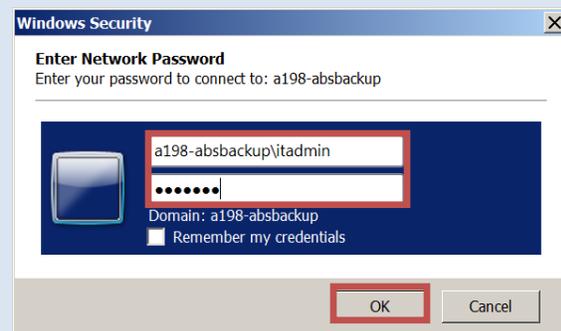
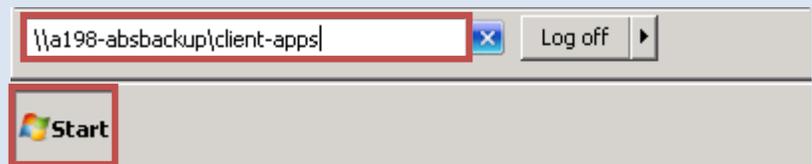
- a. Click the **Start Button**
- b. Type in the **client-apps** share path in the search box

 Share path example:
\\a198-absbackup\client-apps
Substitute "a198" with your unique appliance ID

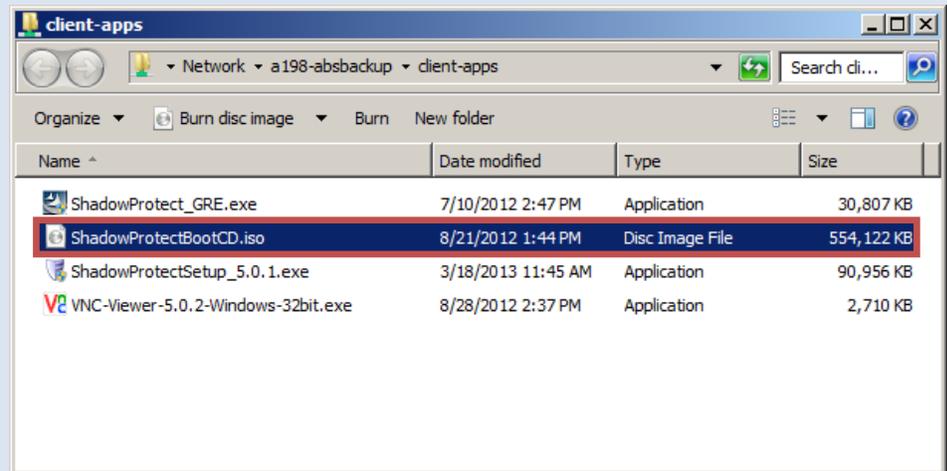
- c. Enter in the **itadmin** account credentials (refer to your **Activation Letter** for the password)

 When authenticating against the appliance, make sure to add the appliance name before the username. Example:
a198-absbackup\itadmin

- d. Insert a blank CD into the CD drive of the machine



e. Double click
ShadowProtectBootCD.iso

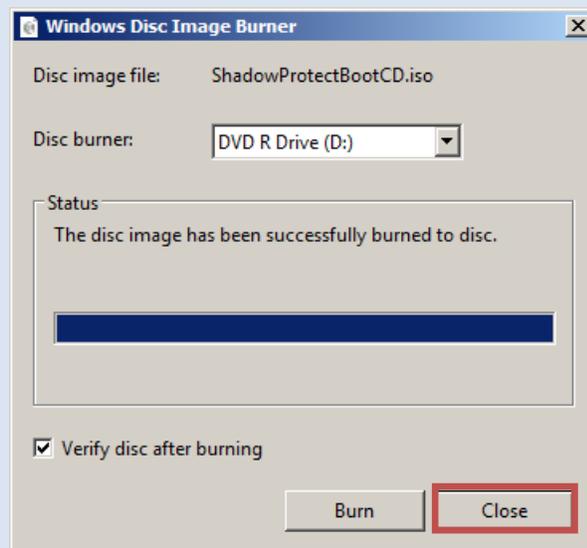


f. Select the appropriate disk drive that contains the blank CD



g. Select **Verify disk after burning**

h. Click **Burn**



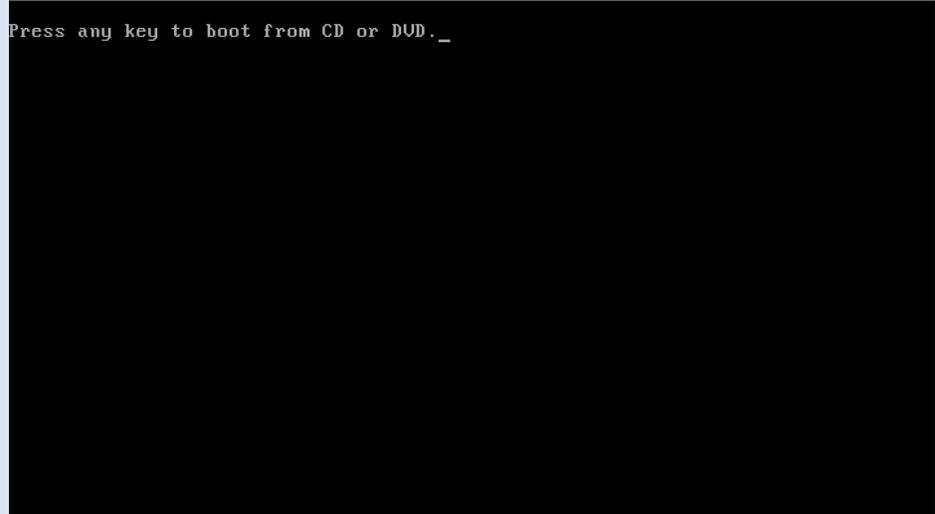
i. If the status is listed as successful, click **Close**

Configure StorageCraft Recovery Environment

1. Boot to ShadowProtect CD

 Insert the **ShadowProtect Boot CD** or attach the iso

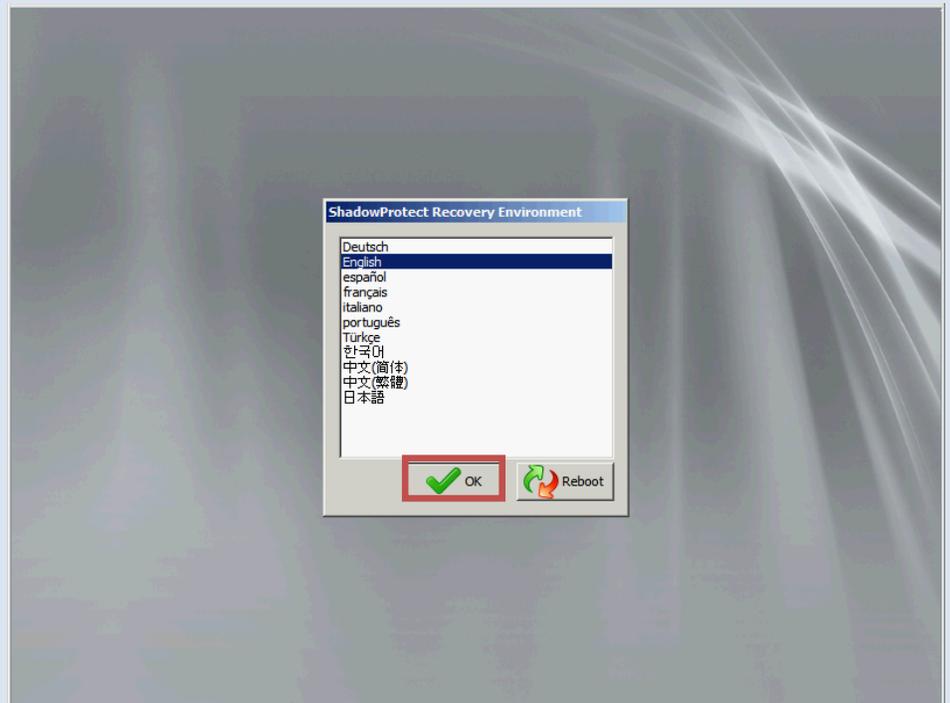
- a. Reboot the machine
- b. Allow machine to boot from the ShadowProtect Recovery Environment



Press any key to boot from CD or DVD. _

2. Basic Settings

- a. Select **English**
- b. Click **OK**



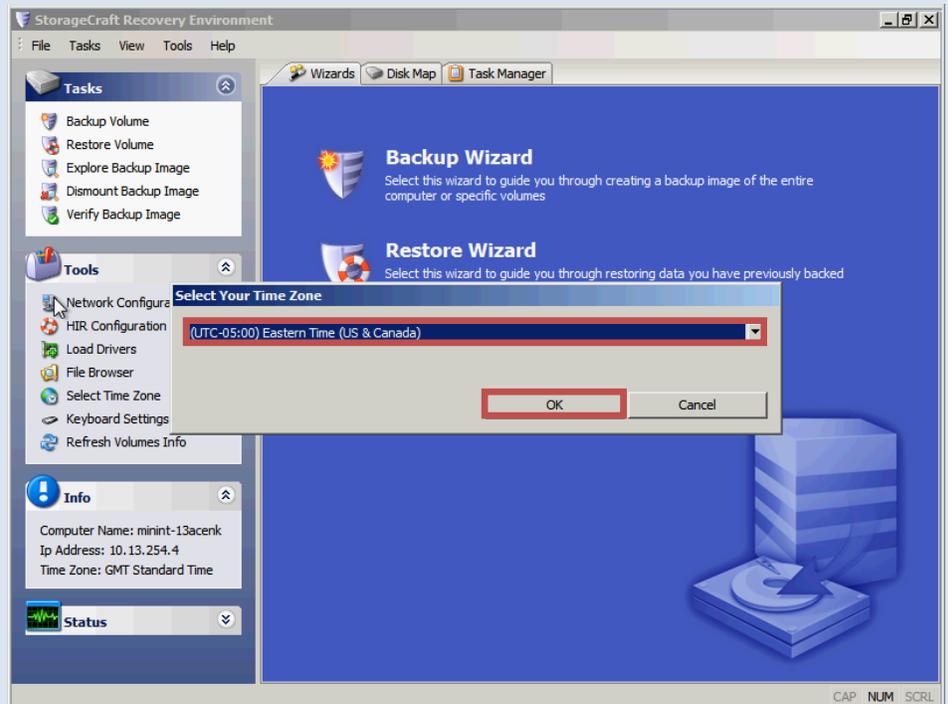
c. Click **Yes**

 Network support should be automatically configured. If the system does not automatically recognize the network adapter, refer to the **Recovery Environment Drivers** (pg.34) section of this guide.



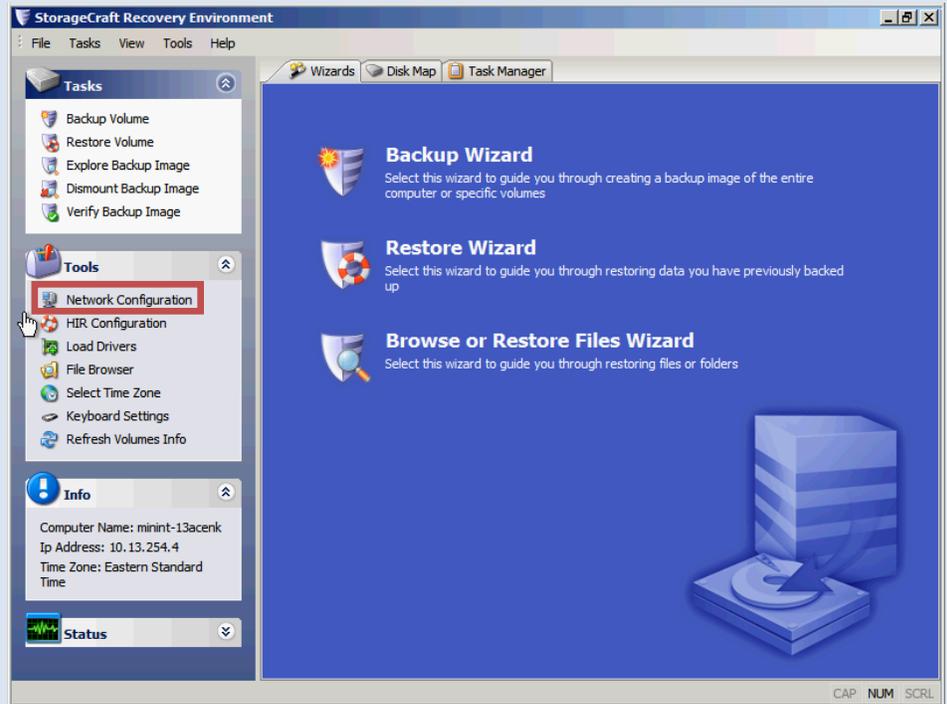
d. Select the appropriate time zone and click **OK**

 It is critical to select the proper time zone to ensure a successful restore



3. Network

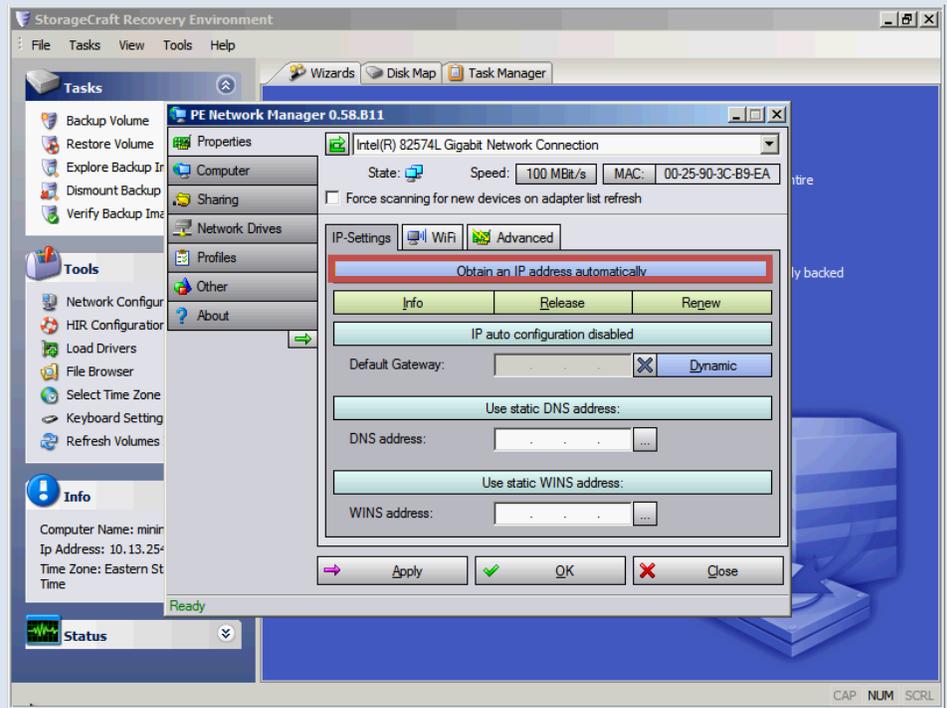
a. Click **Network Configuration**



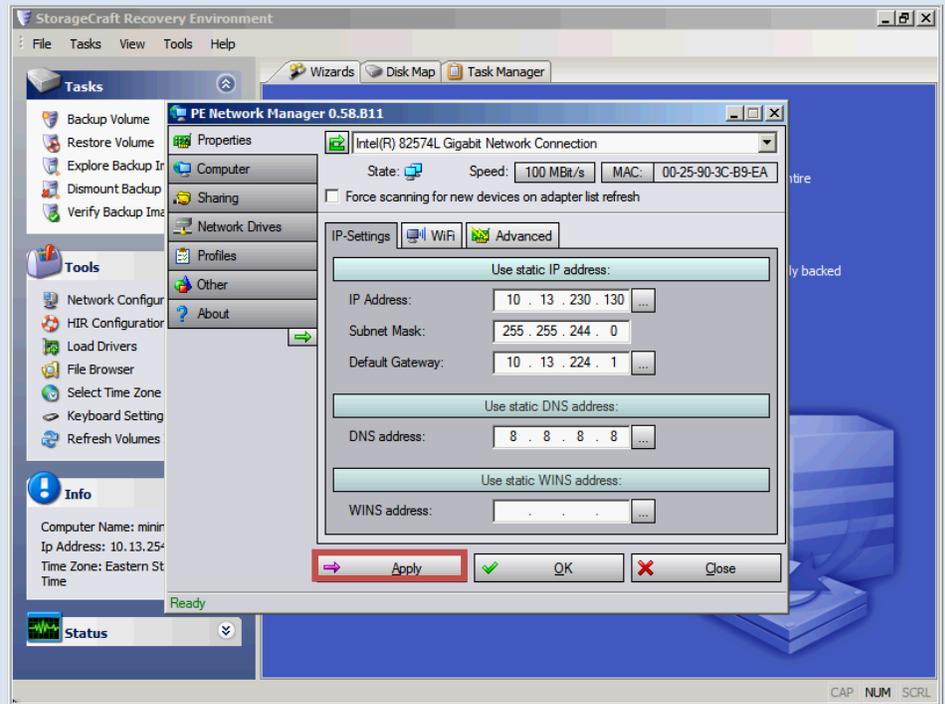
b. Click **Obtain IP address automatically**

i It is recommended to configure a static IP to ensure a solid connection.

! If the appropriate network adapter is not visible, refer to **Recovery Environment Drivers** (pg.34) section of the guide

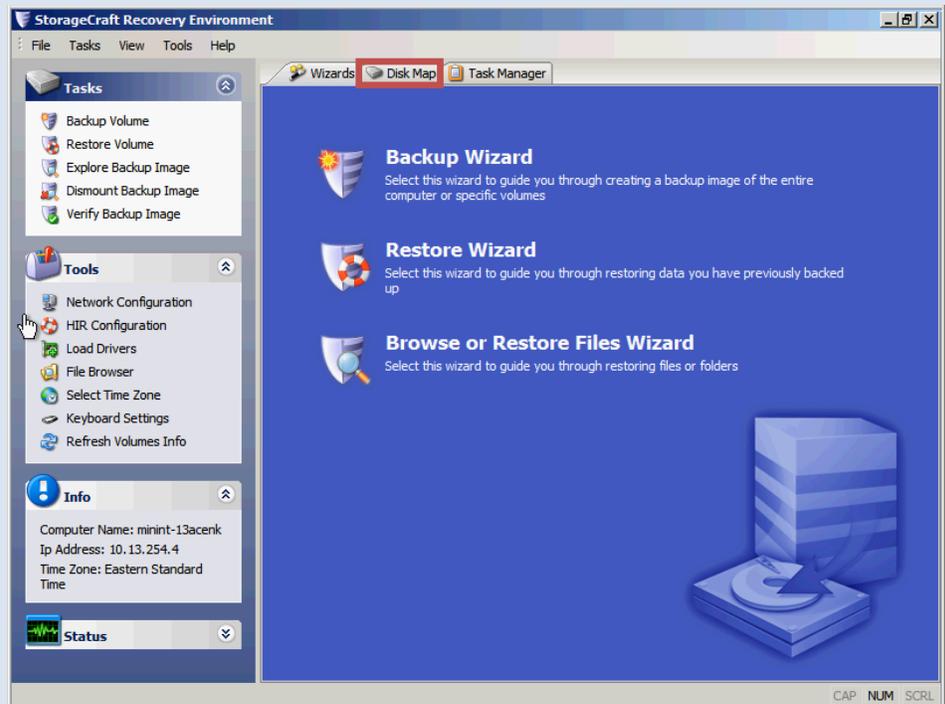


- c. Populate the network settings
- d. Click **Apply**
- e. Click **OK**



4. Disk Partition

- a. Click the **Disk Map** tab

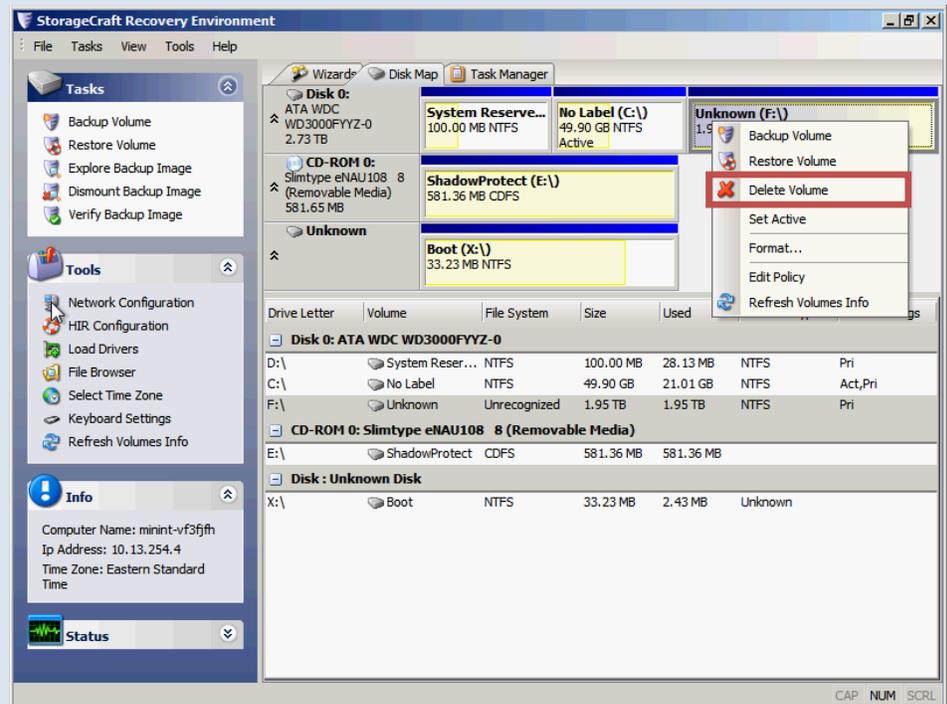


b. Delete any volumes that are currently on the disk(s) you are restoring to

i New machines may not have any volumes on their disks.

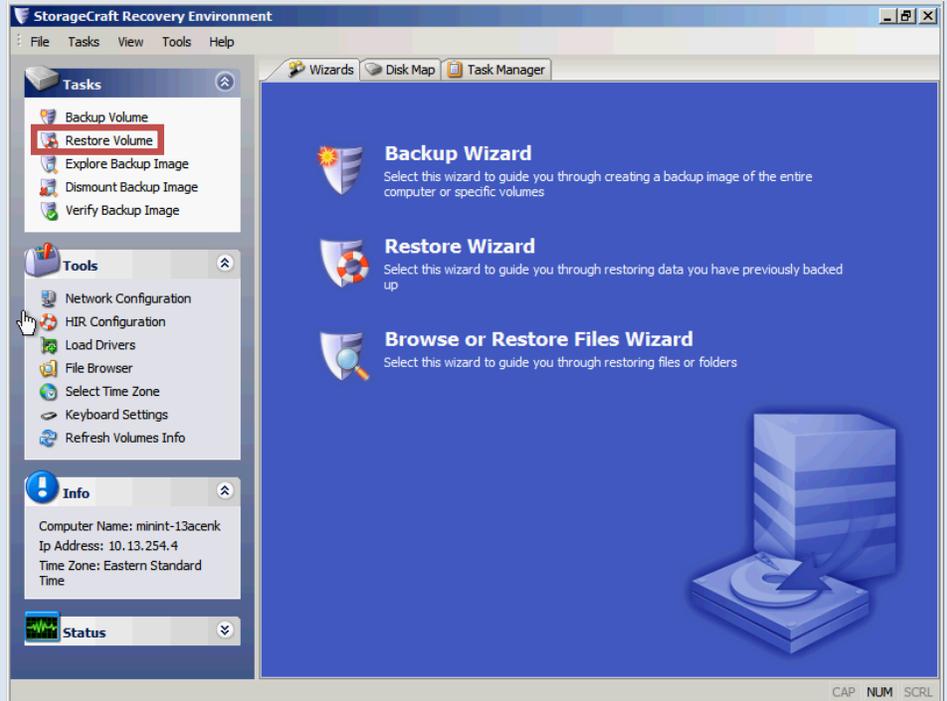
i If the appropriate disks are not present, refer to the **Recovery Environment Drivers** (pg.34) section of the guide

! Deleting a volume also deletes any data located on that volume. Backup any critical data before deleting a volume

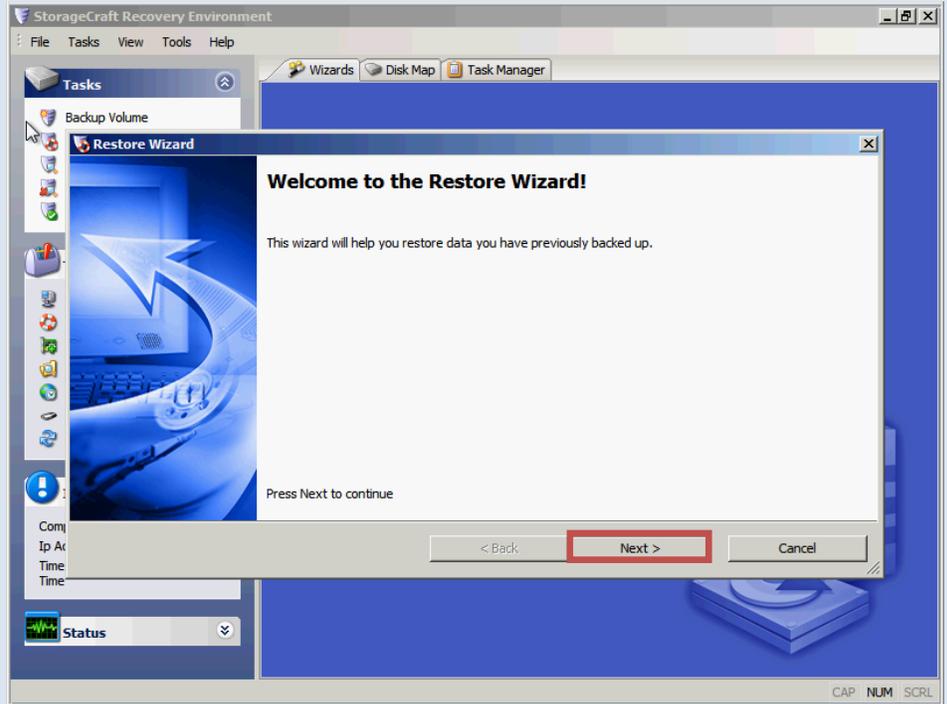


Restoring Volumes

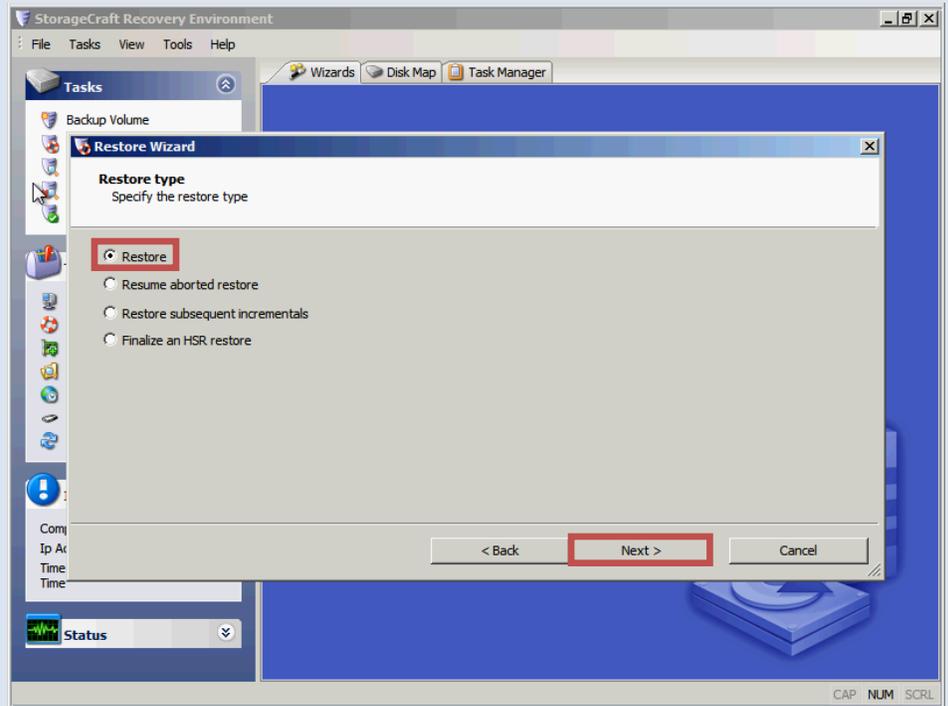
a. Click **Restore Volume**



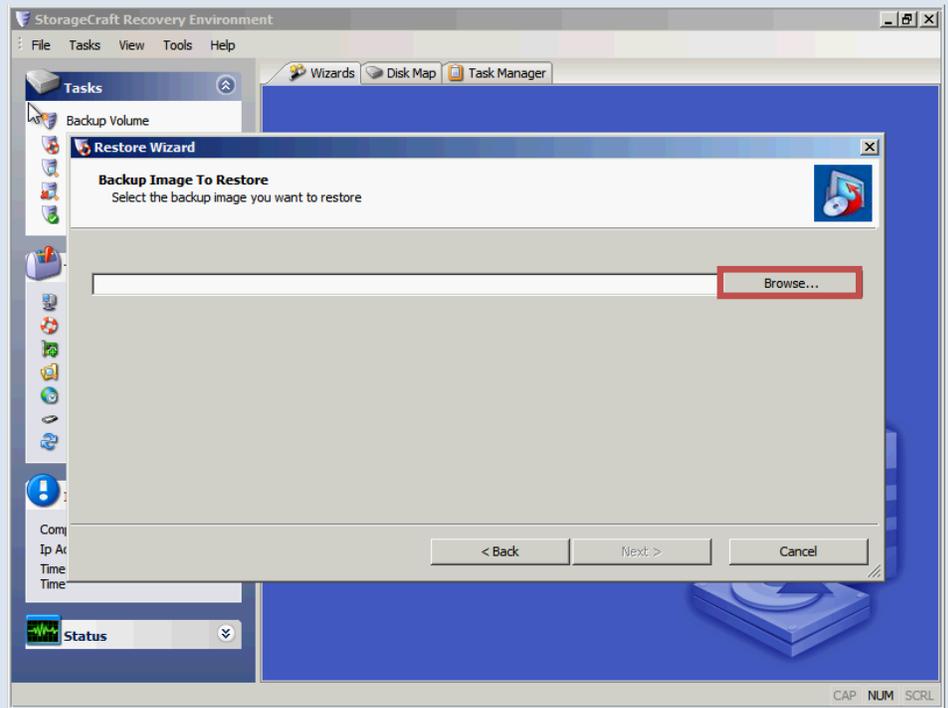
b. Click **Next**



c. Select **Restore**, click **Next**

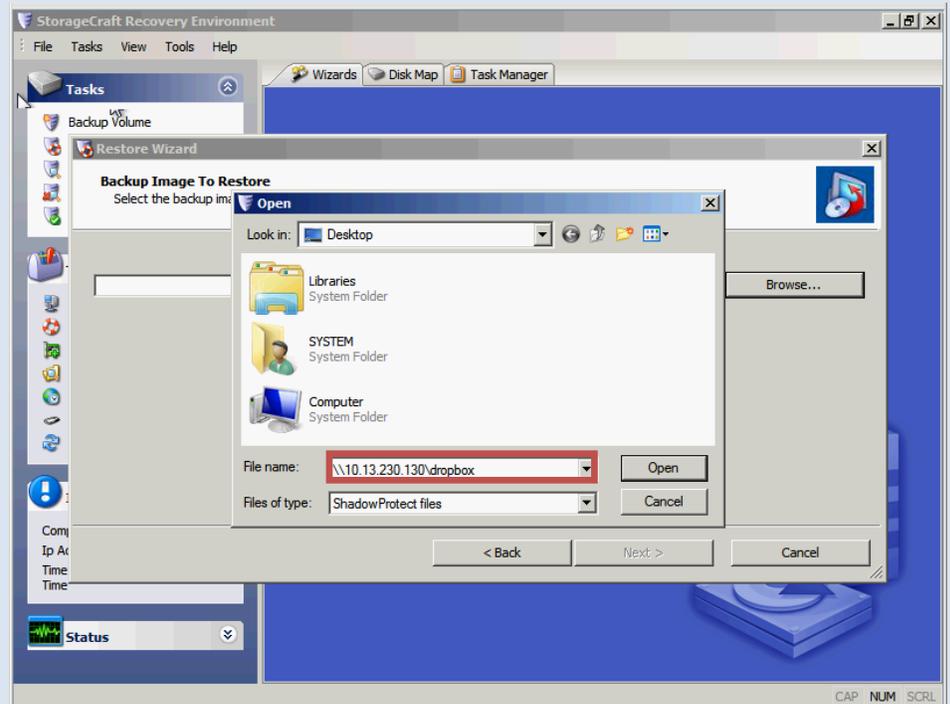


d. Click **Browse...**



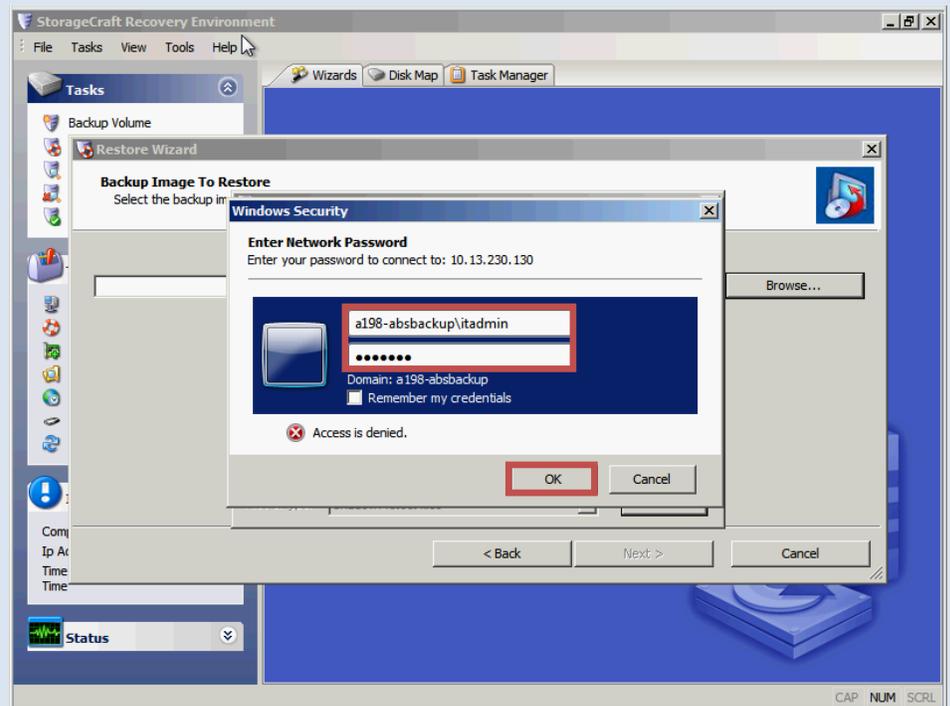
e. Enter in the share path in the **File name:** field

i Share path example:
\\10.13.230.130\dropbox
Substitute example IP address with the IP address that was set on the ABS Appliance



f. Enter in the **itadmin** account credentials (refer to your **Activation Letter** for the password)

i When authenticating against the appliance, make sure to add the appliance name before the username. Example:
a198-absbackup\itadmin

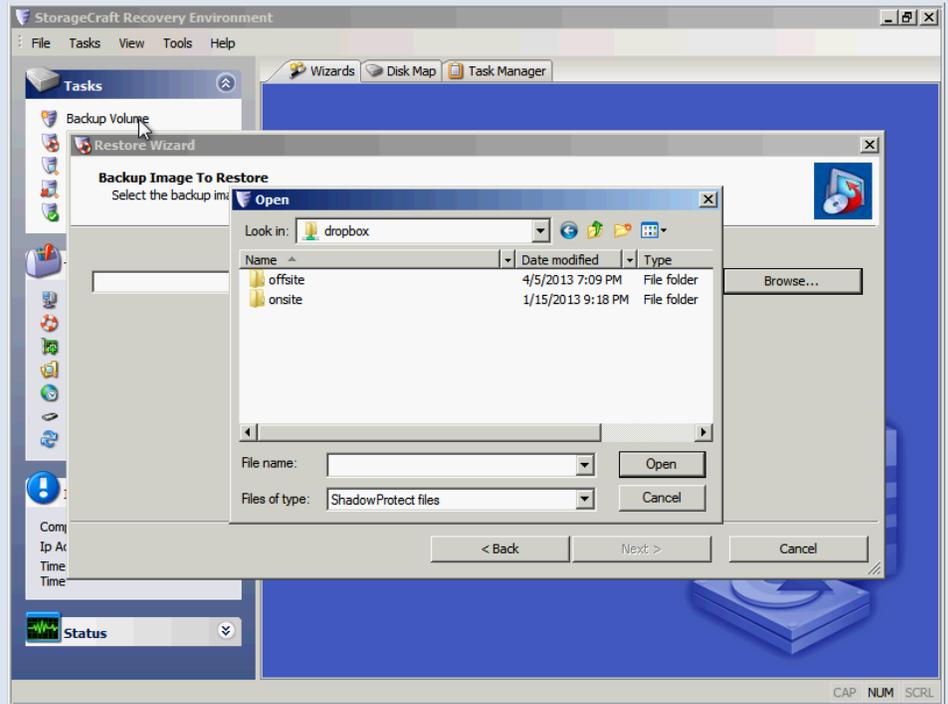


g. Double click on the appropriate storage folder

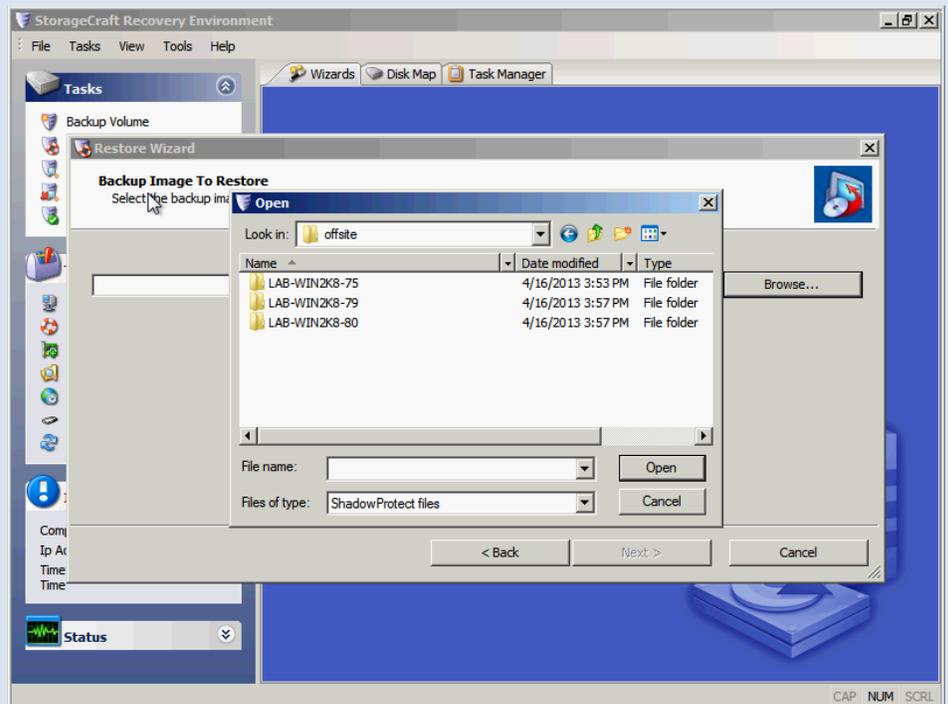
i You will find an **offsite** and an **onsite** folder under **dropbox**

The **offsite** folder is for storing snapshots that are being replicated to the **ABS Cloud**

The **onsite** folder is for storing snapshots locally on the appliance (not replicated to the **ABS Cloud**)



h. Double click the **name of the machine** to restore data from



- i. Select the **Image File** you want to retrieve data from, click **Open**

! It is vital to restore the partitions in the following order:

- 1) System Reserved (if any)
- 2) Boot Partition (windows install)
- 3) Other Data Partitions

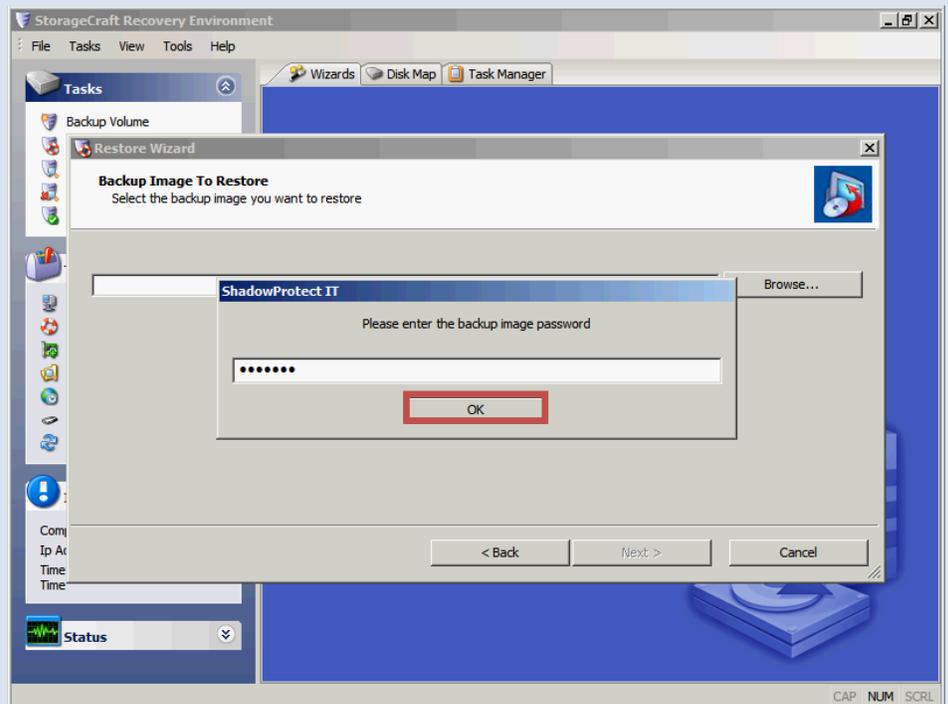
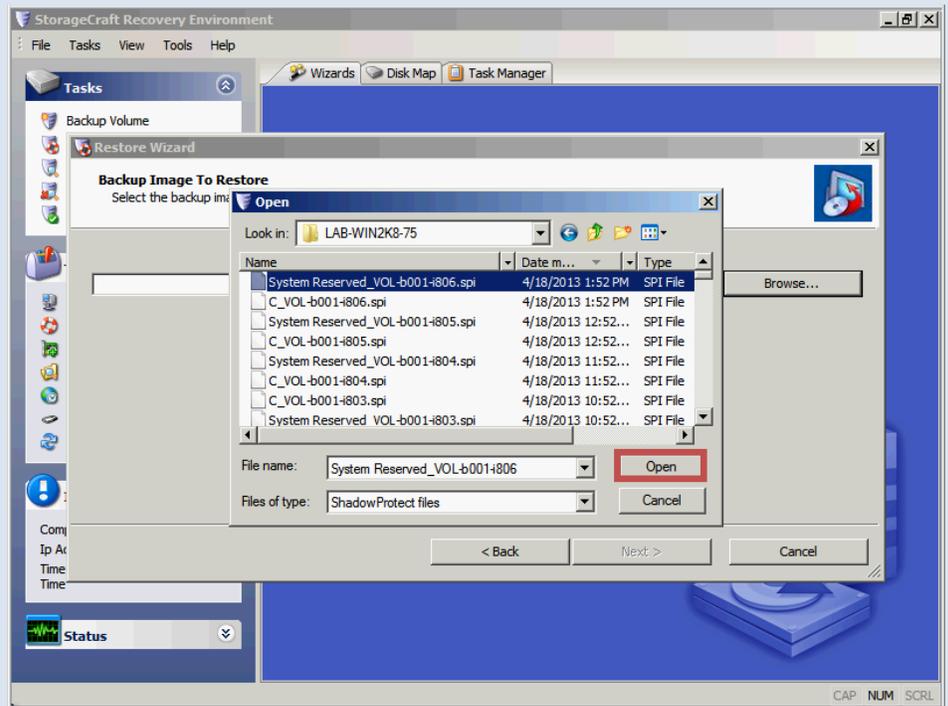
i Feel free to organize the recovery images by the "date modified" for easier navigation.

The naming scheme for the images follows this format:
Volume name-Base number-Incremental number

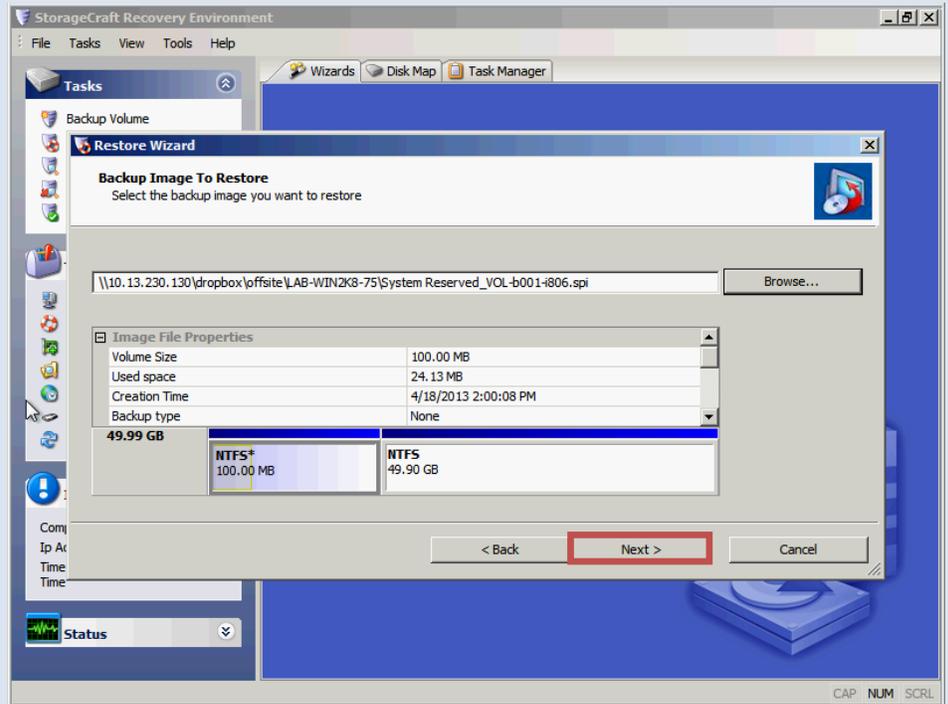
CD = Consolidated Daily
CW = Consolidated Weekly
CM = Consolidated Monthly

- j. When prompted, type in the **Encryption Password**, click **OK**

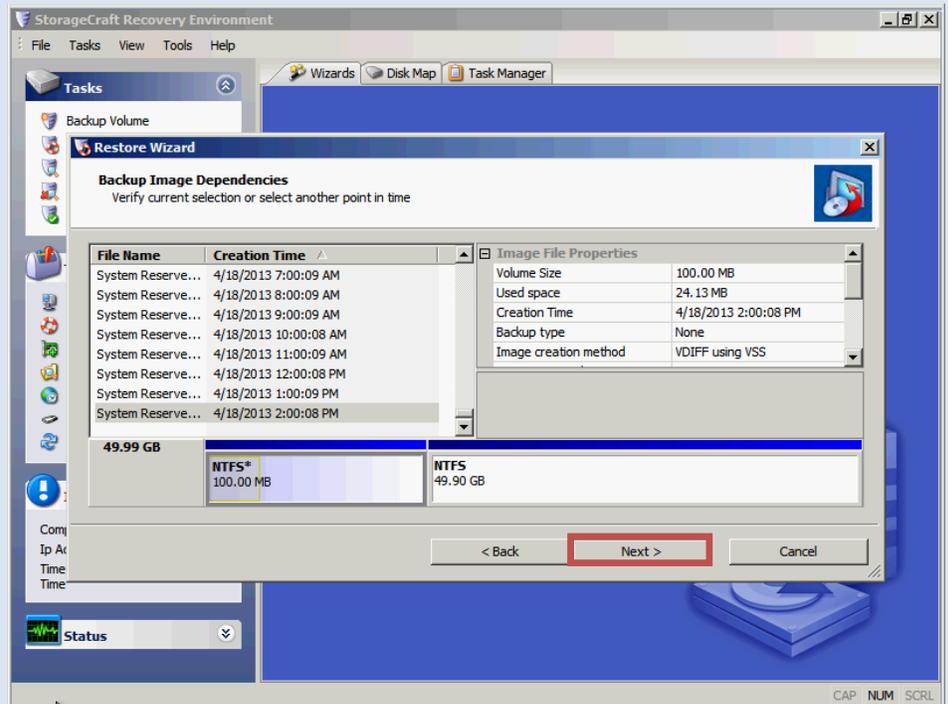
i Use the same encryption password as the initial setup of the machine. If you used the ABS provided password, you can find it in the **Activation Letter**.



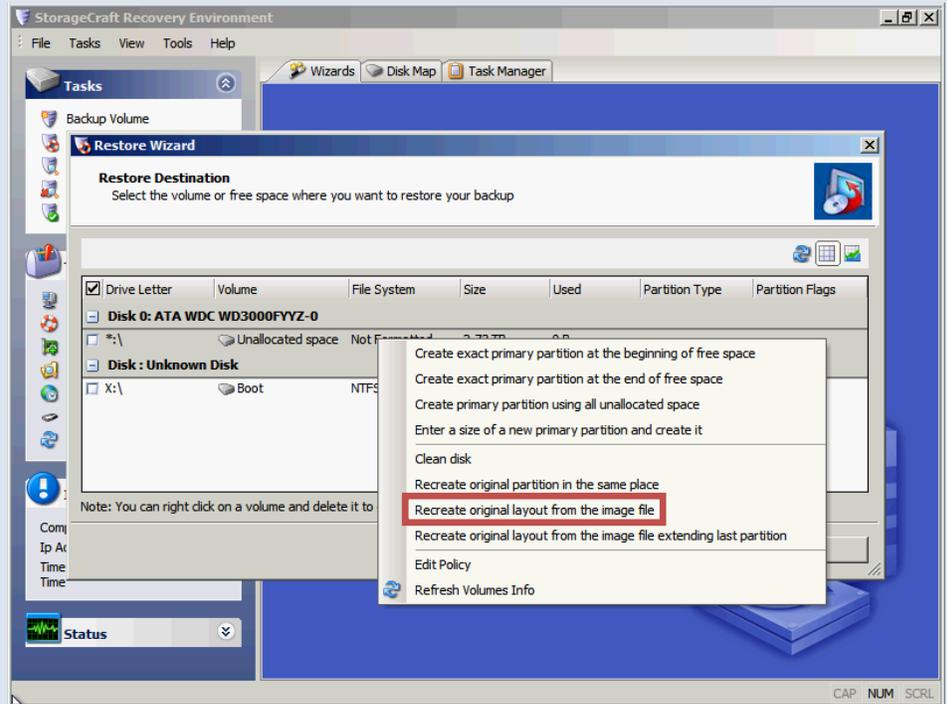
k. Click **Next**



l. Click **Next**

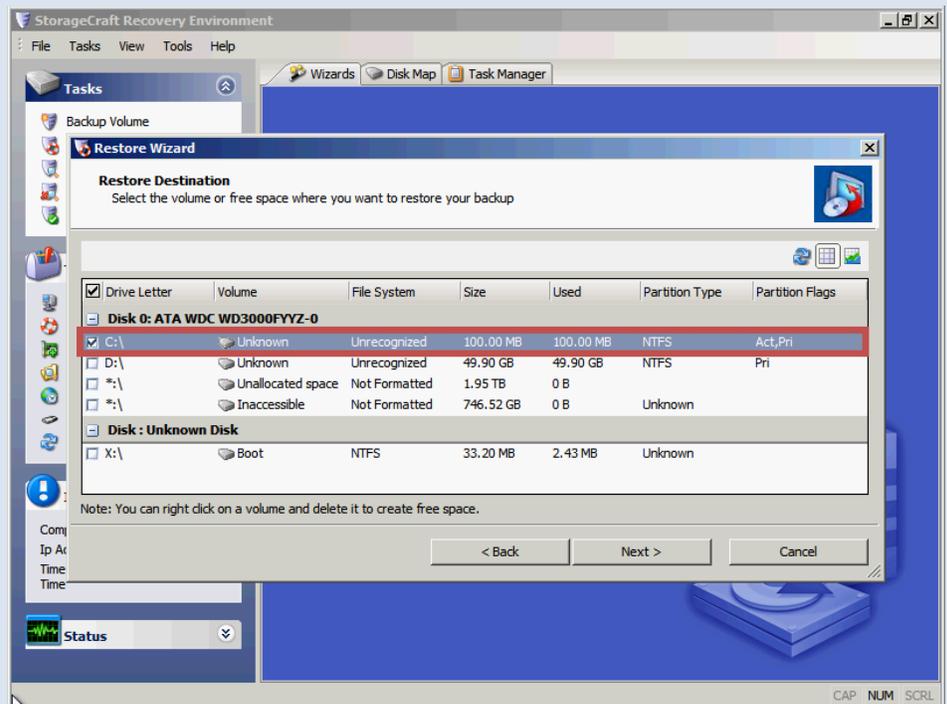


- m. Right click the **Unallocated Space** you wish to restore to
- n. Select **Recreate original layout from the image file**



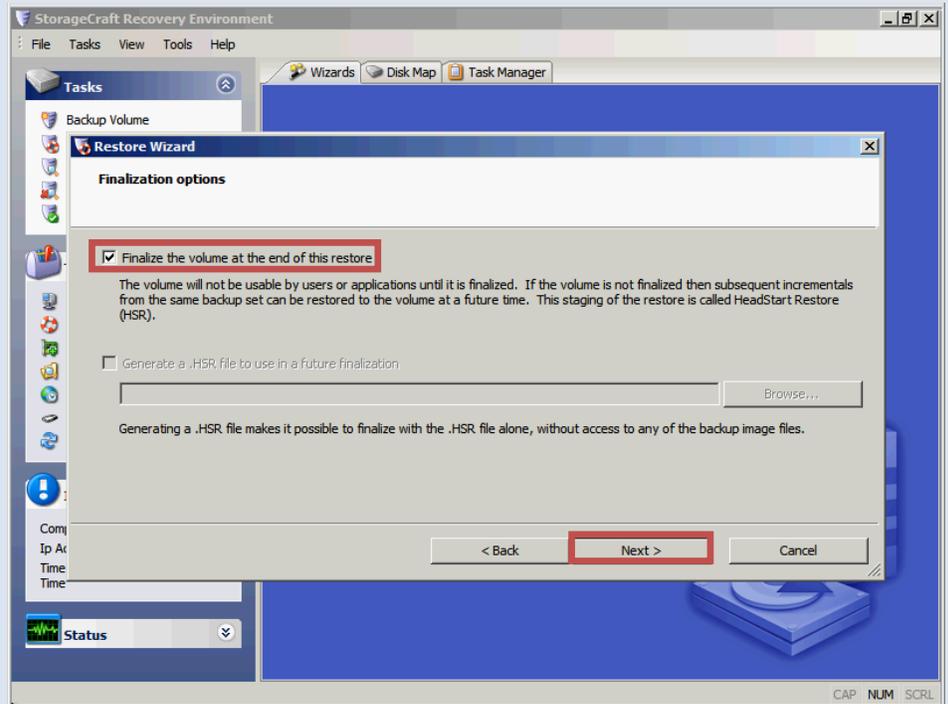
- o. Select the partition you will be restoring to, click **Next**

i You may modify the partitions after the Bare Metal Restore is complete using Windows Disk Management.



p. Select **Finalize the volume at the end of this restore**

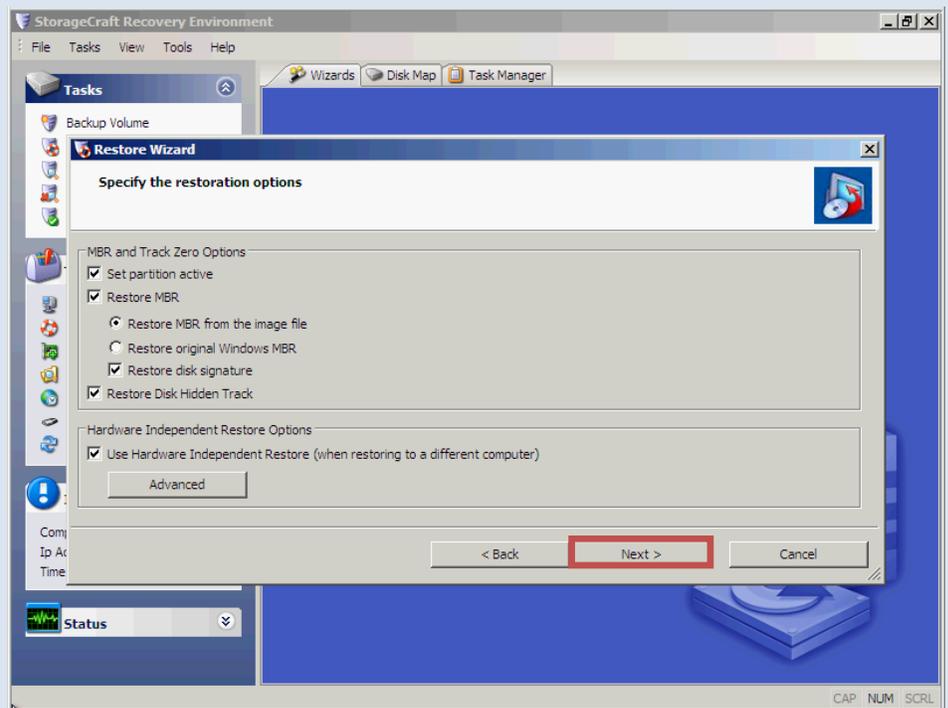
q. Click **Next**



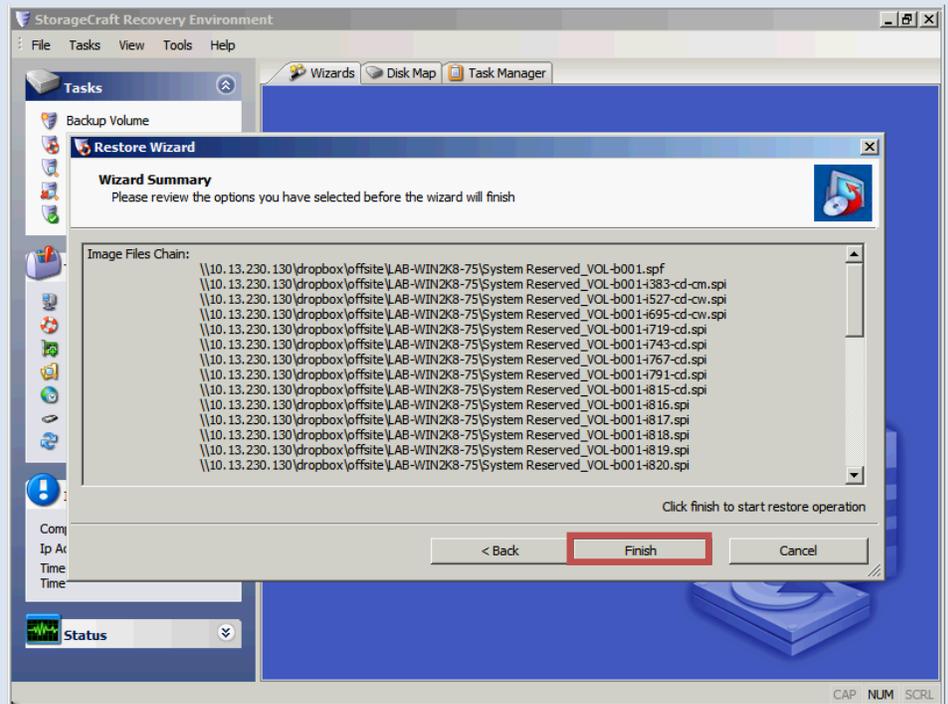
r. The **MBR and Track Zero Options** will be automatically populated depending on the volume

i Select **Use Hardware Independent Restore...** only when you are restoring to a different machine

s. Click **Next**



t. Click **Finish**



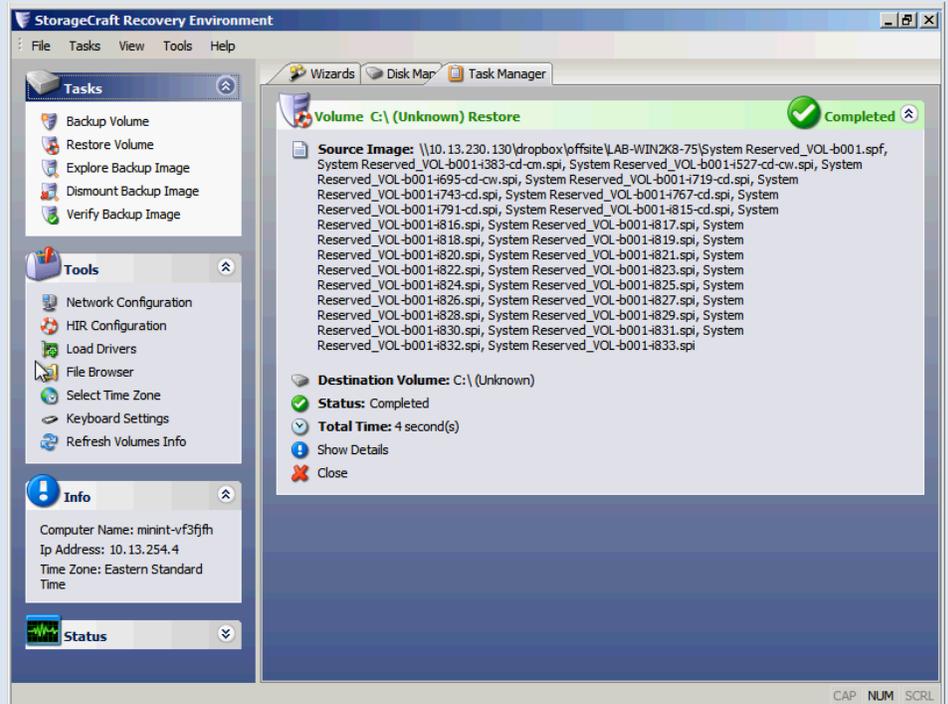
u. The progress of the restore will be displayed

v. Repeat steps **a-t** for any other volumes that need to be restored

 It is recommended to only run one restore job at a time.

After all the volumes have been restored, feel free to reboot the system. The system should now be bootable to Windows.

If you are experiencing issues booting to Windows, refer to the **Boot Configuration Utility** (pg.42) and **Hardware Independent Restore** (pg.36) sections of the guide.



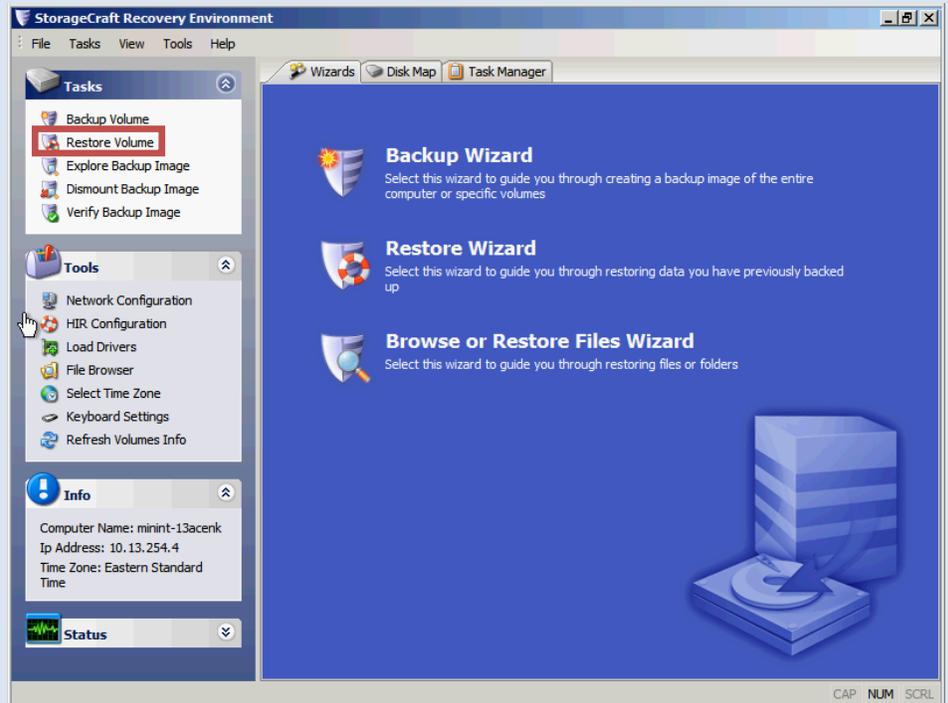
Restoring Volumes with Head Start Restore

i Restoring volumes with Head Start Restore allows for the system to first restore the time consuming base images and then restore any new incrementals at a later time. The practical uses for this type of restore is to minimize system down time when a virtual machine is running on the ABS appliance and a conversion to the client's hardware is necessary.

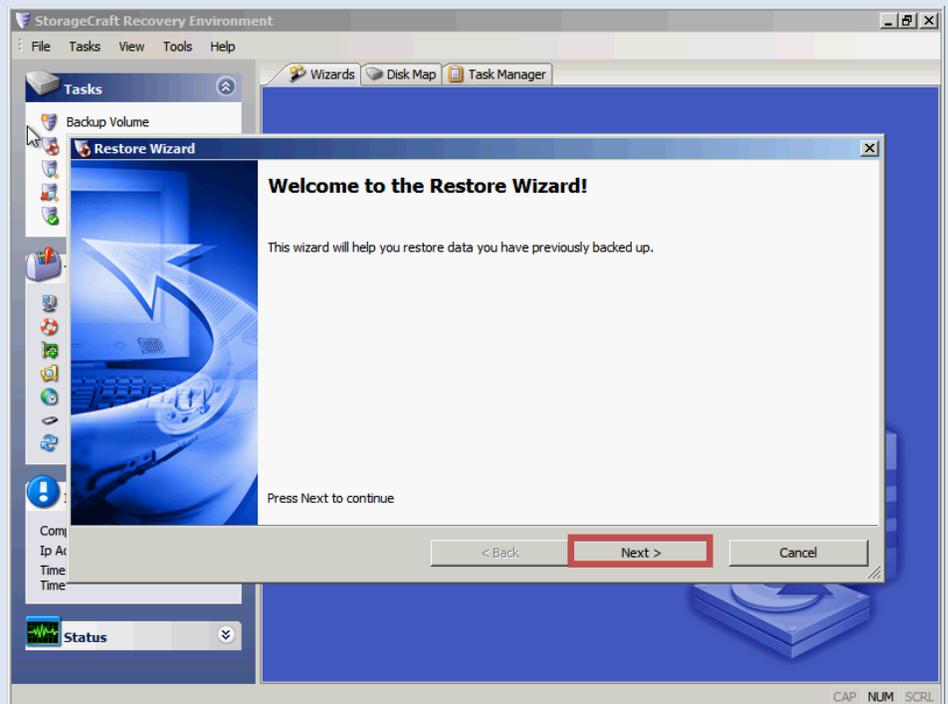
1. Selecting Recovery Image

! If you have not yet configured the recovery environment, make sure that you do so before beginning these steps.

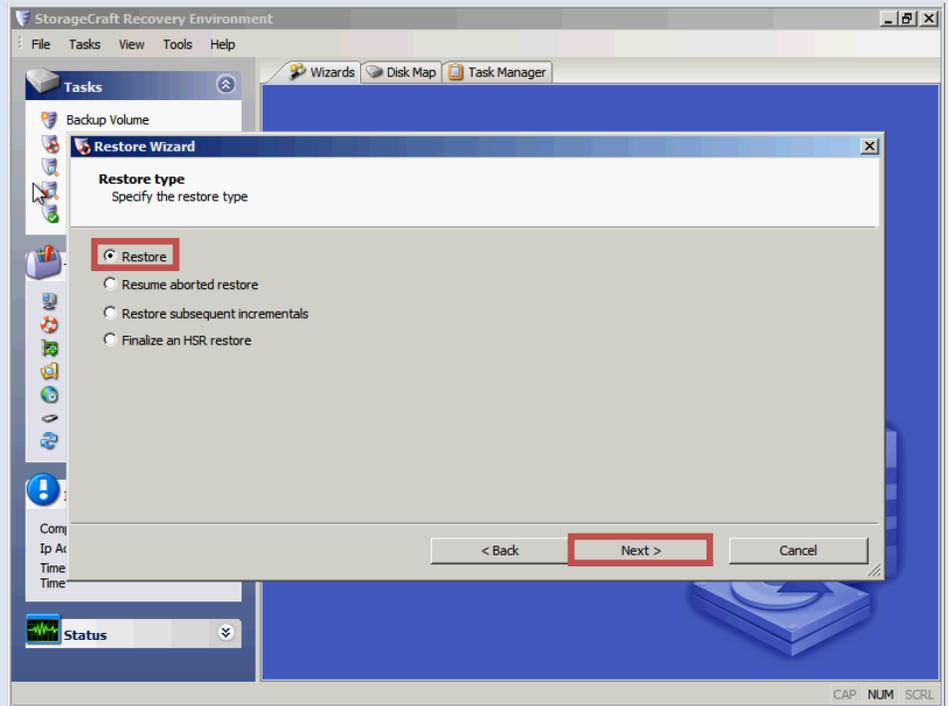
a. Click **Restore Volume**



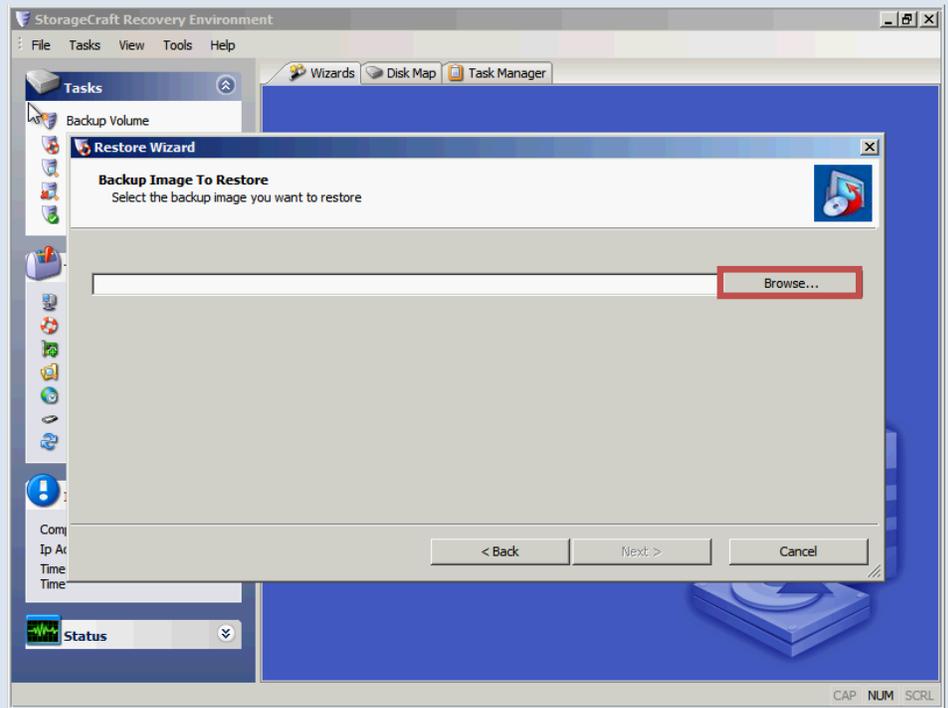
b. Click **Next**



c. Select **Restore**, click **Next**

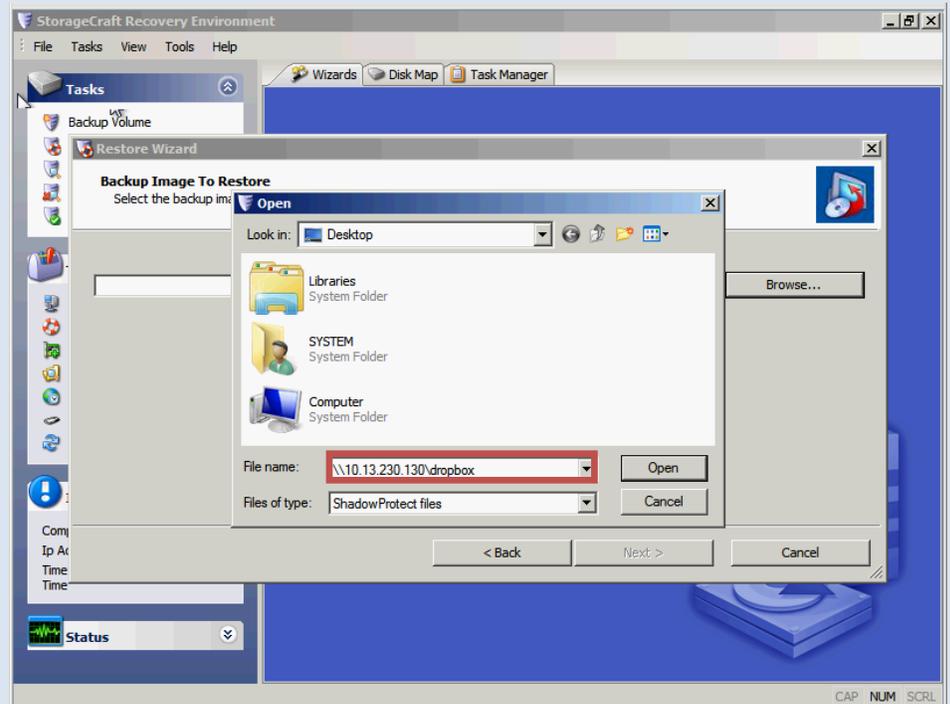


d. Click **Browse...**



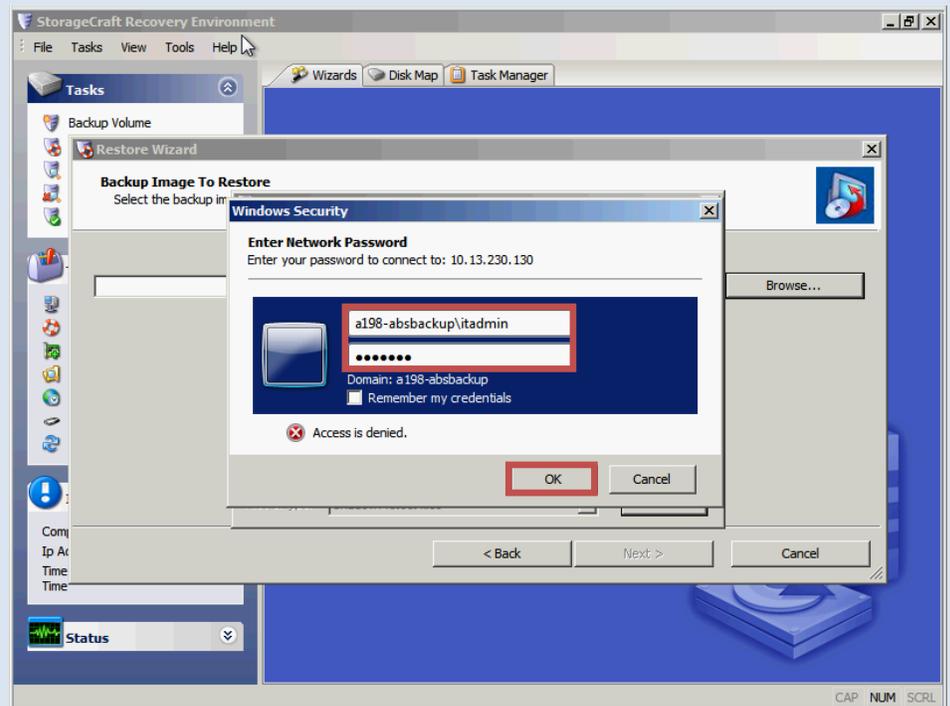
- e. Enter in the share path in the **File name:** field

i Share path example:
\\10.13.230.130\dropbox
Substitute example IP address with the IP address that was set on the appliance



- f. Enter in the **itadmin** account credentials (refer to your **Activation Letter** for the password)

i When authenticating against the appliance, make sure to add the appliance name before the username. Example:
a198-absbackup\itadmin

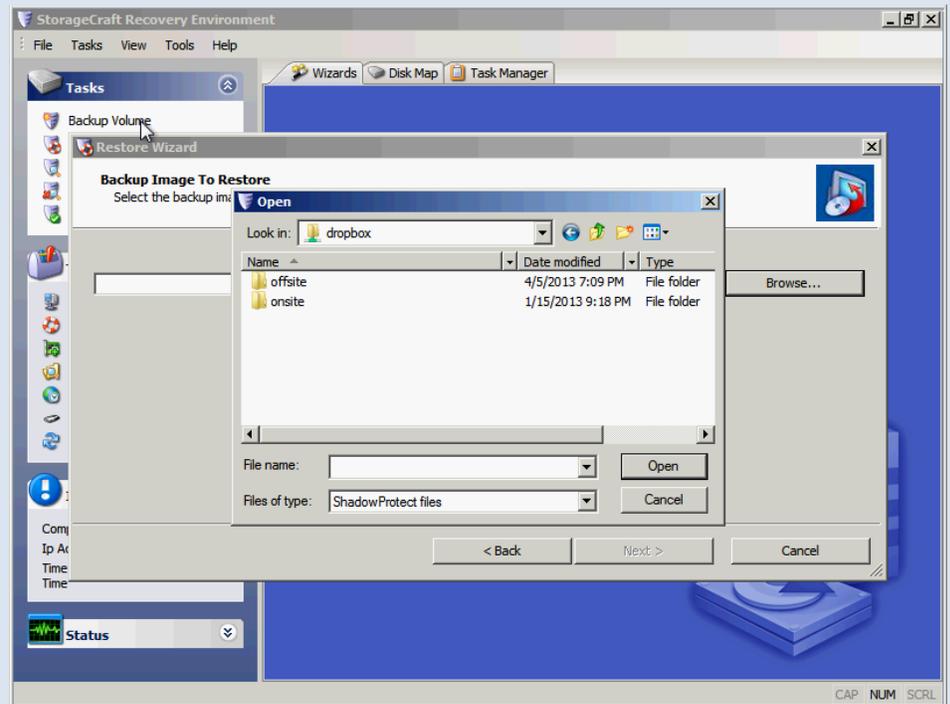


g. Double click on the appropriate storage folder

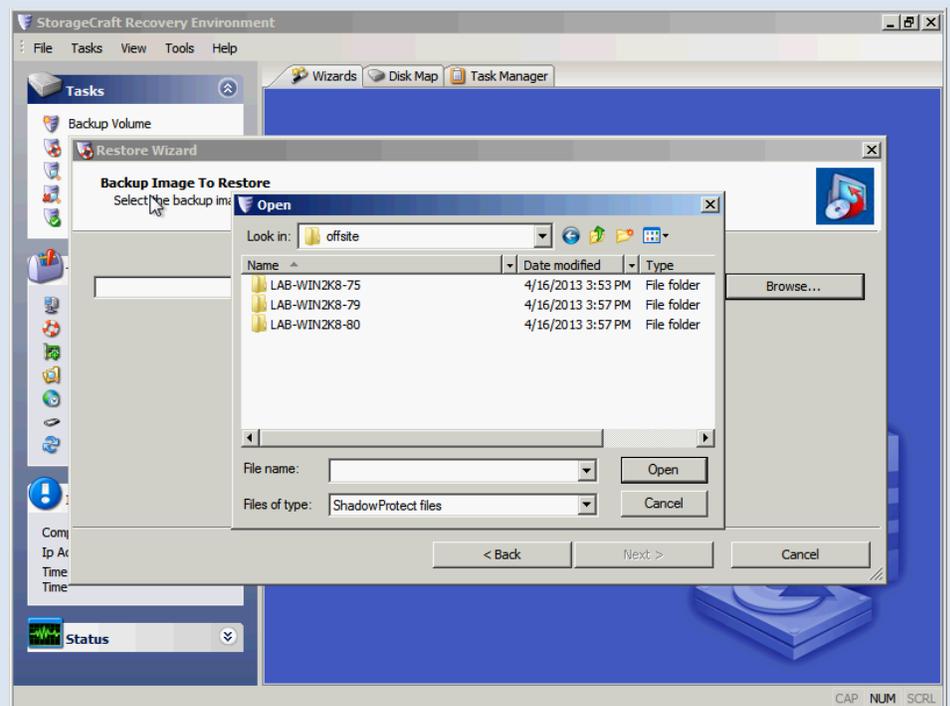
i You will find an **offsite** and an **onsite** folder under **dropbox**

The **offsite** folder is for storing snapshots that are being replicated to the **ABS Cloud**

The **onsite** folder is for storing snapshots locally on the appliance (not replicated to the **ABS Cloud**)



h. Double click the **name of the machine** to restore data from



- i. Select the **Image File** you want to retrieve data from, click **Open**

! It is vital to restore the partitions in the following order:

- 1) System Reserved (if any)
- 2) Boot Partition (windows install)
- 3) Other Data Partitions

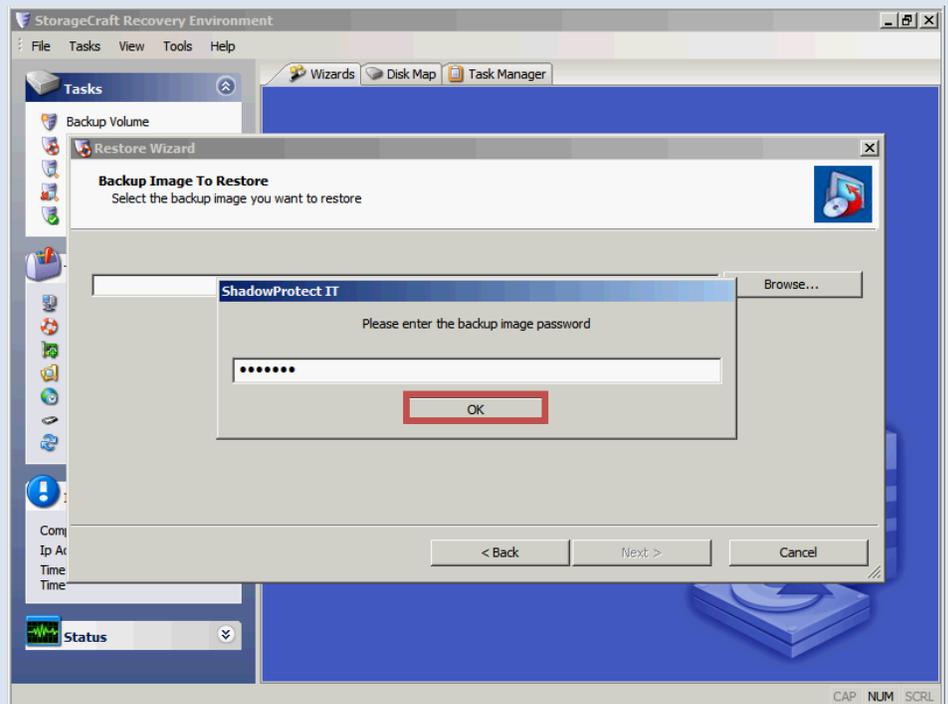
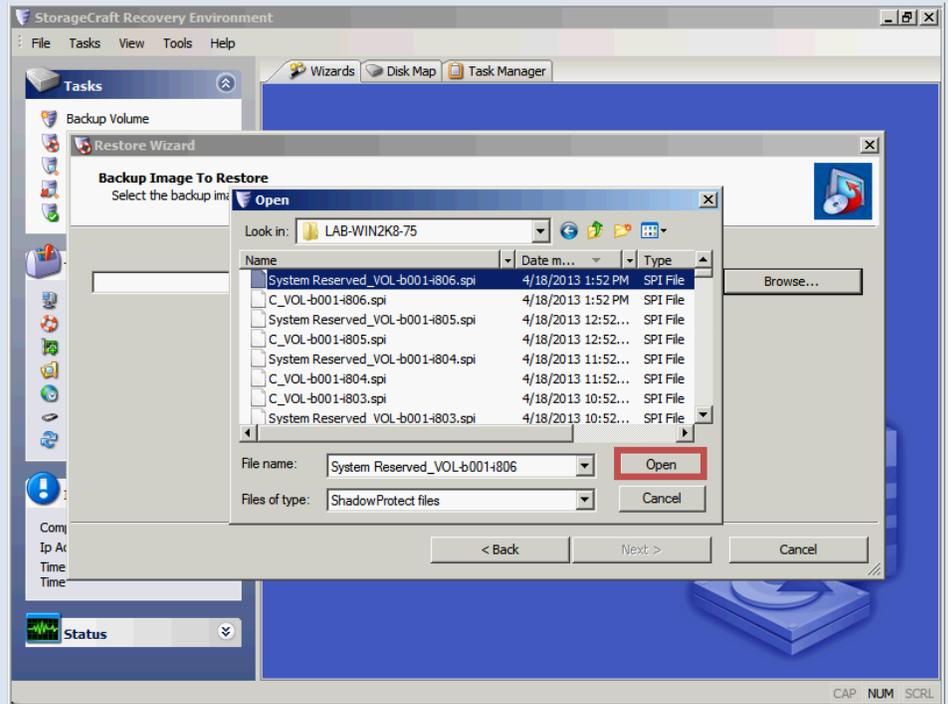
i Feel free to organize the recovery images by the "date modified" for easier navigation.

The naming scheme for the images follows this format:
Volume name-Base number-Incremental number

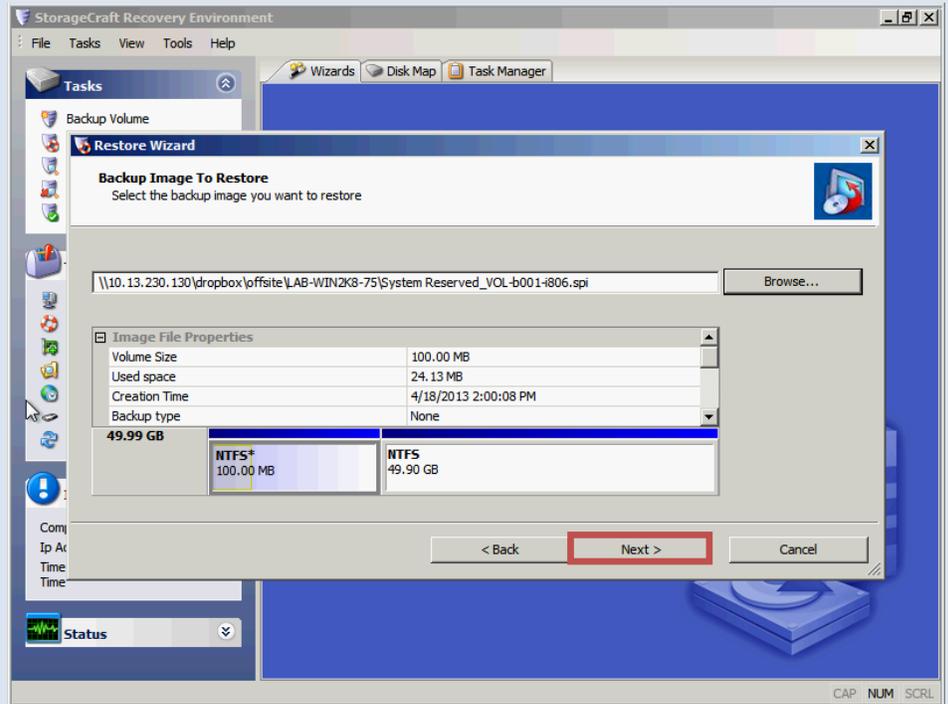
CD = Consolidated Daily
CW = Consolidated Weekly
CM = Consolidated Monthly

- j. When prompted, type in the **Encryption Password**, click **OK**

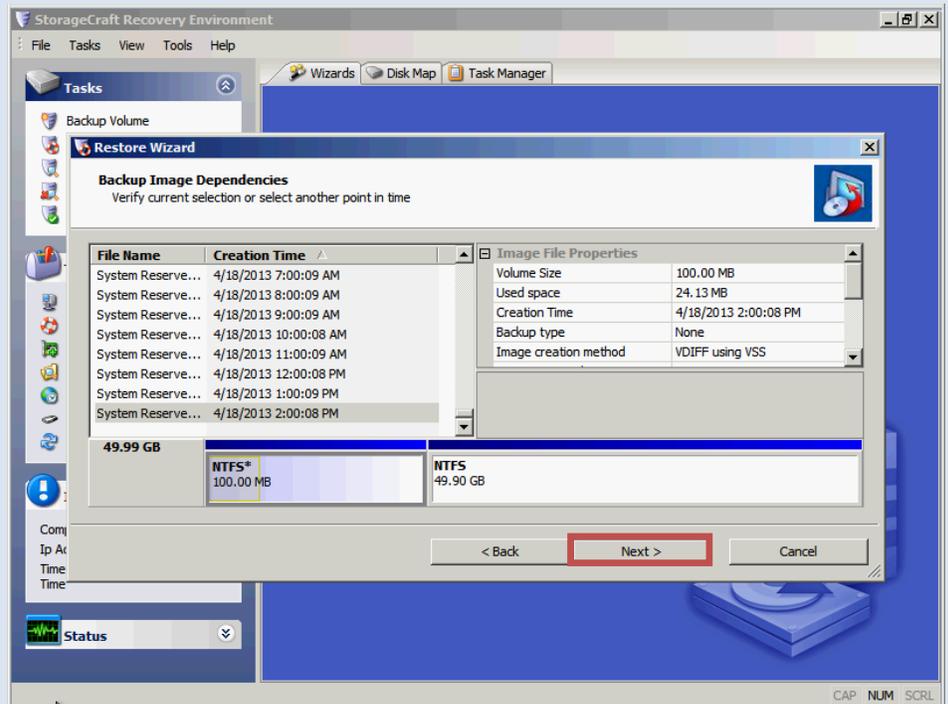
i Use the same encryption password as the initial setup of the machine. If you used the ABS provided password, you can find it in the **Activation Letter**.



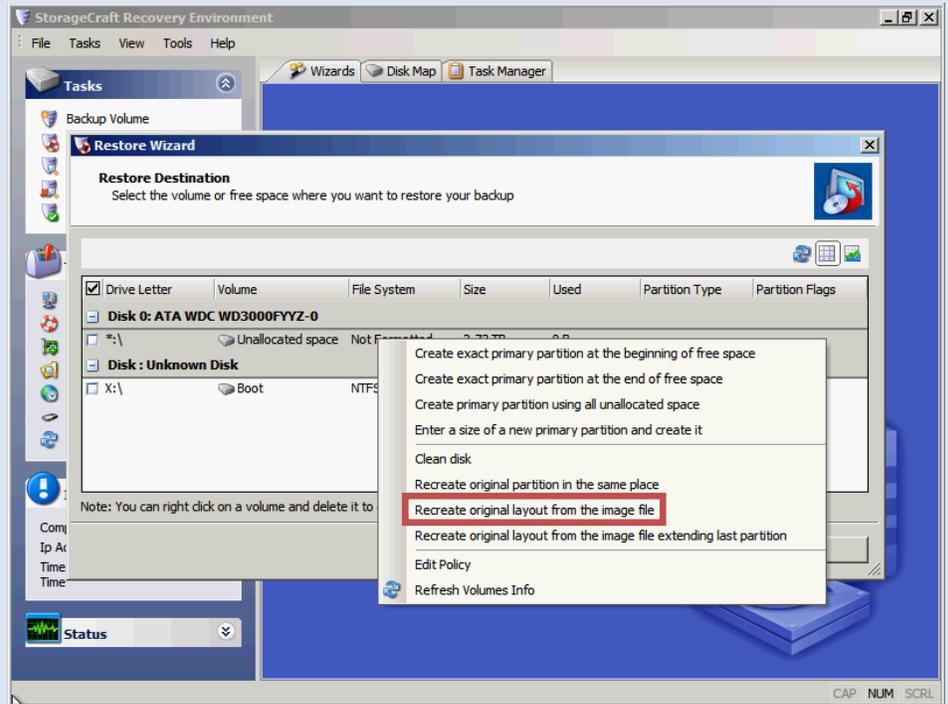
k. Click **Next**



l. Click **Next**

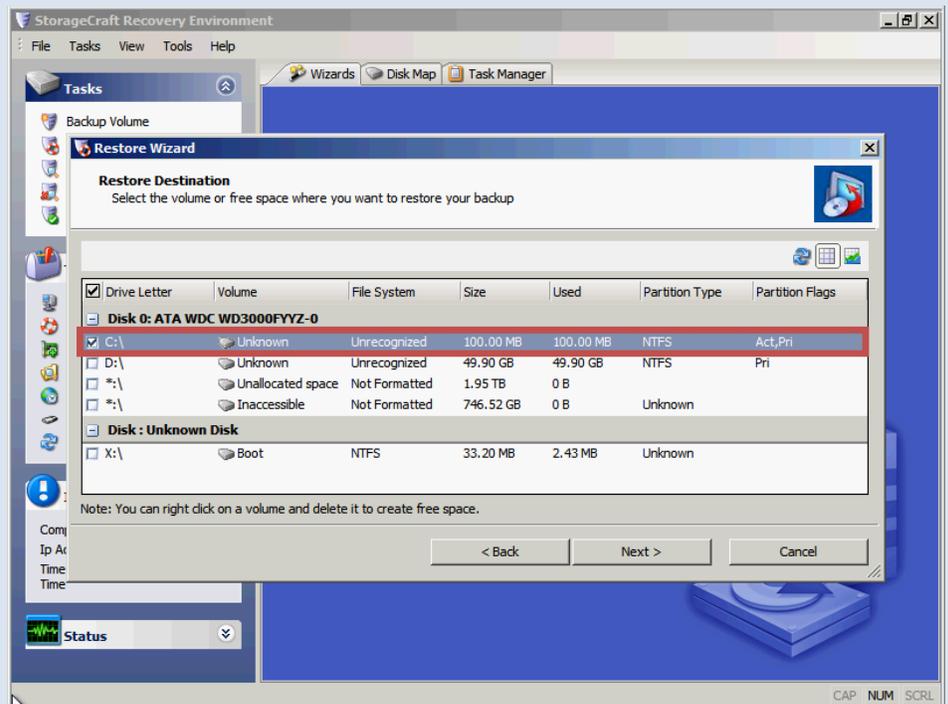


- m. Right click the **Unallocated Space** you wish to restore to
- n. Click **Recreate original layout from the image file**



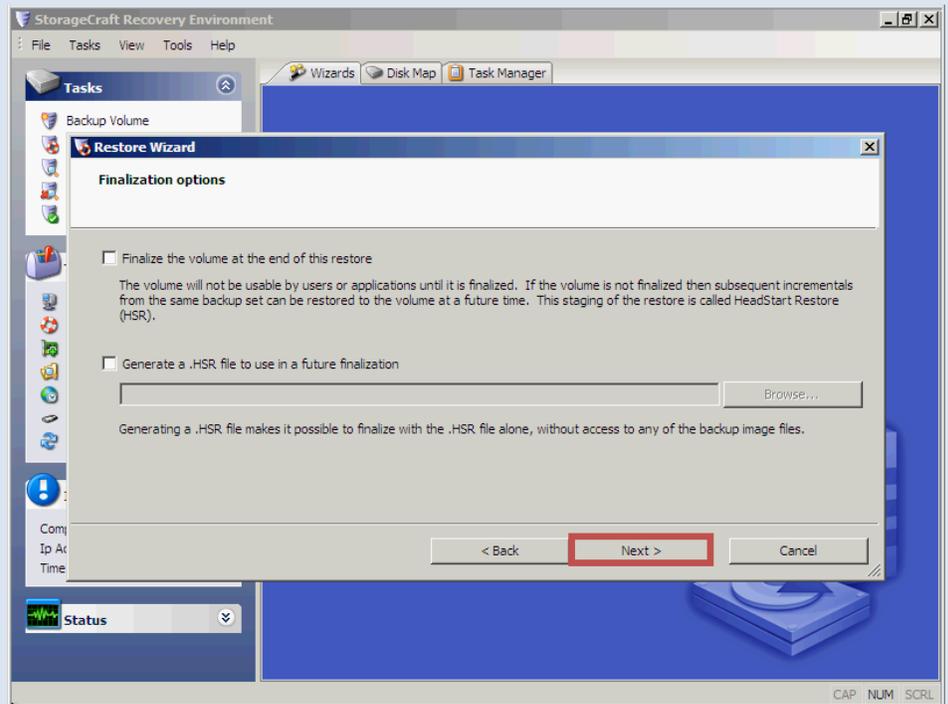
- o. Select the partition you will be restoring to, click **Next**

i You may modify the partitions after the Bare Metal Restore is complete using Windows Disk Management.



p. Make sure that both options are unselected

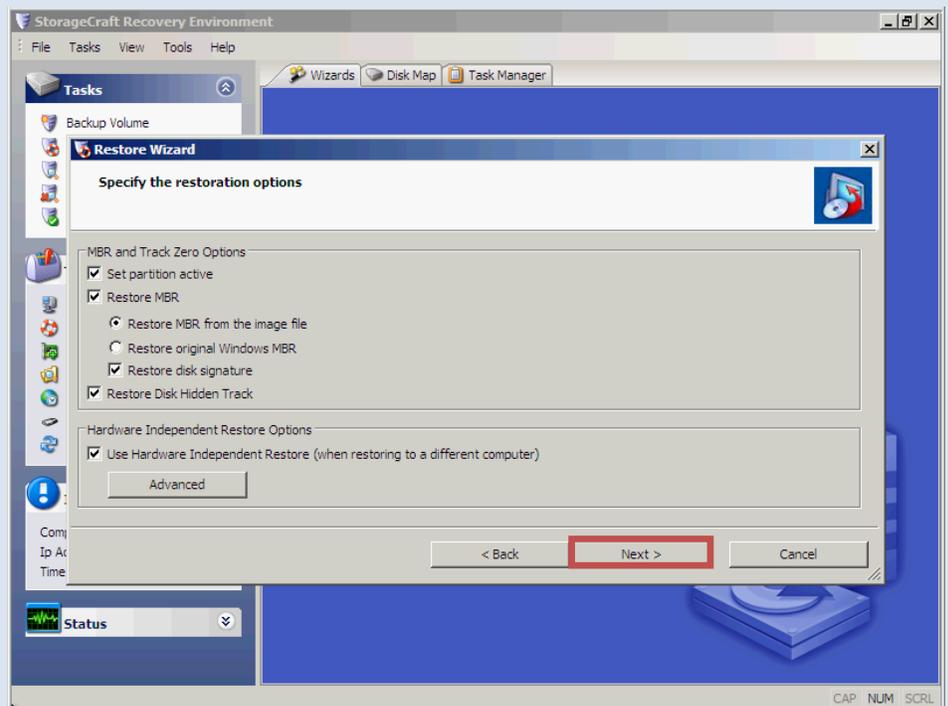
q. Click **Next**



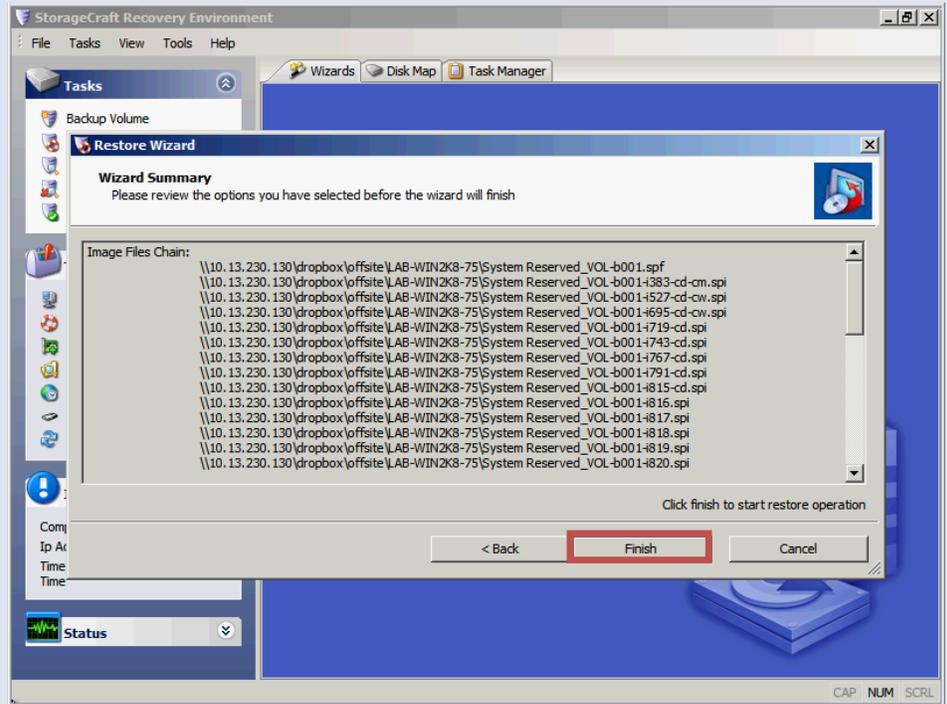
r. The **MBR and Track Zero Options** will be automatically populated depending on the volume

 Select **Use Hardware Independent Restore...** only when you are restoring to a different machine

s. Click **Next**



t. Click **Finish**

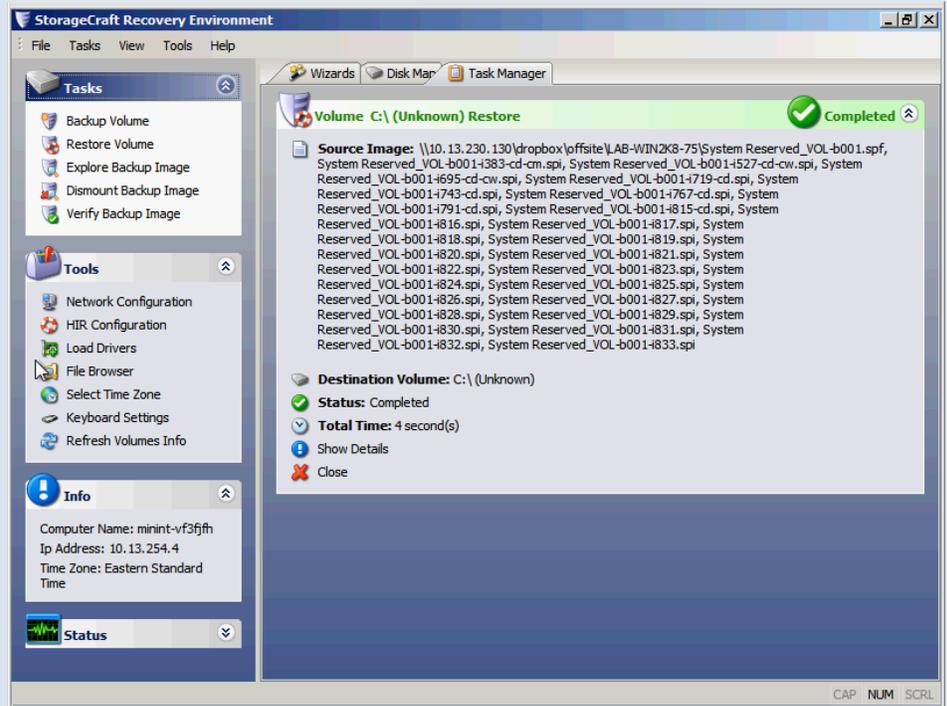


u. The progress of the restore will be displayed

v. Repeat steps **a-t** for any other volumes that need to be restored

 It is recommended to only run one restore job at a time.

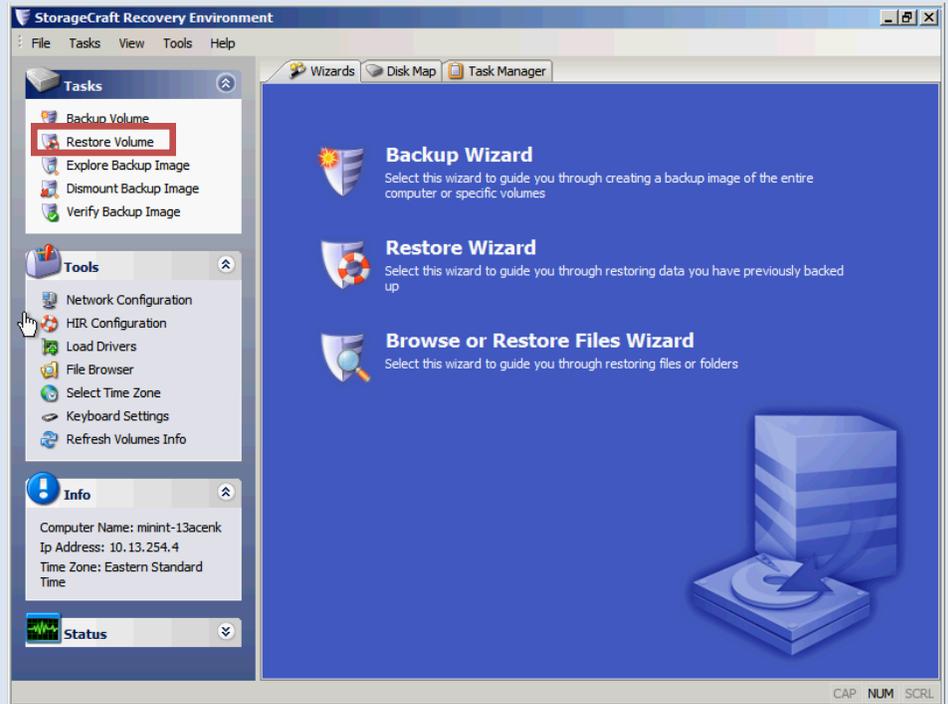
After all the volumes have been restored, proceed to the next section of the guide, **Restoring Incrementals** (pg.28)



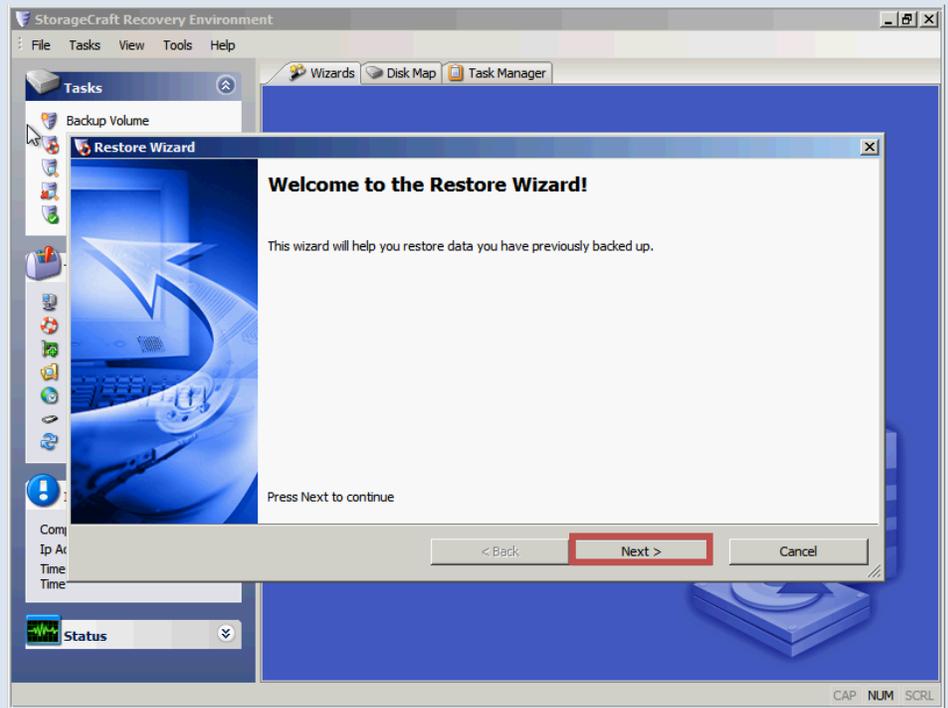
2. Restoring Incrementals

 Power off the virtual machine that has been running on the ABS Appliance before continuing with the restore. It is recommended to power the machine off right after a successful snapshot in order to ensure that the most recent version of the backed up machine is being restored.

a. Click **Restore Volume**

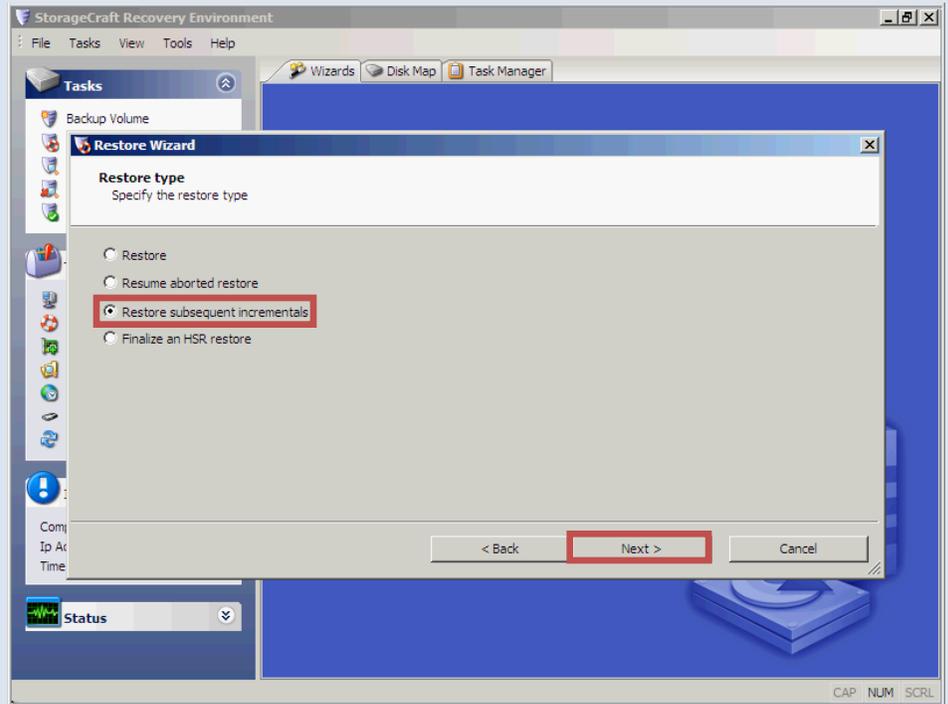


b. Click **Next**



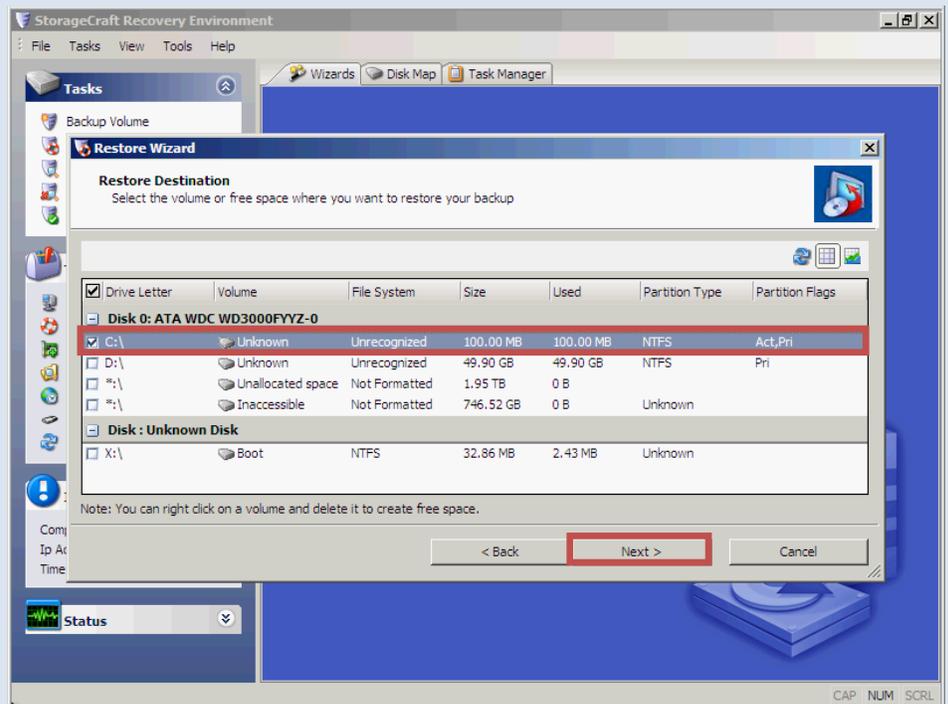
c. Click **Restore subsequent incrementals**

d. Click **Next**

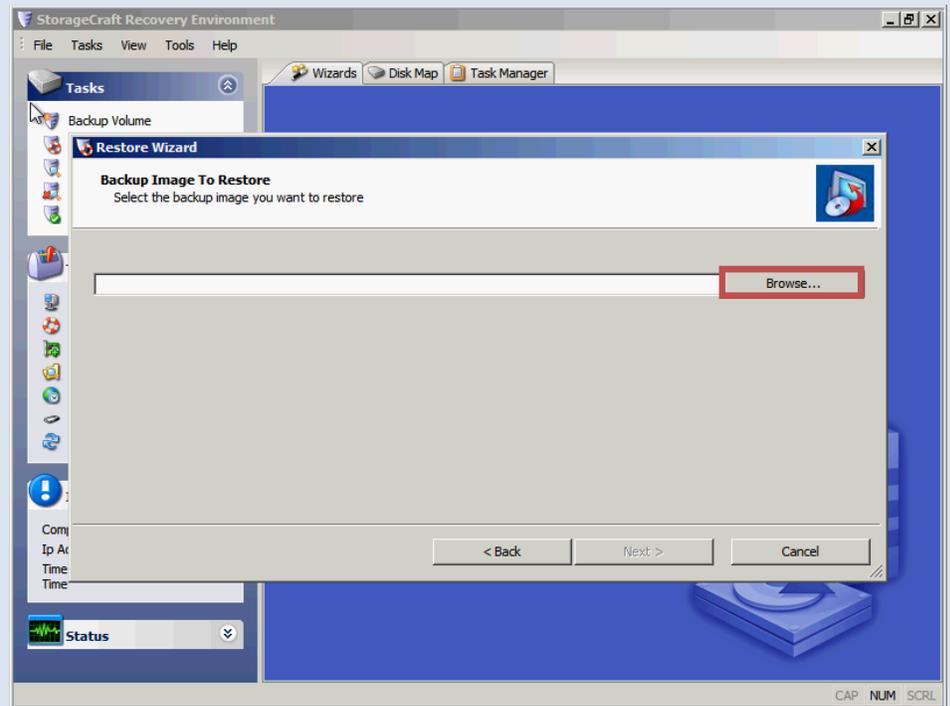


e. Select the volume you wish to restore incrementals to

f. Click **Next**

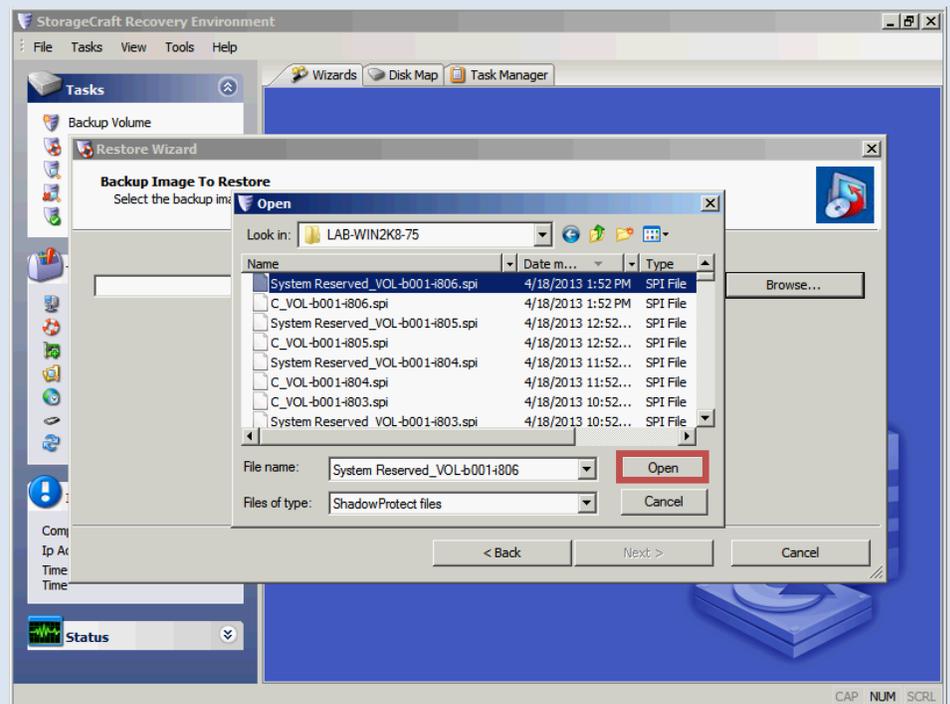


g. Click **Browse...**



h. Select the most recent incremental image for the previously selected volume

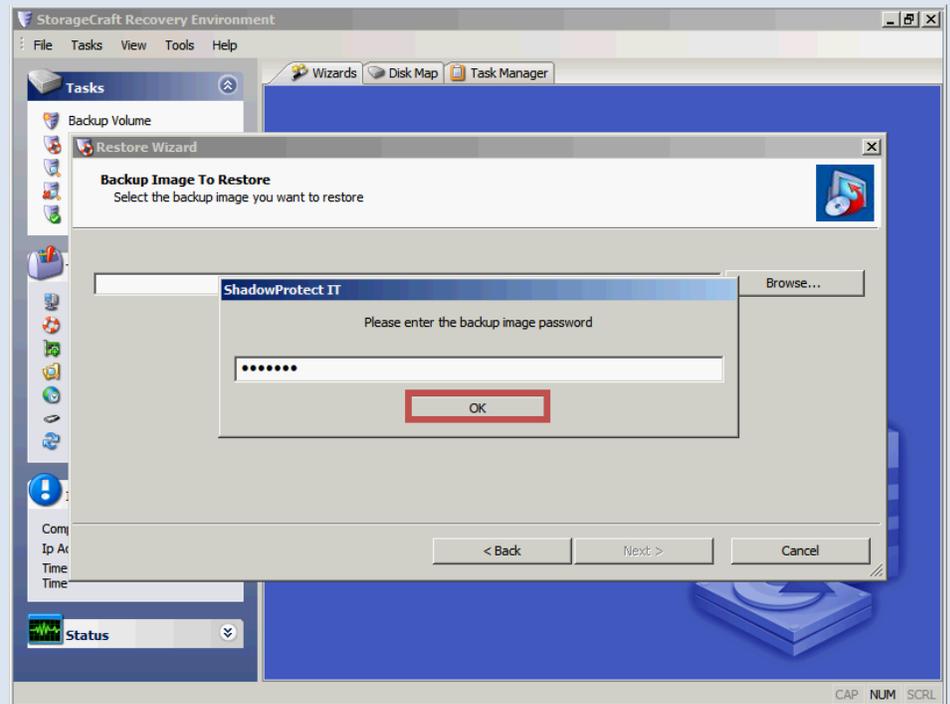
i. Click **Open**



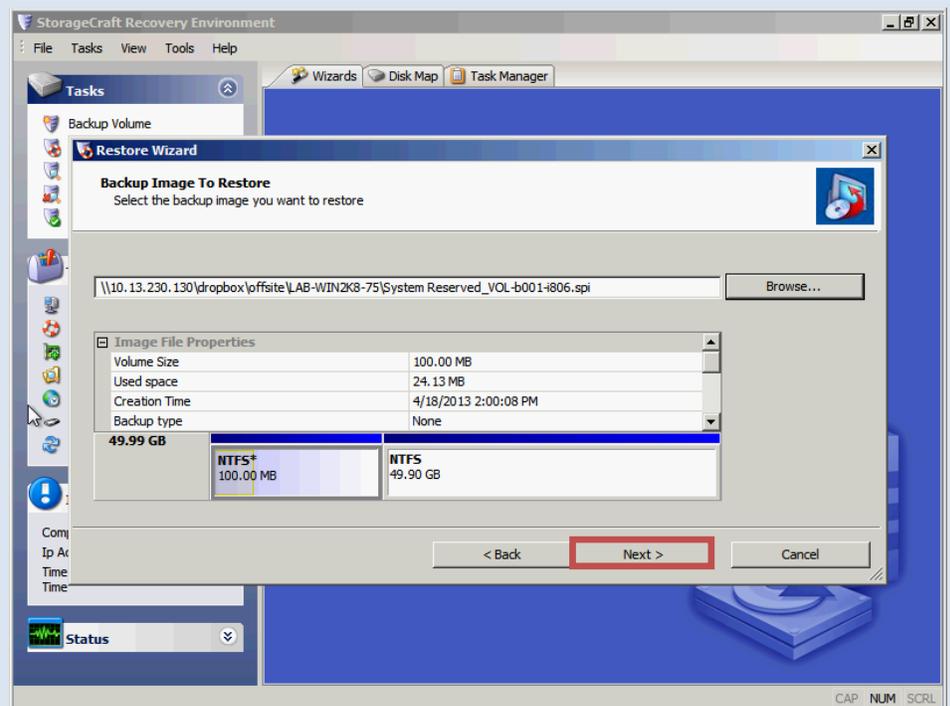
j. When prompted, type in the encryption password

i Use the same encryption password as the initial setup of the machine. If you used the ABS provided password, you can find it in the **Activation Letter**.

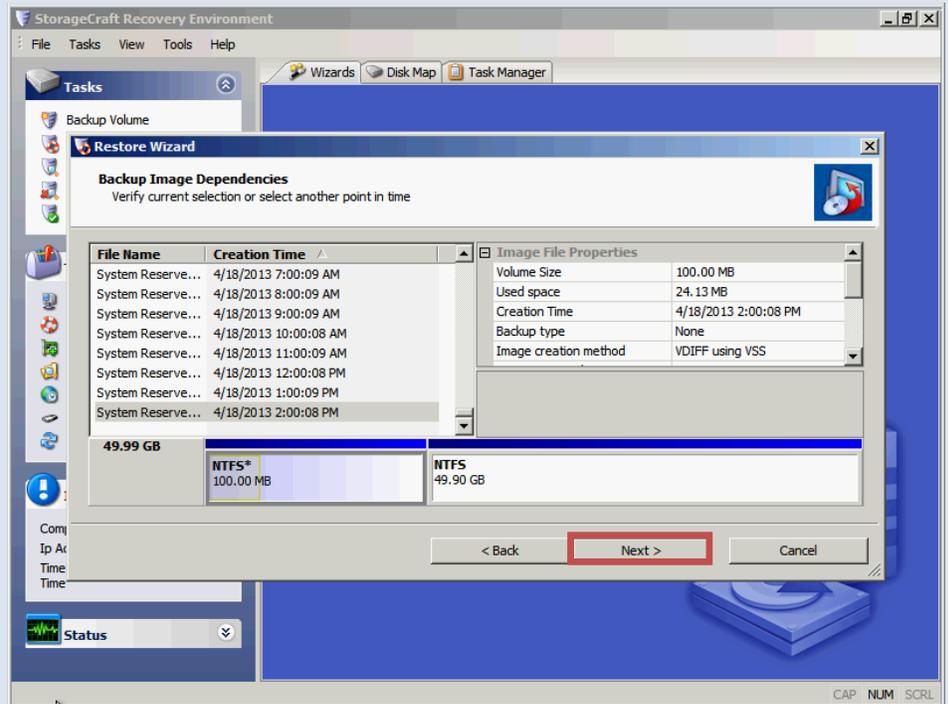
k. Click **OK**



l. Click **Next**

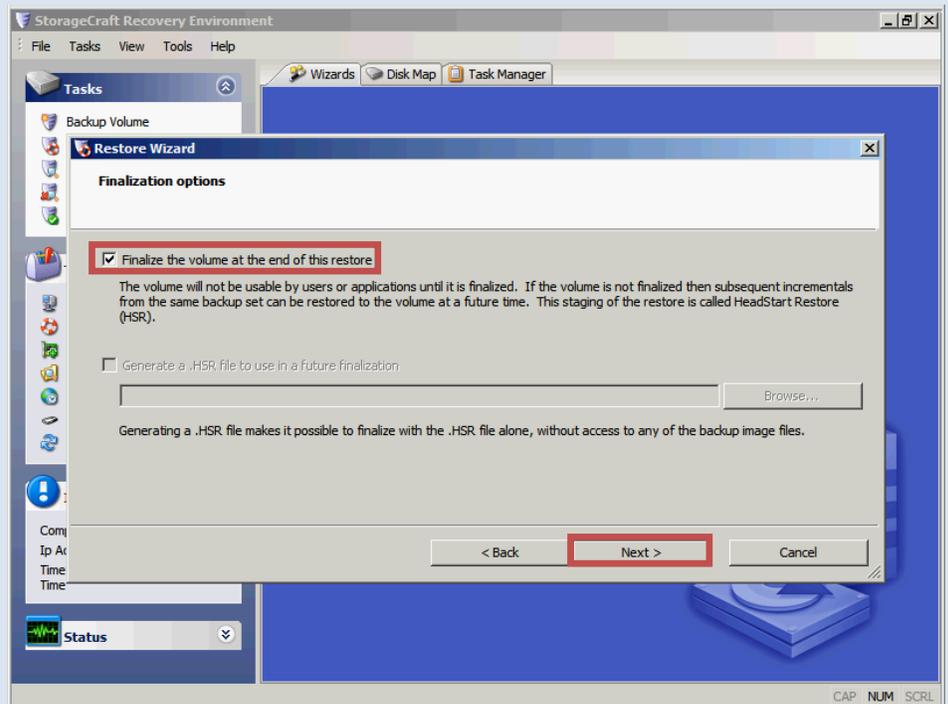


m. Click **Next**

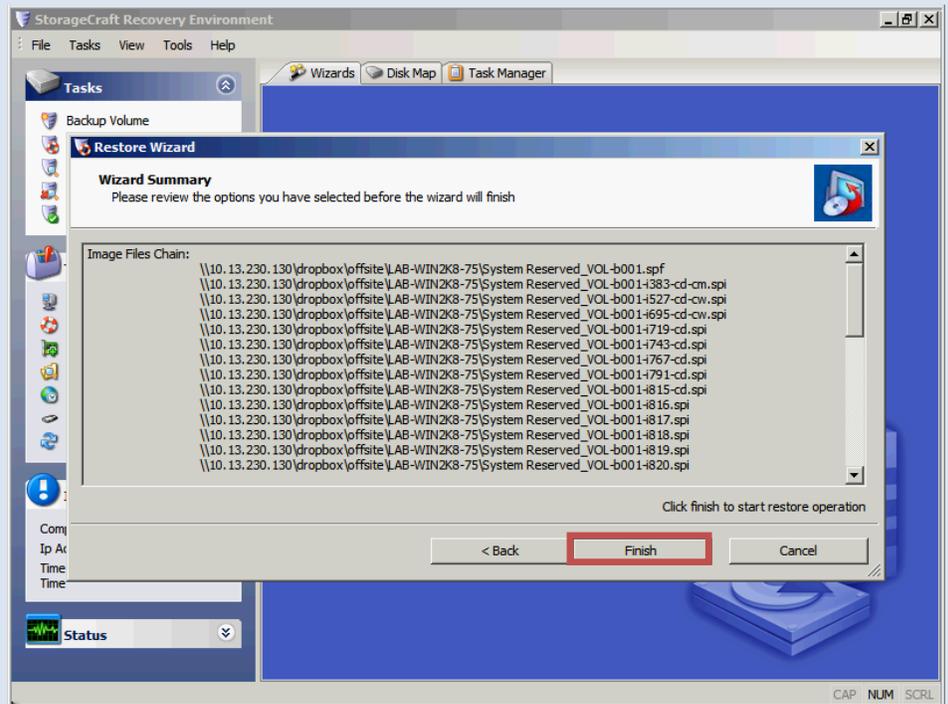


n. Select **Finalize the volume at the end of this restore**

o. Click **Next**



p. Click **Finish**



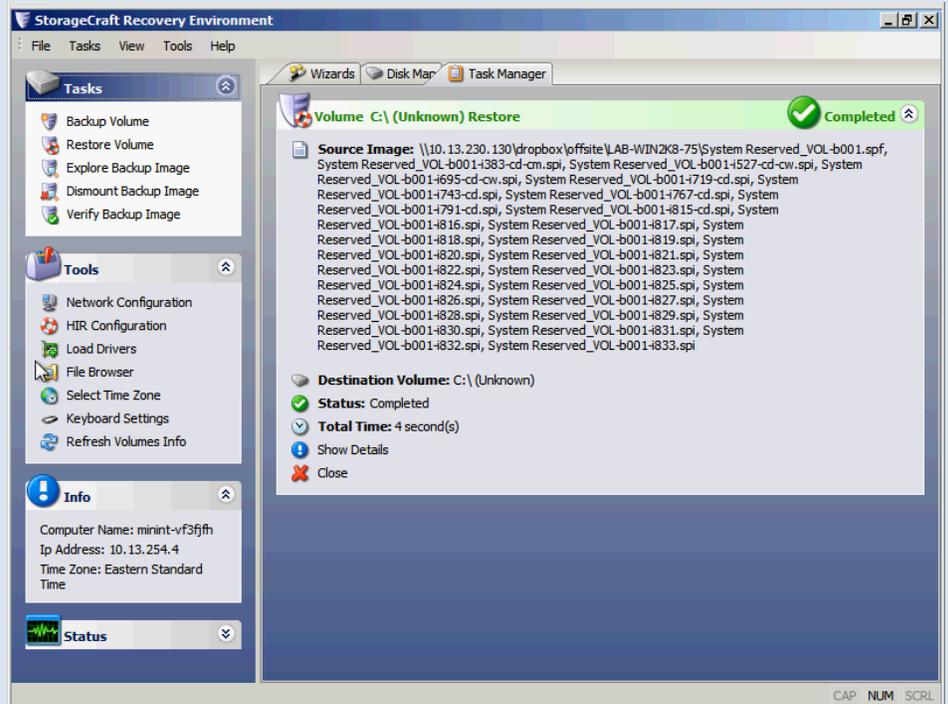
q. The progress of the restore will be displayed

r. Repeat steps **a-p** for any other volumes that need to be restored

 It is recommended to only run one restore job at a time.

After all the volumes have been restored, feel free to reboot the system. The system should now be bootable to Windows.

If you are experiencing issues booting to Windows, refer to the **Boot Configuration Utility** (pg.42) and **Hardware Independent Restore** (pg.36) sections of the guide.

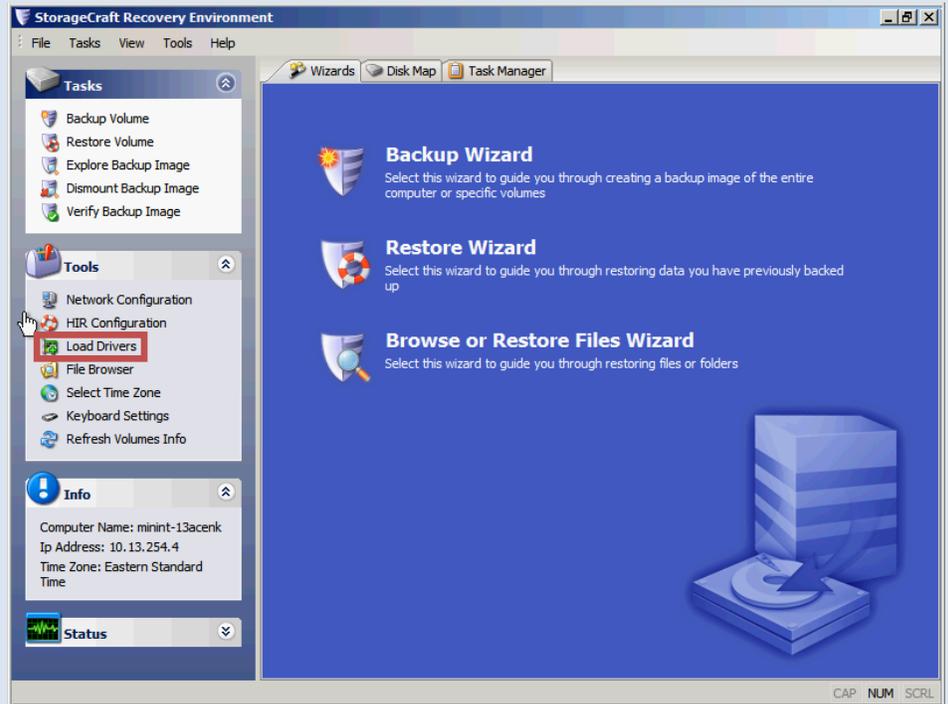


Recovery Environment Drivers

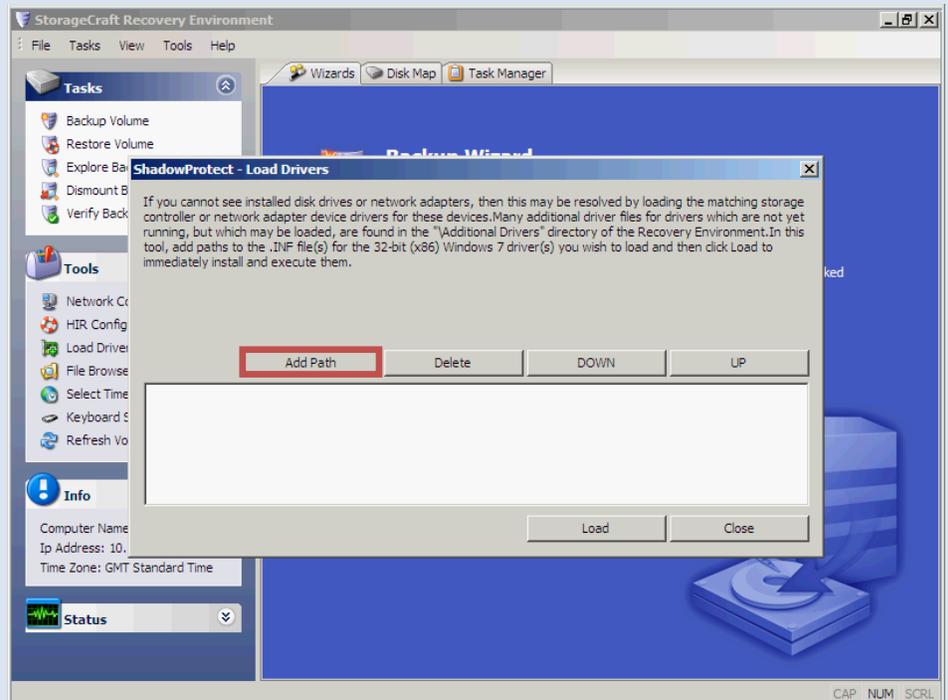
i If the StorageCraft Recovery Environment does not correctly recognize the installed disk or network adapter, loading drivers into the Recovery Environment will be required.

Gather all the latest hardware drivers for the system you are recovering to and place them on an external USB drive. Make sure that the drivers you are placing on the USB Drive are Windows 7 x86 drivers. Plug the USB drive into the machine you are restoring to.

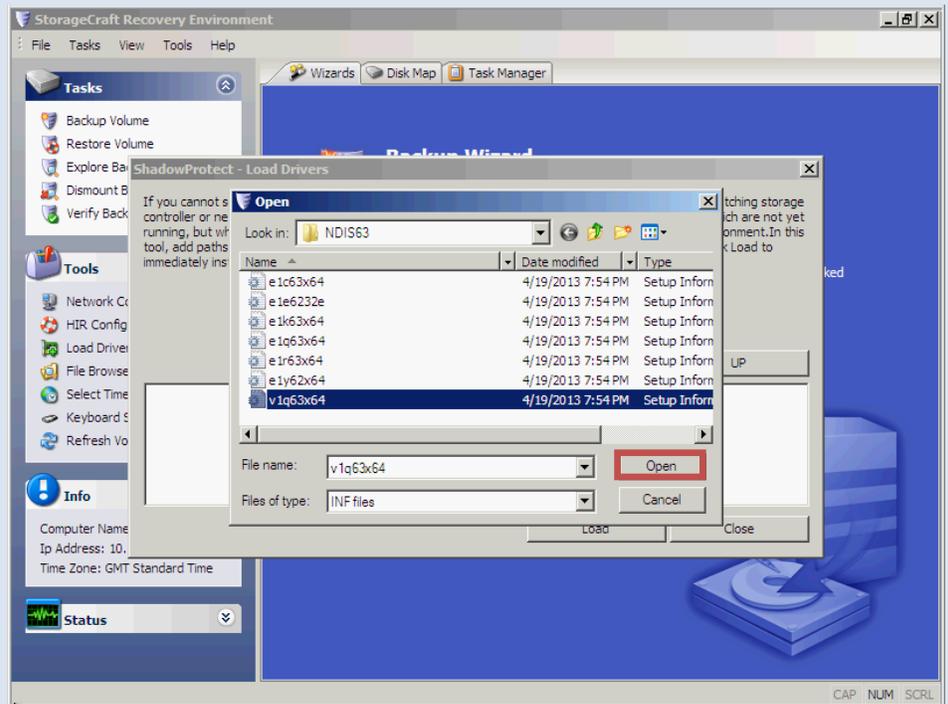
a. Click **Load Drivers**



b. Click **Add Path**

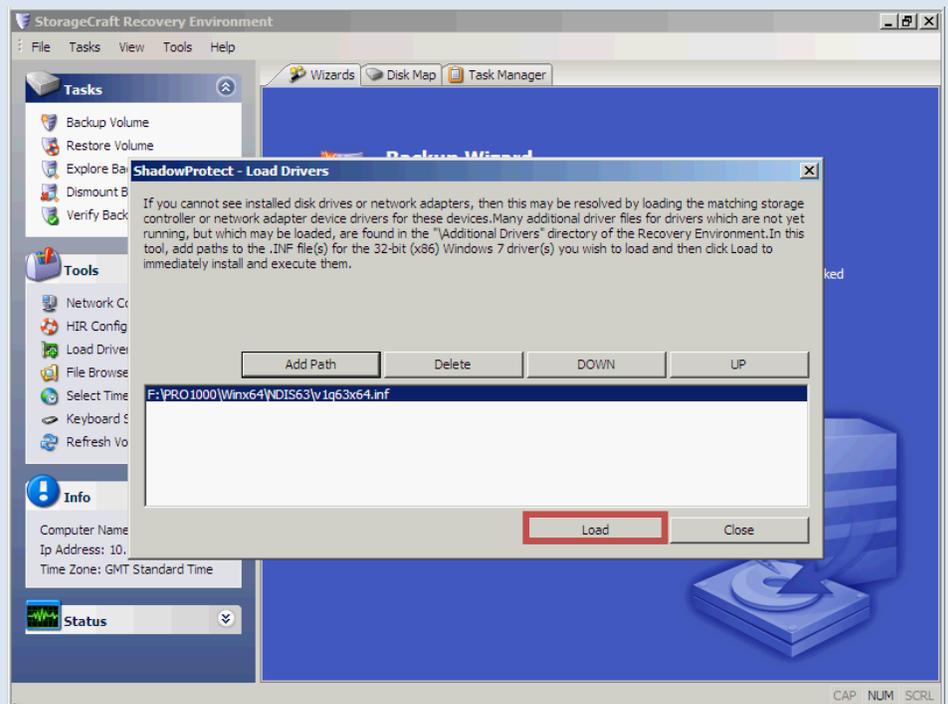


- c. Navigate to the driver folder
- d. Select the .INF file



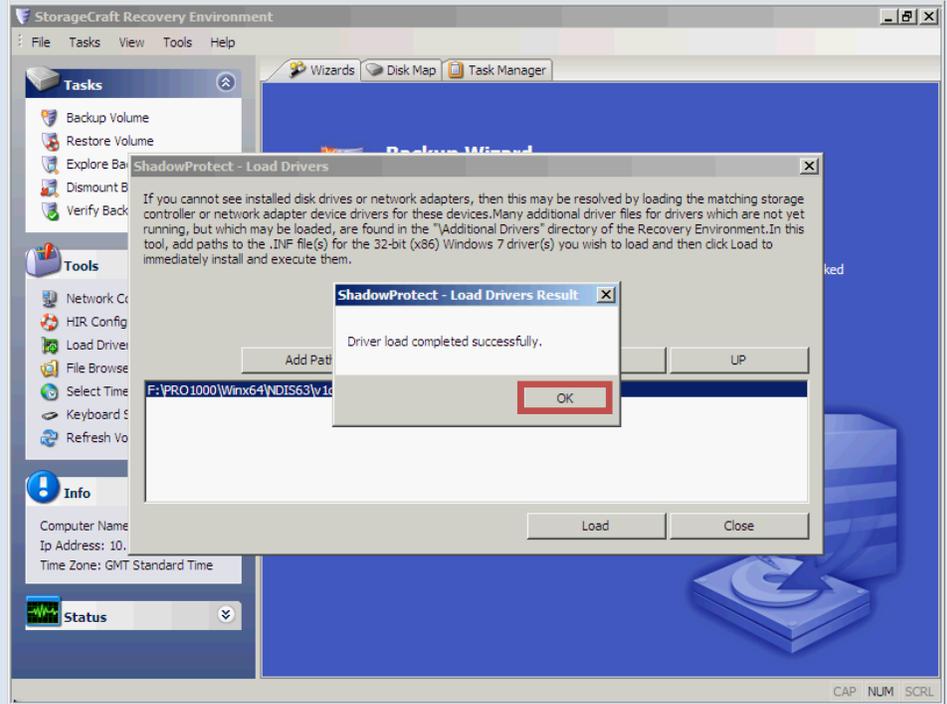
- e. Click **Load**

i Multiple drivers can be loaded into the system at once.



f. Click **OK**

View network/disk settings. If the devices are still not visible, attempt to load different versions of hardware drivers.

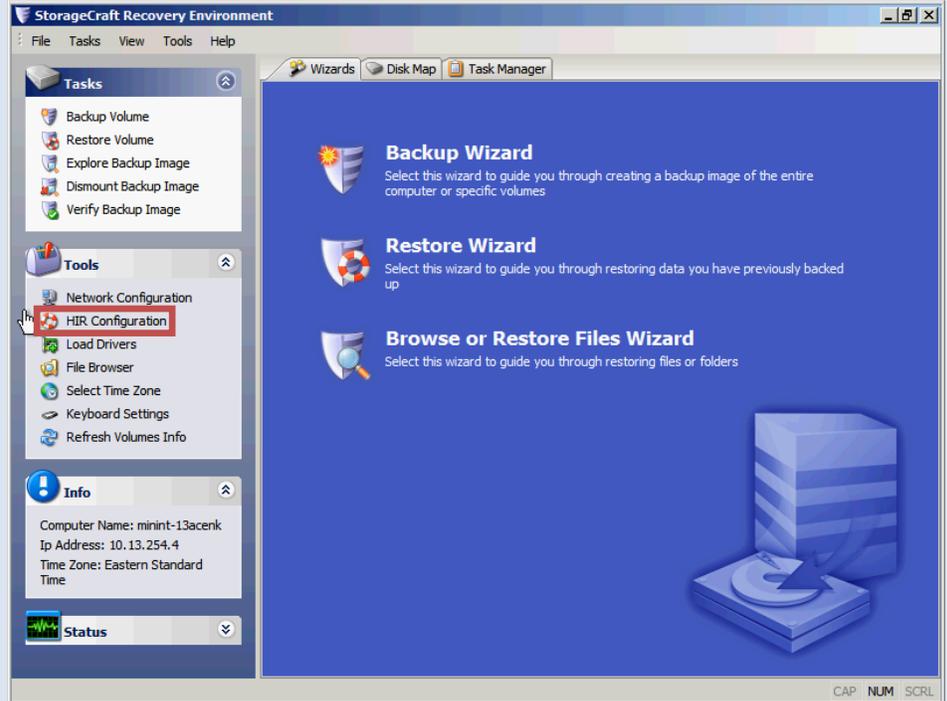


Hardware Independent Restore

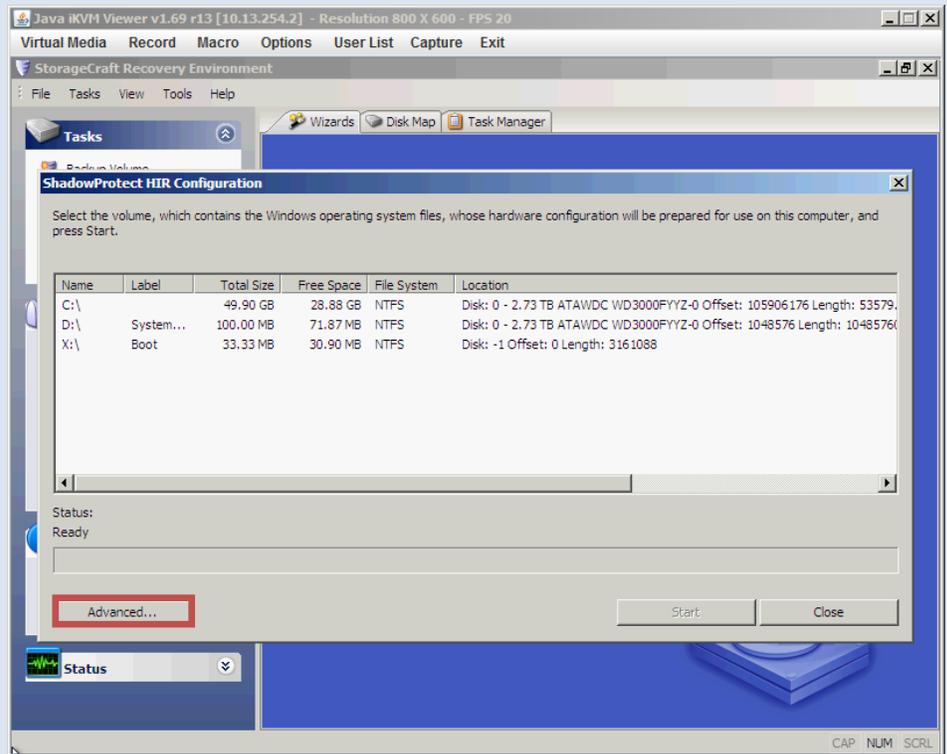
i When restoring to dissimilar hardware, Windows will fail to properly boot due to the lack of hardware drivers. Hardware Independent Restore allows for the injection of hardware drivers into Windows to allow for a successful boot.

Gather all the latest hardware drivers for the system you are recovering to and place them on an external USB drive. Plug the USB drive into the machine you are restoring to.

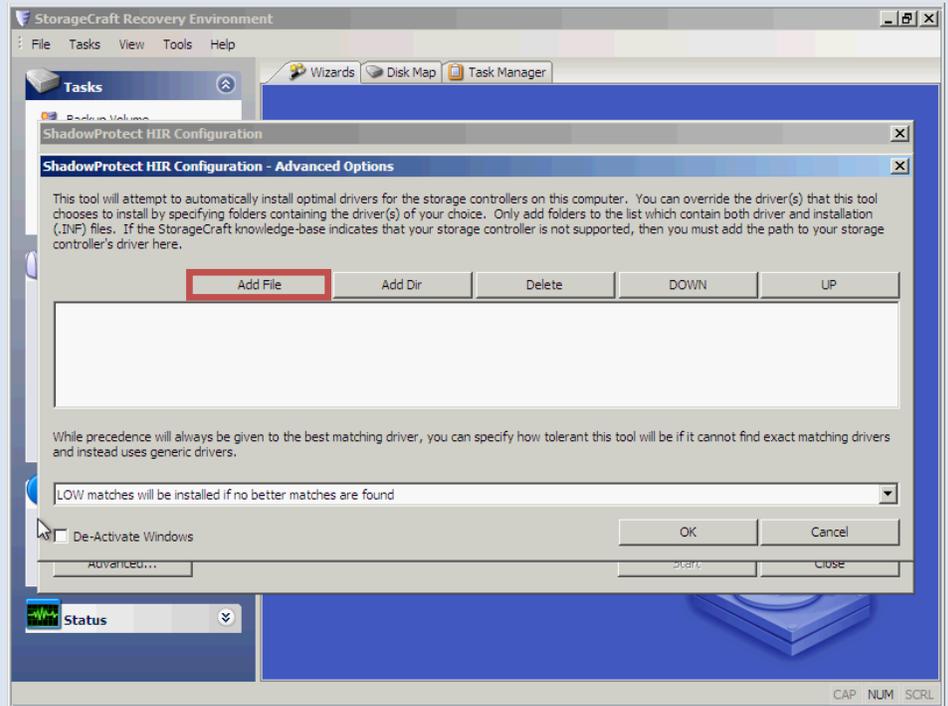
a. Click **HIR Configuration**



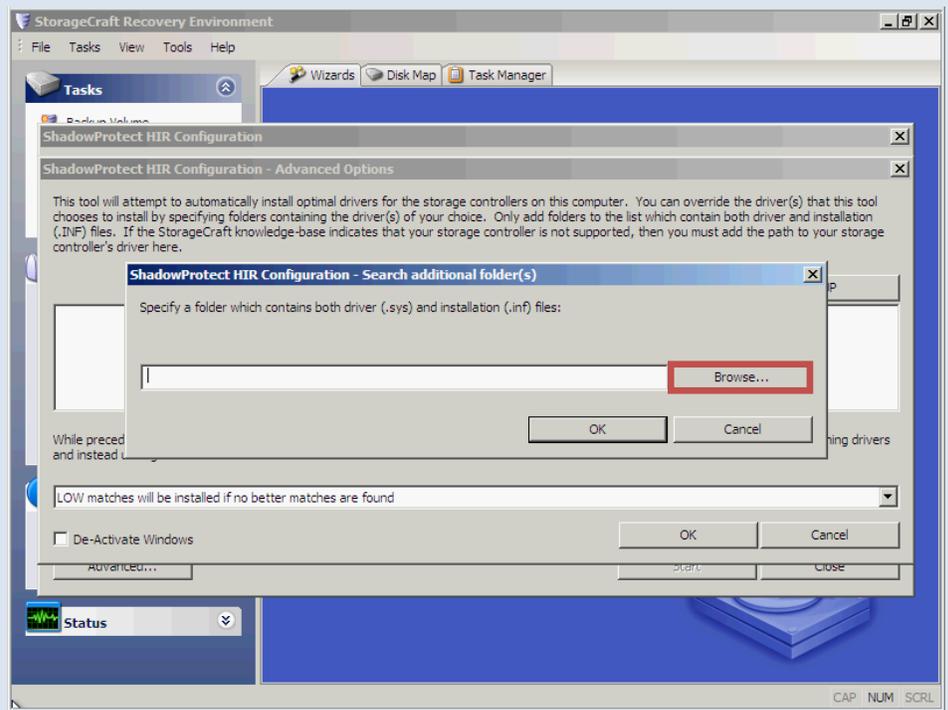
b. Click **Advanced...**



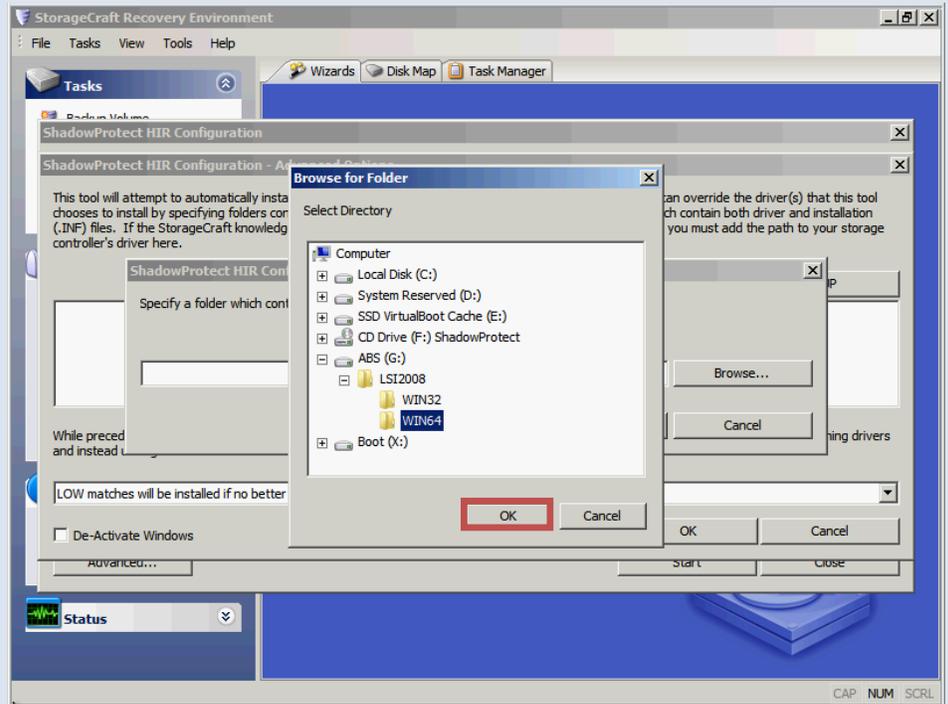
c. Click **Add Dir**



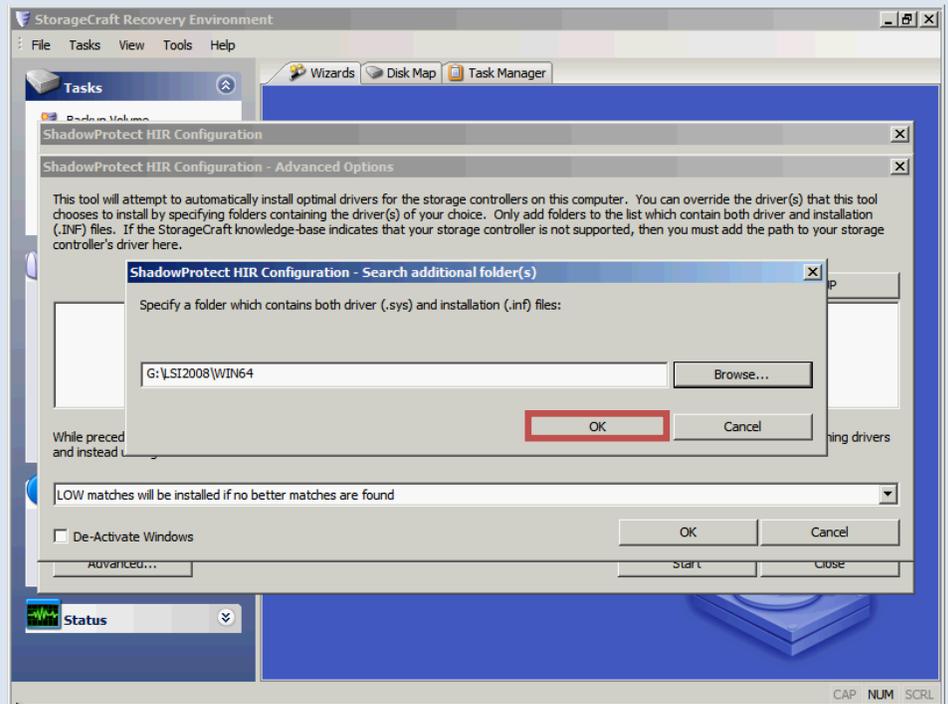
d. Click **Browse...**



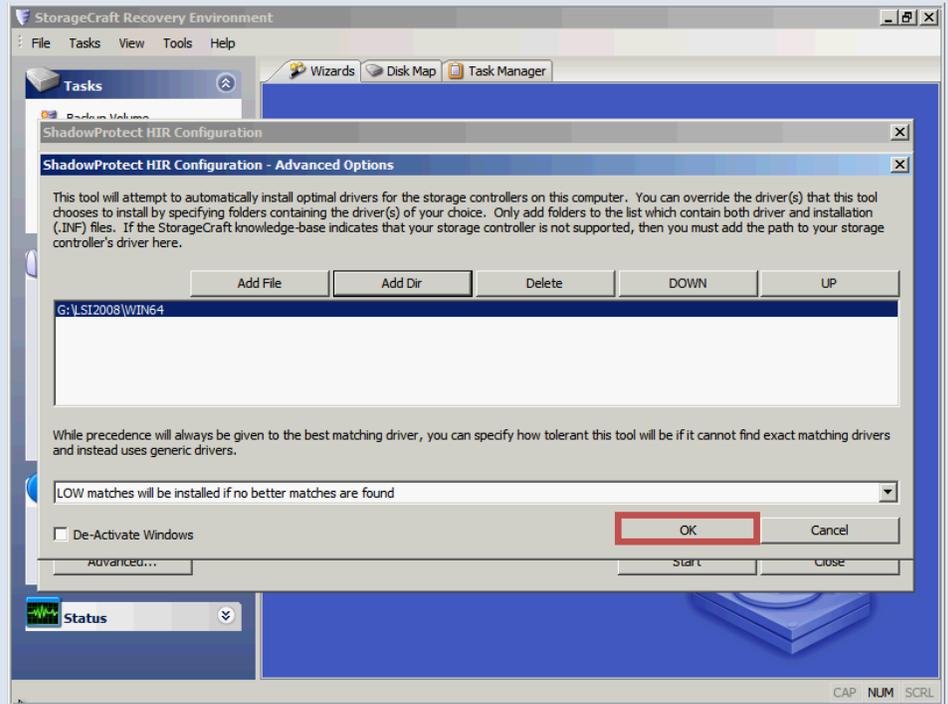
- e. Select the folder containing both driver and installation (.INF) files on the USB drive
- f. Click **OK**



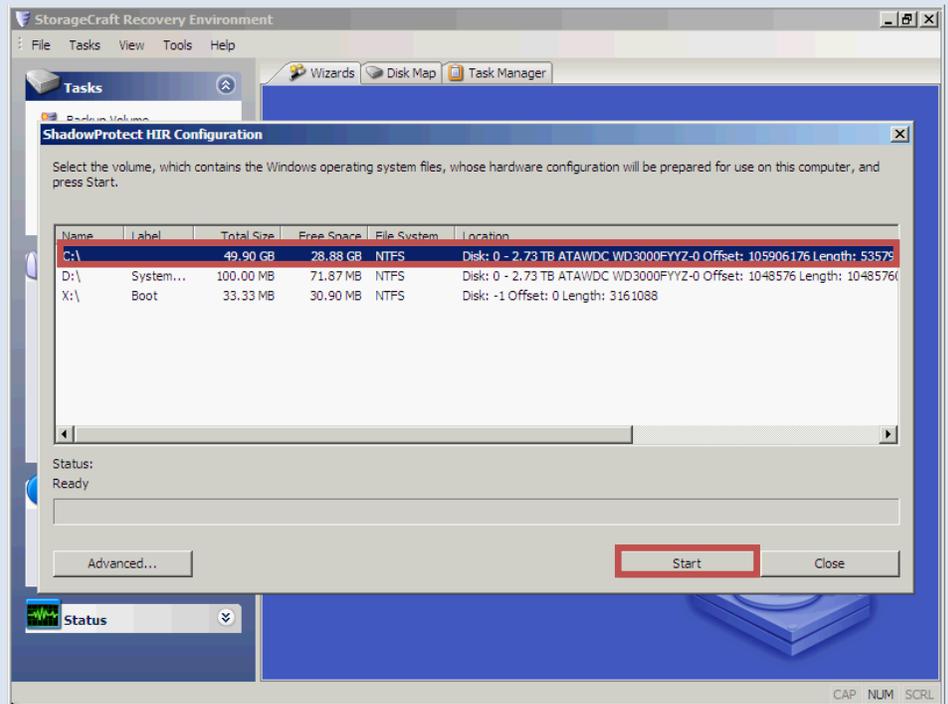
- g. Click **OK**



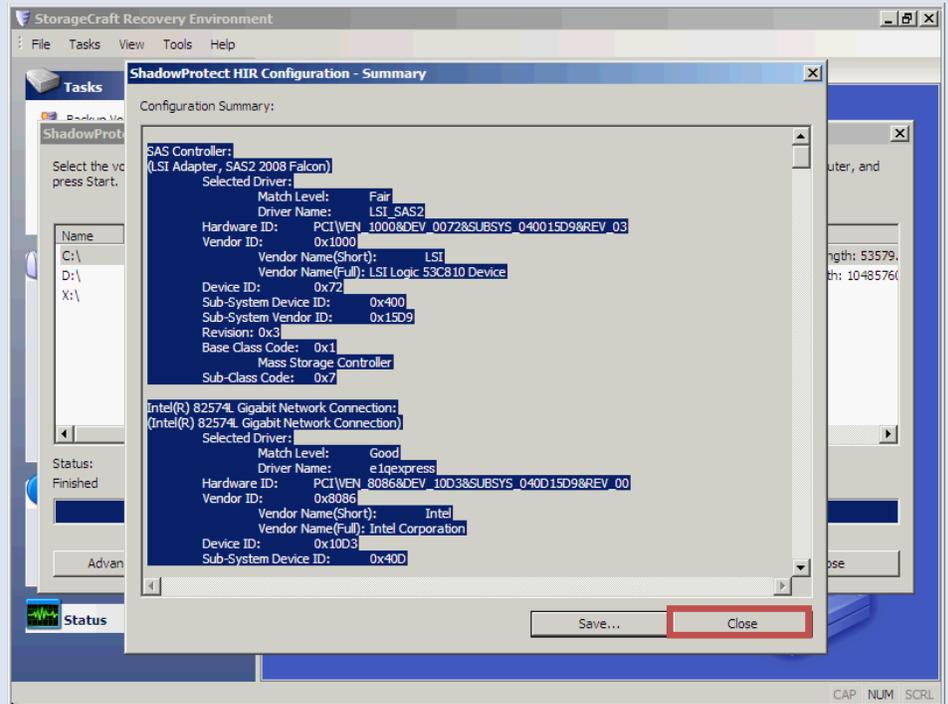
- h. Add any other directories that contain hardware drivers
- i. Click **OK**



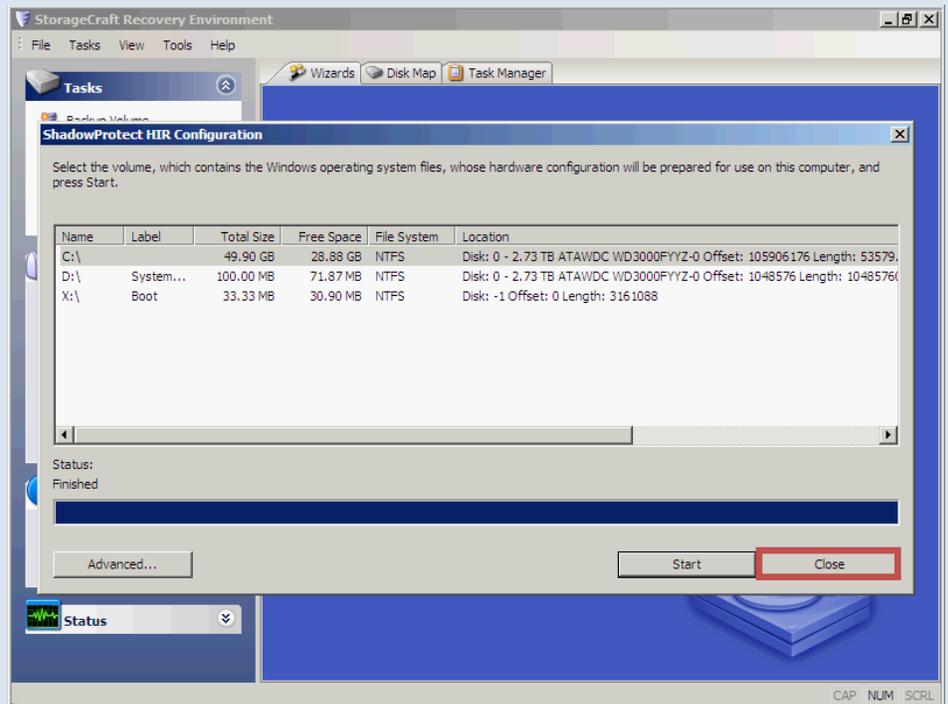
- j. Select the volume that contains the Windows system files, click **Start**



k. Click **Close**



l. Click **Close**

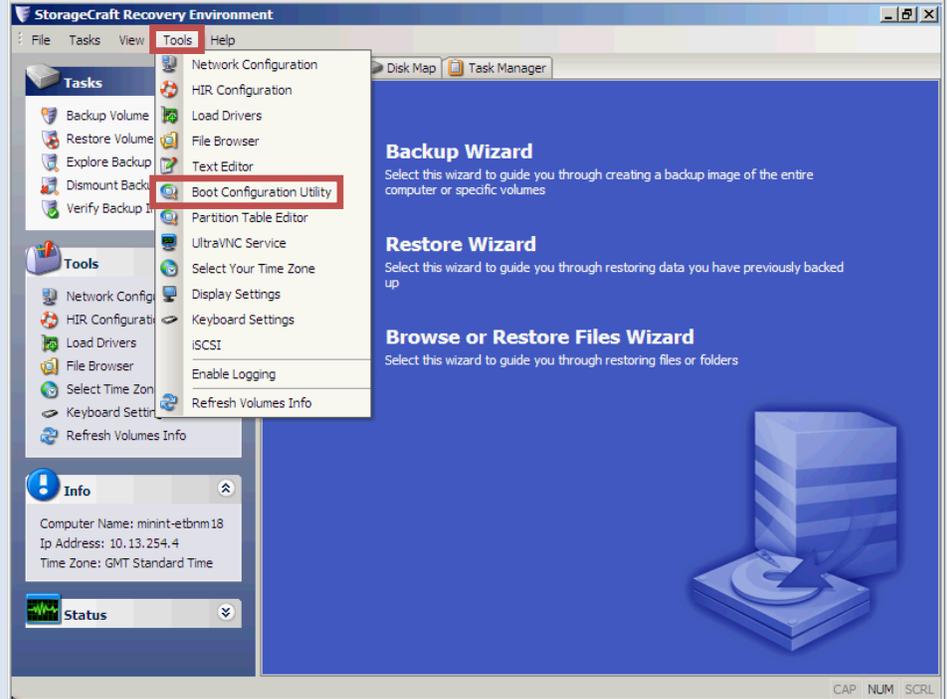


Reboot the system and attempt to boot into Windows

Boot Configuration Utility

i The Boot Configuration Utility attempts to repair any potential boot errors you might be experiencing after running the BMR process.

- a. Click **Tools**
- b. Click **Boot Configuration Utility**



- c. Select the broken system volume
- d. Click **Auto Repair**

The system will attempt to repair the selected system volume. The **Log:** section below will display more information about the process.

Close the Boot Configuration Utility and reboot the system.

