ABS Enterprise®

Bare Metal Restore Guide - StorageCraft

April 2019

ABS

ADVANCED BACKUP SOLUTIONS

Contents

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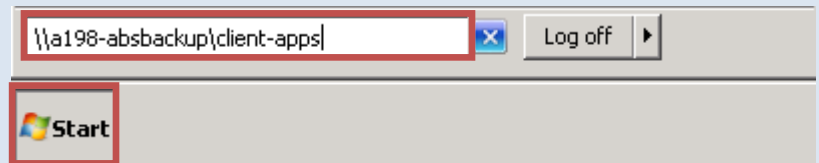
Share path example:
\\a198-absbackup\client-apps
Substitute "a198" with your unique appliance ID

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

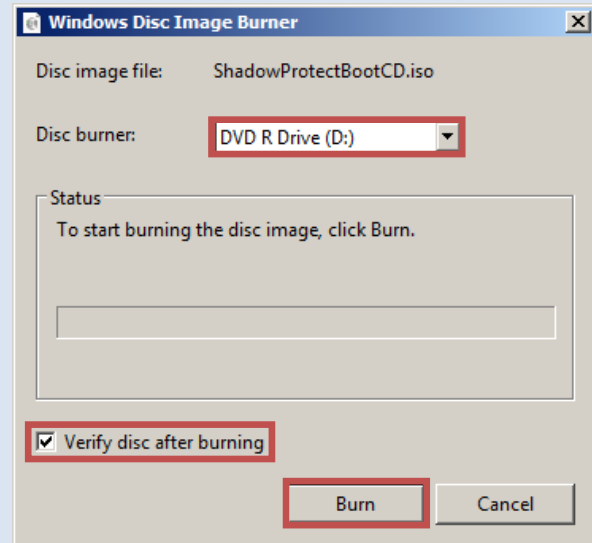d. Insert a blank CD into the CD drive of the machine
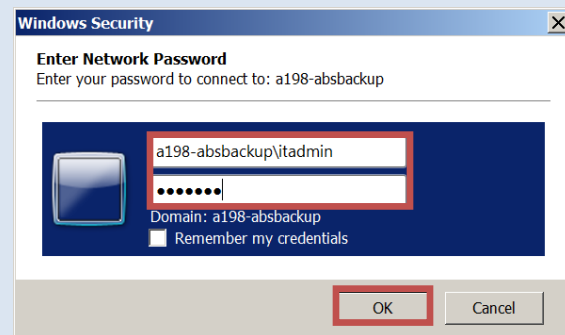
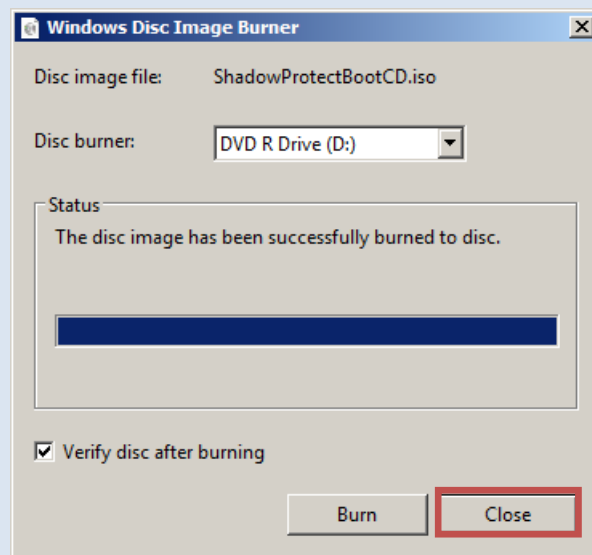e. Double click the appropriate **ShadowProtectBoot ISO**
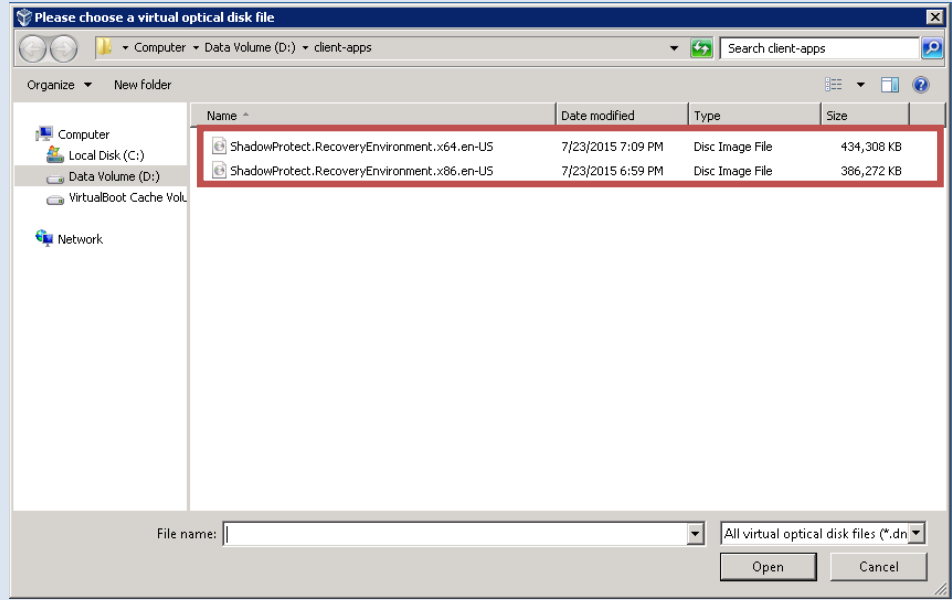
f. Select the appropriate disk drive that contains the blank CD

g. Select **Verify disk after burning**

h. Click **Burn**

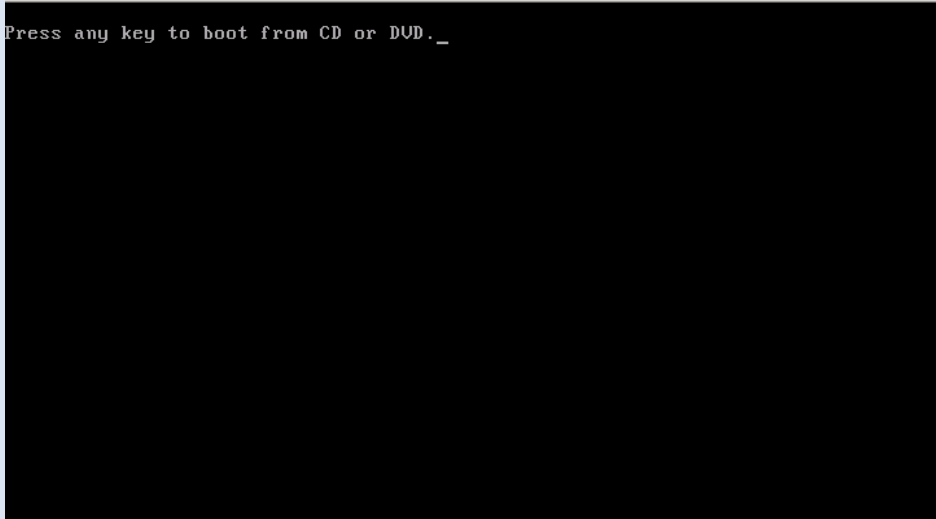i. If the status is listed as successful, click **Close**

Configure StorageCraft Recovery Environment

1. Boot to ShadowProtect CD

(i) Insert the **ShadowProtect Boot CD** or attach the iso
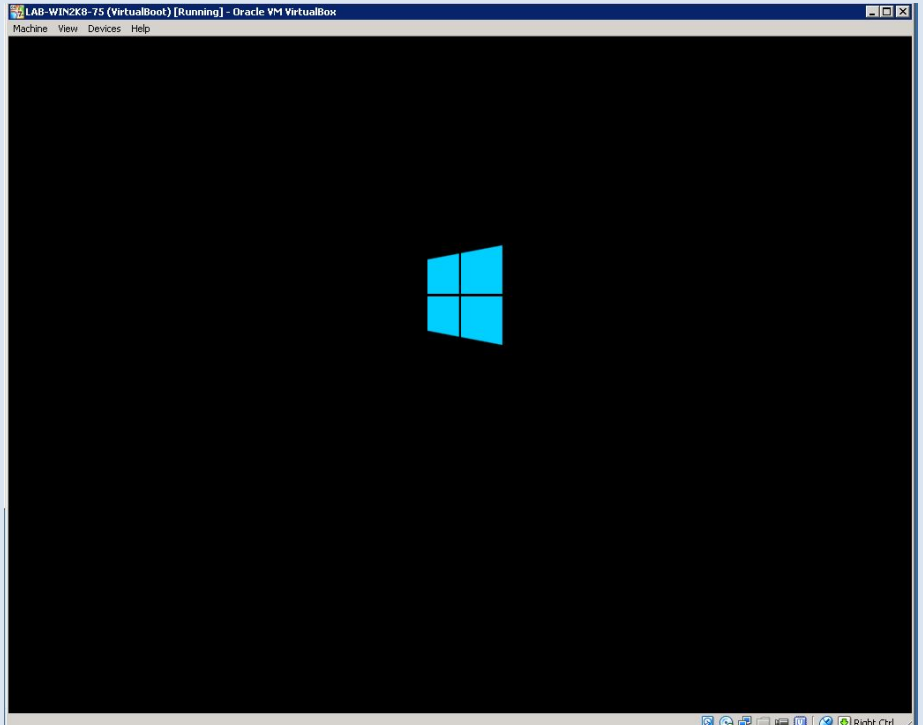
a. Reboot the machine

b. Allow machine to boot from the ShadowProtect Recovery Environment

```
Press any key to boot from CD or DVD._
```

2. Basic Settings

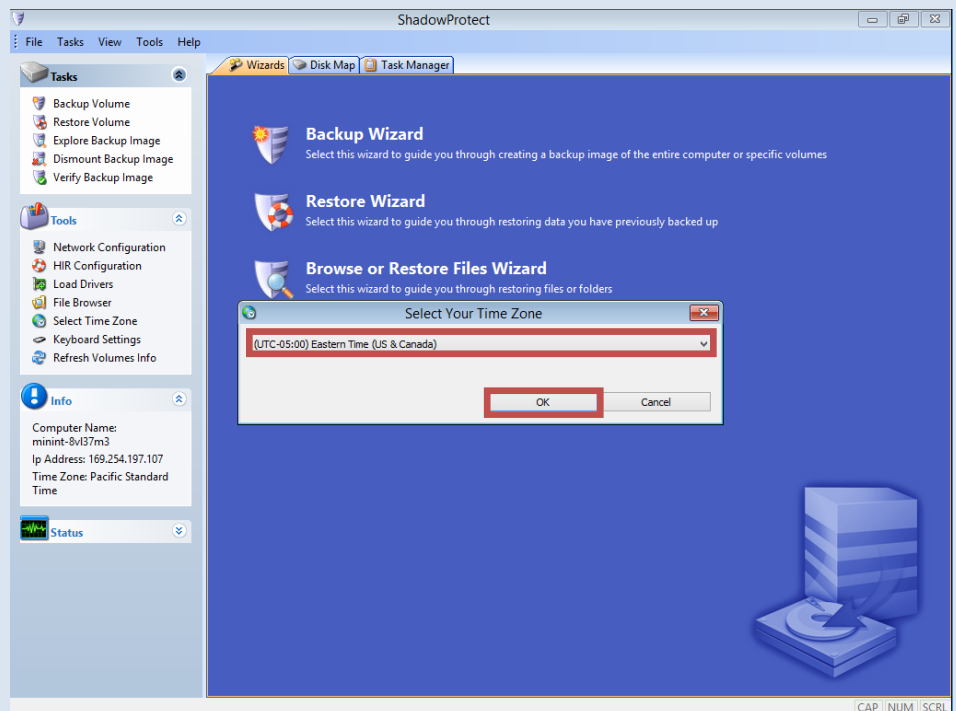a. You will see the WinCE boot screen

b. 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. 25) section of this guide.
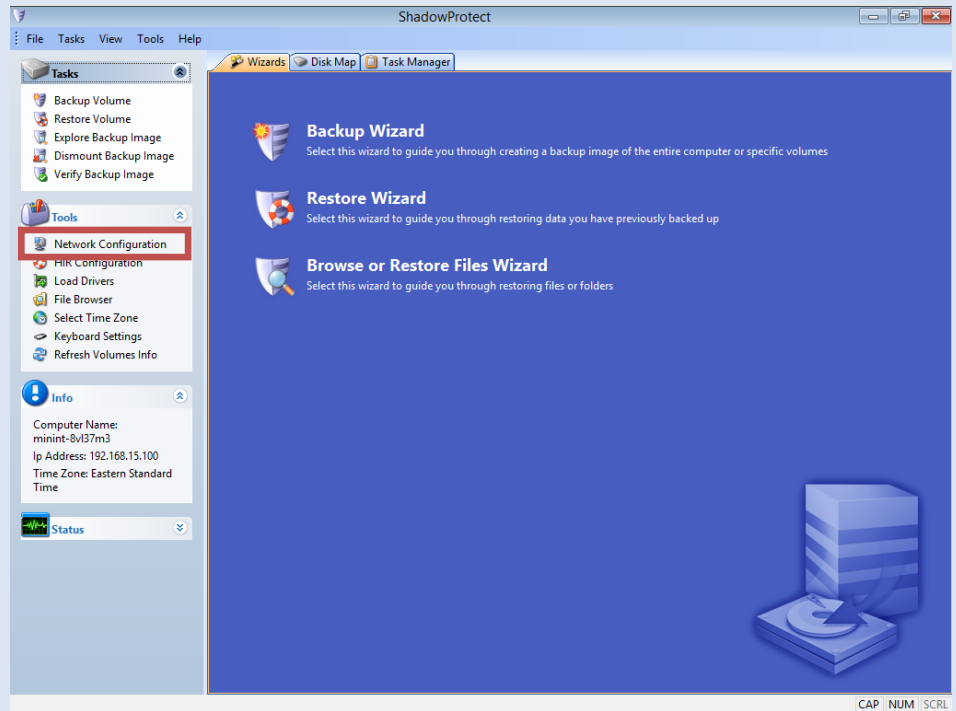
c. Select the appropriate time zone and click **OK**

🛑 It is critical to select the proper time zone to ensure a successful restore
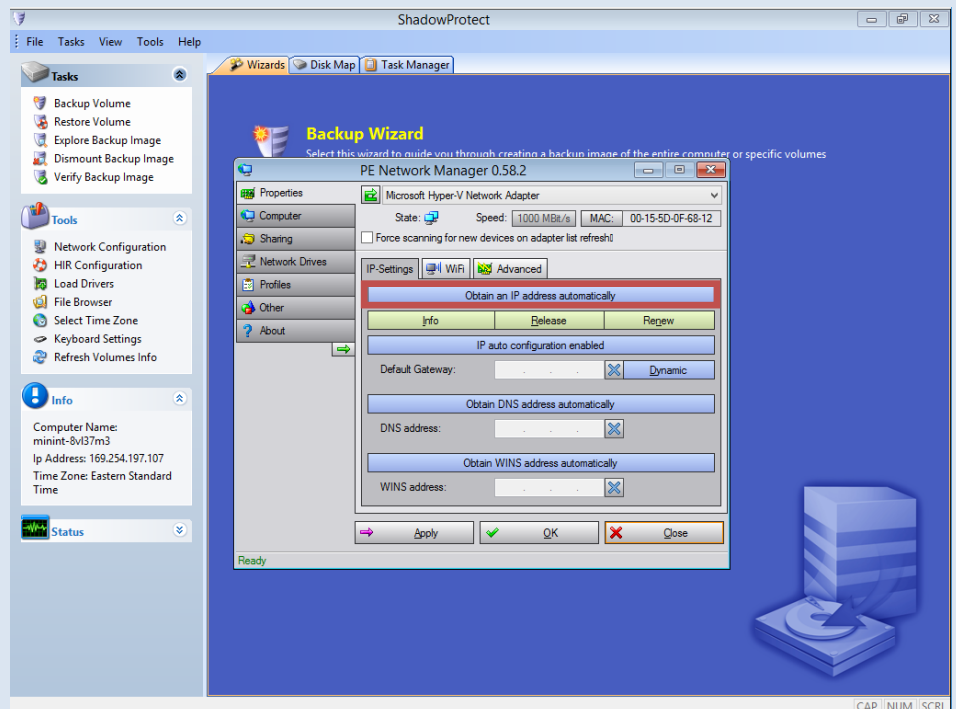
3. Network

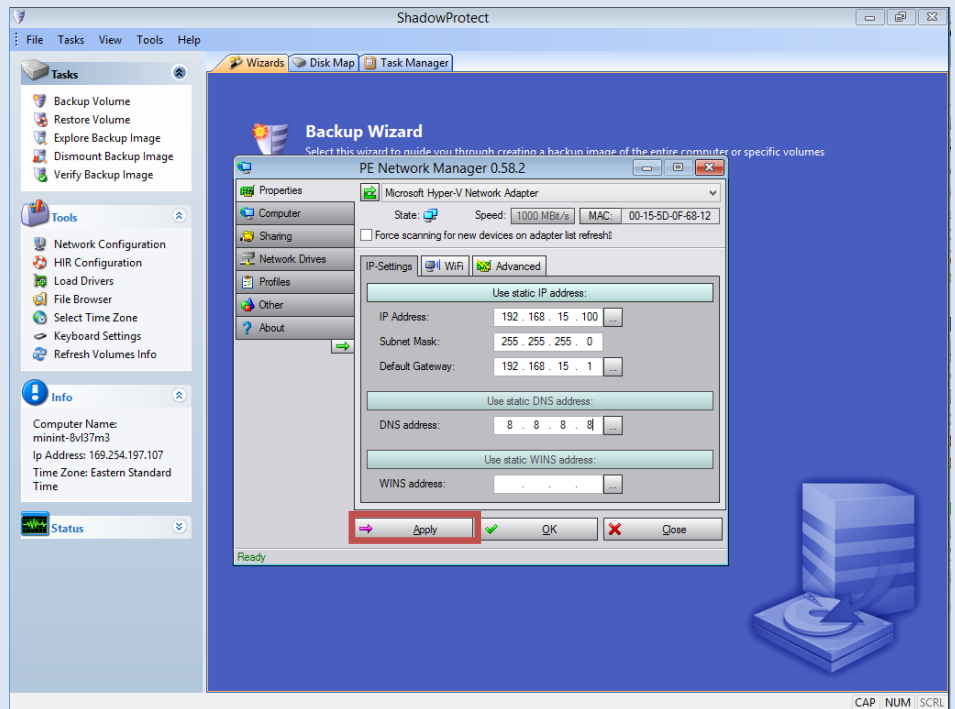a. Click **Network Configuration**

b. Click **Obtain IP address automatically**

ⓘ 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. 25) section of the guide
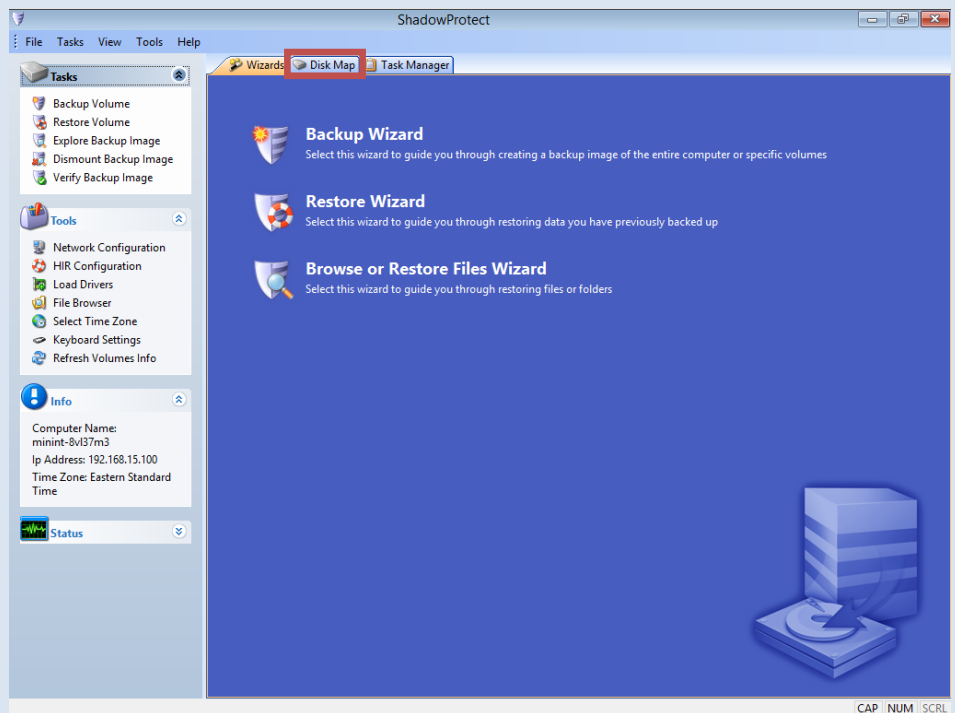
c. Populate the network settings

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

c. You may delete a volume by Right-Clicking it and selecting **Delete Volume**
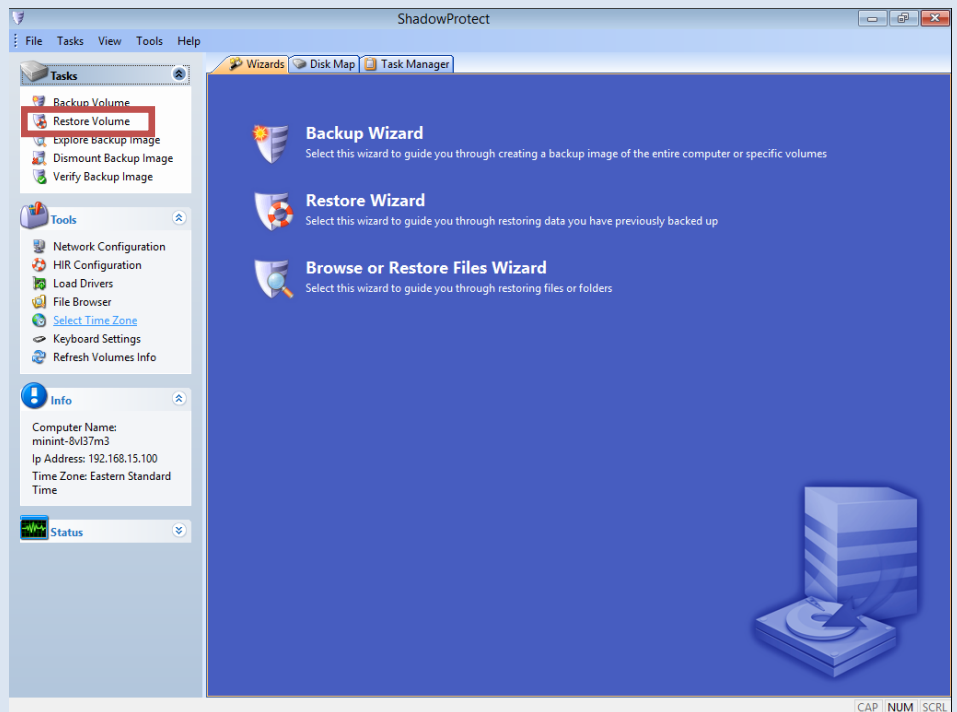
ⓘ New machines may not have any volumes on their disks.

ⓘ If the appropriate disks are not present, refer to the **Recovery Environment Drivers** (pg. 25) section of the guide

⚠ Deleting a volume also deletes any data located on that volume. Backup any critical data before deleting a volume
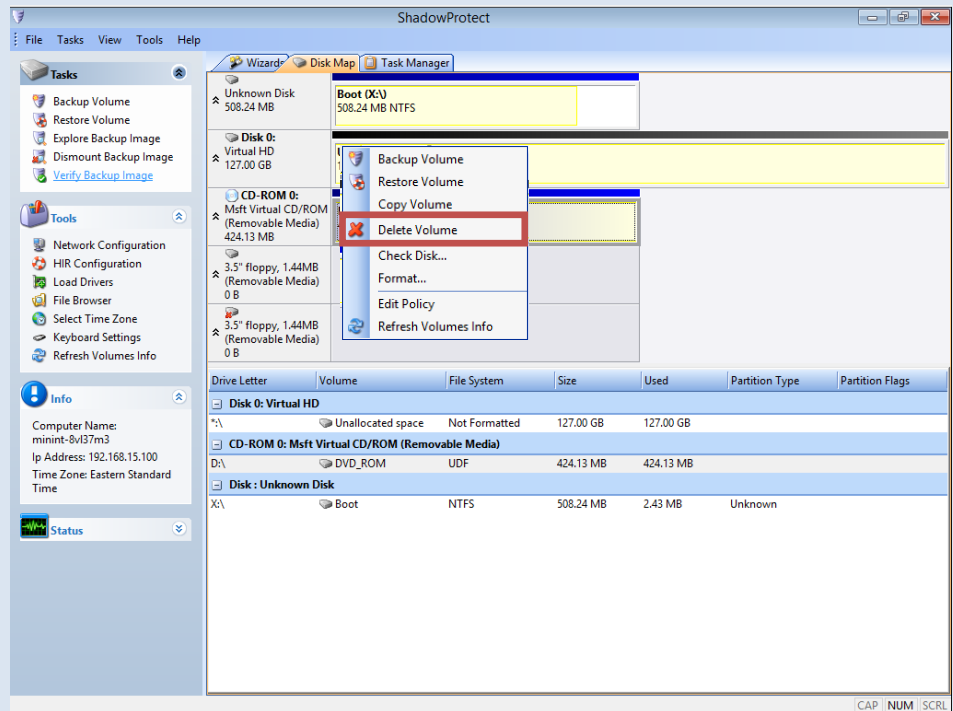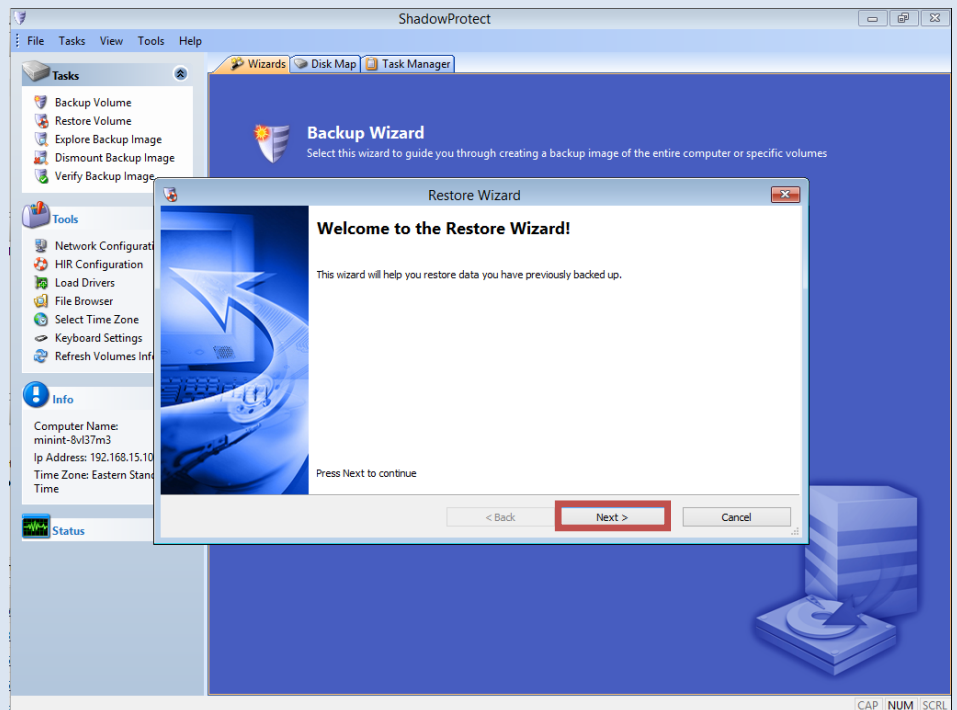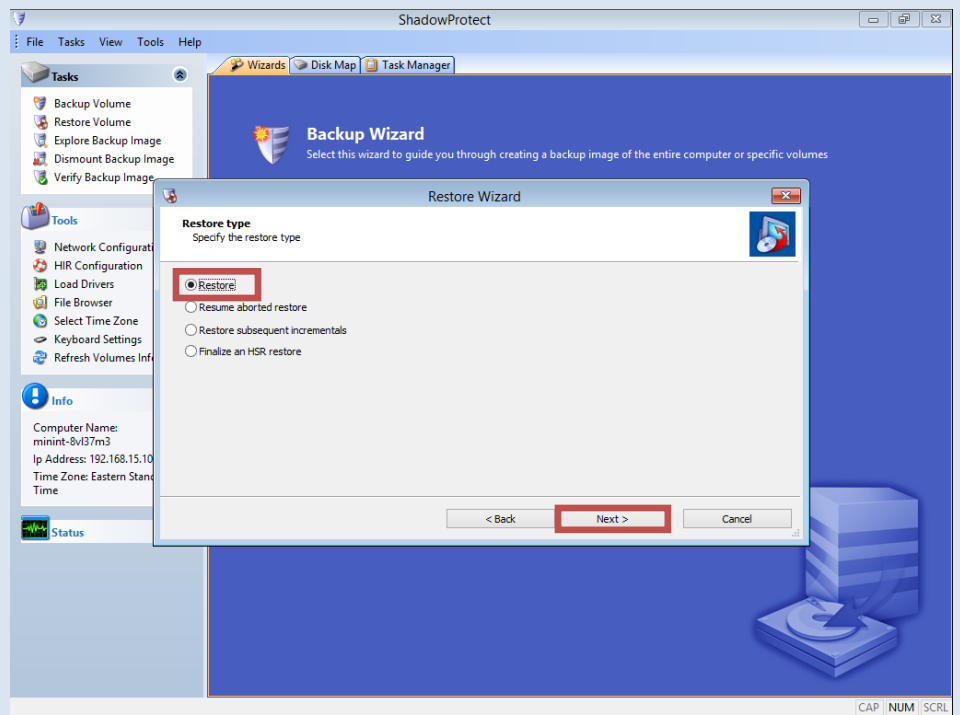
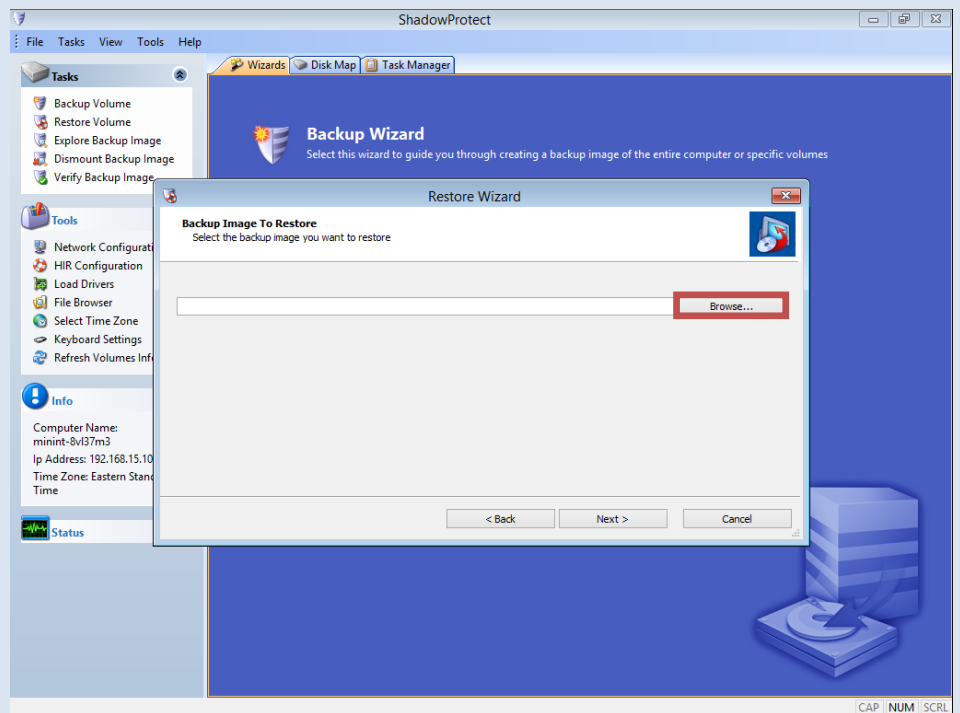## Restoring Volumes

a. Click **Restore Volume**

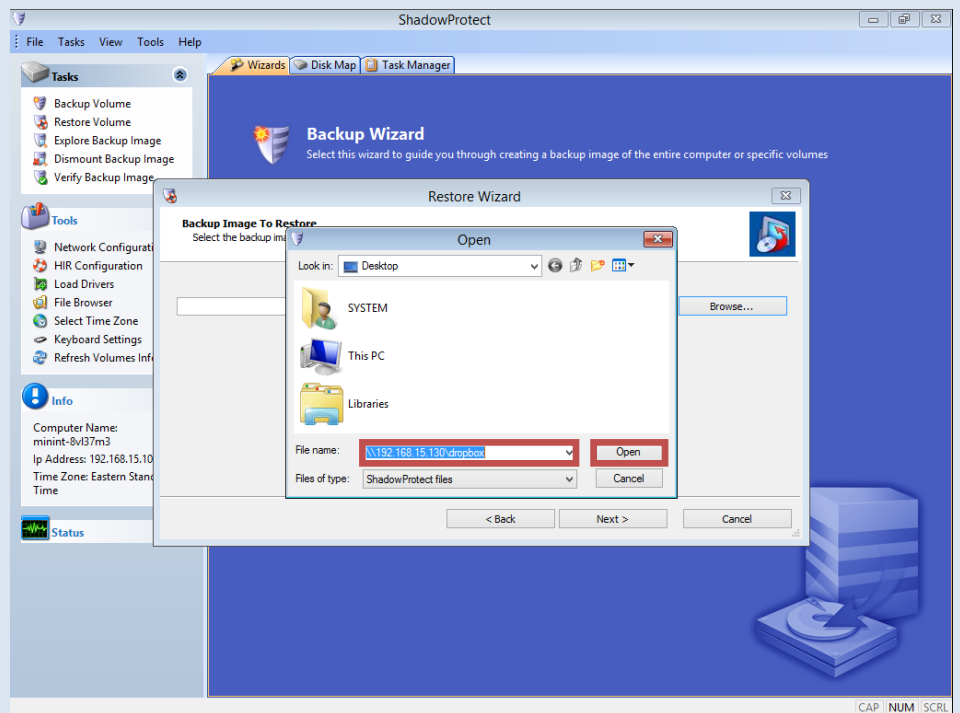b. Click **Next**

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


d. Click **Browse…**

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

ⓘ 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)

ⓘ When authenticating against the appliance, make sure to add the appliance name before the username. Example:
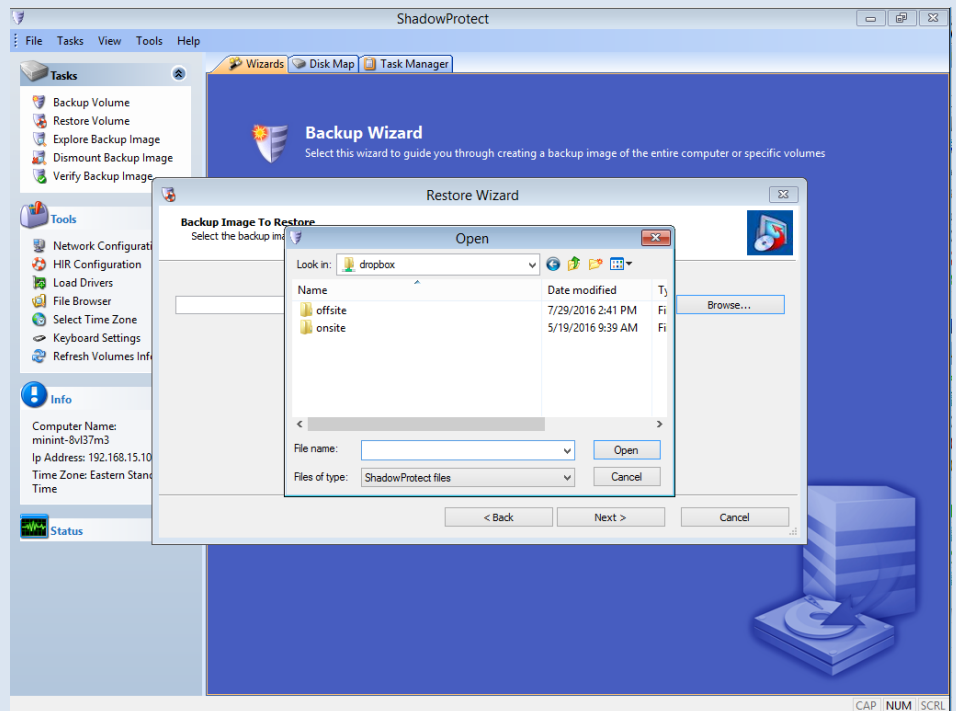**a198-absbackup\itadmin**
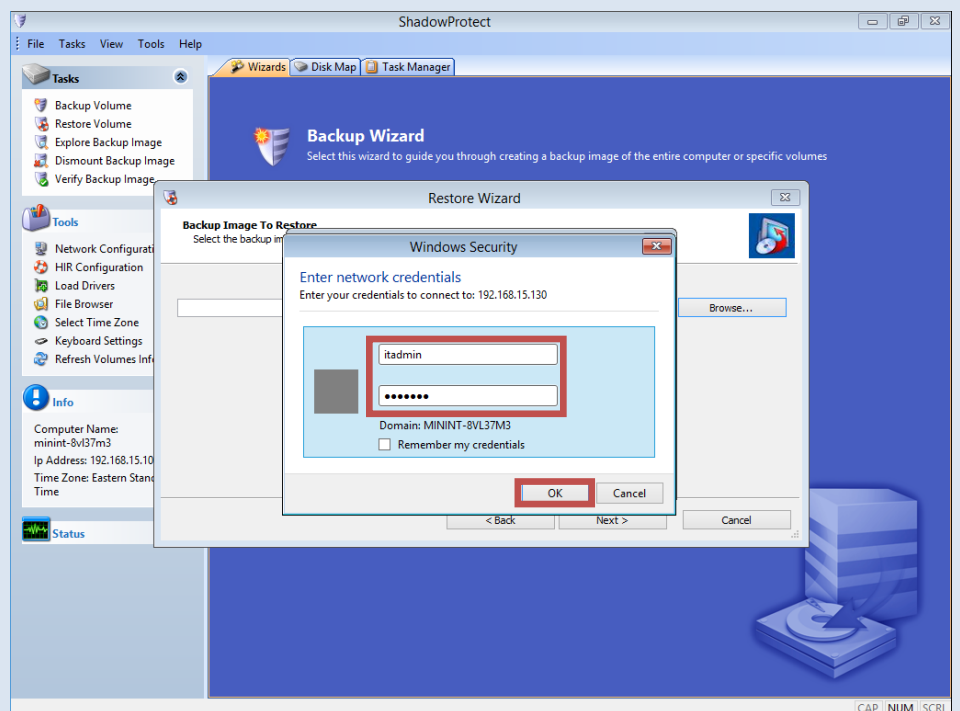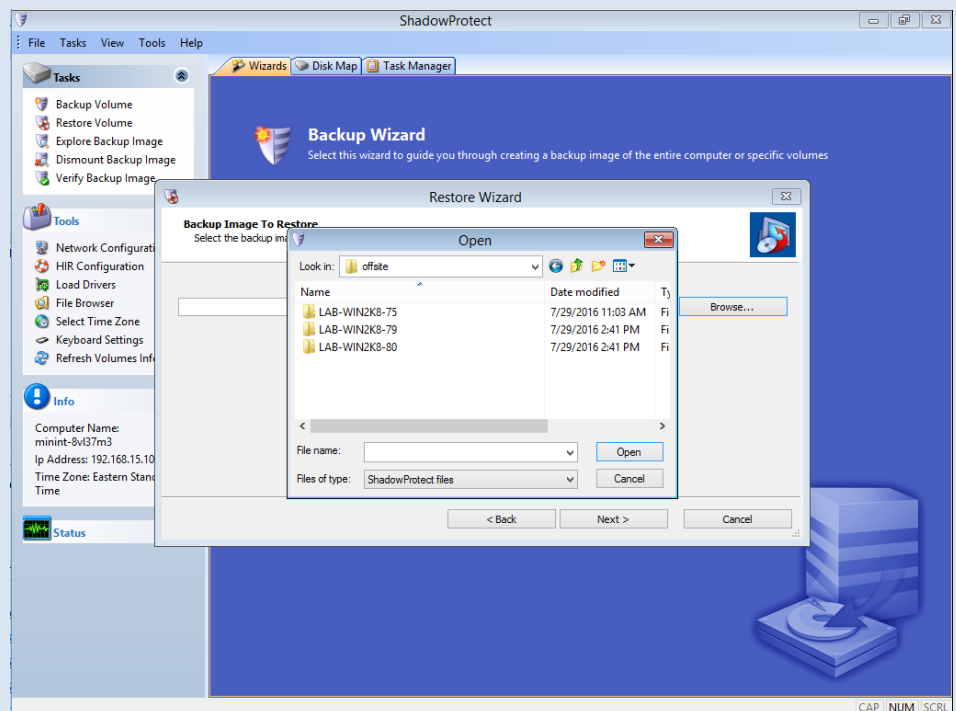
g. Double click on the appropriate storage folder

ⓘ 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

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

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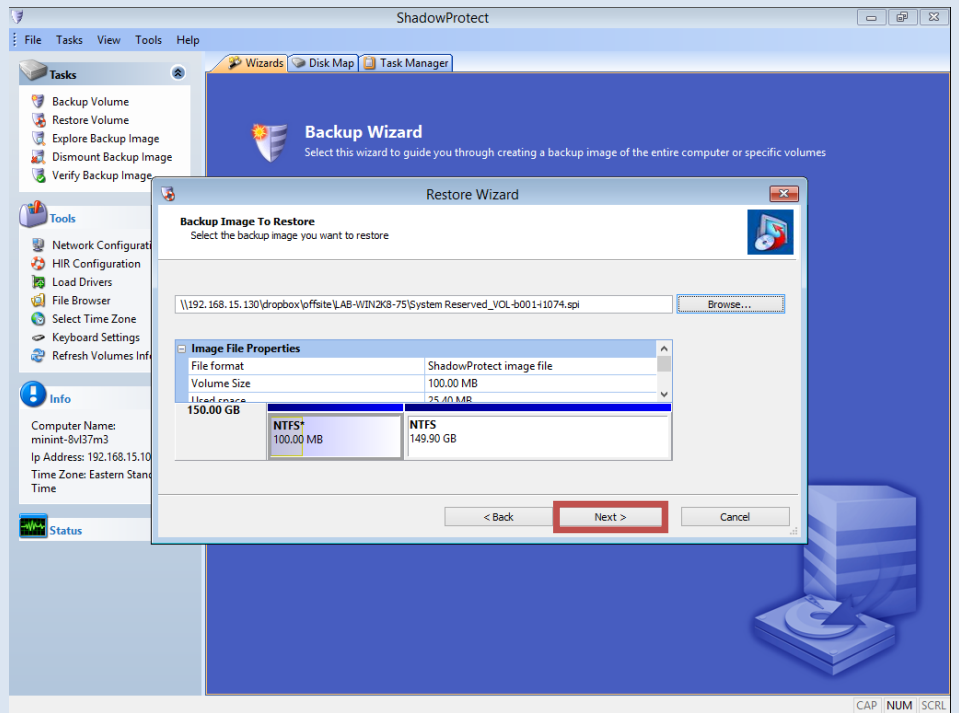**Volume name-Base number-Incremental number**

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

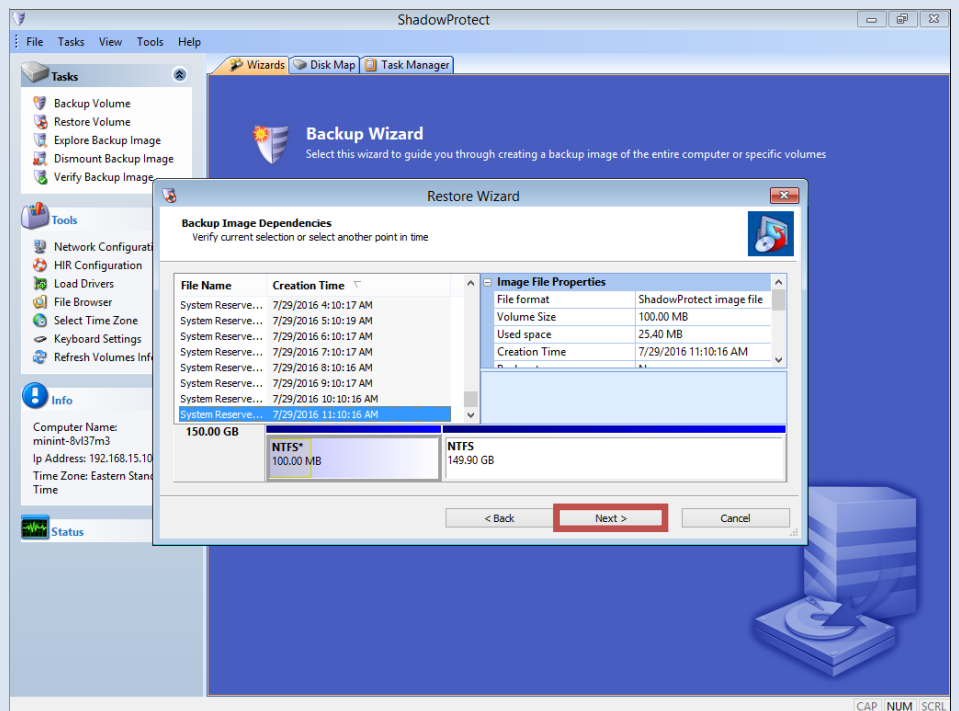j. When prompted, type in the **Encryption Password**, click **OK**

ℹ️ 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**.
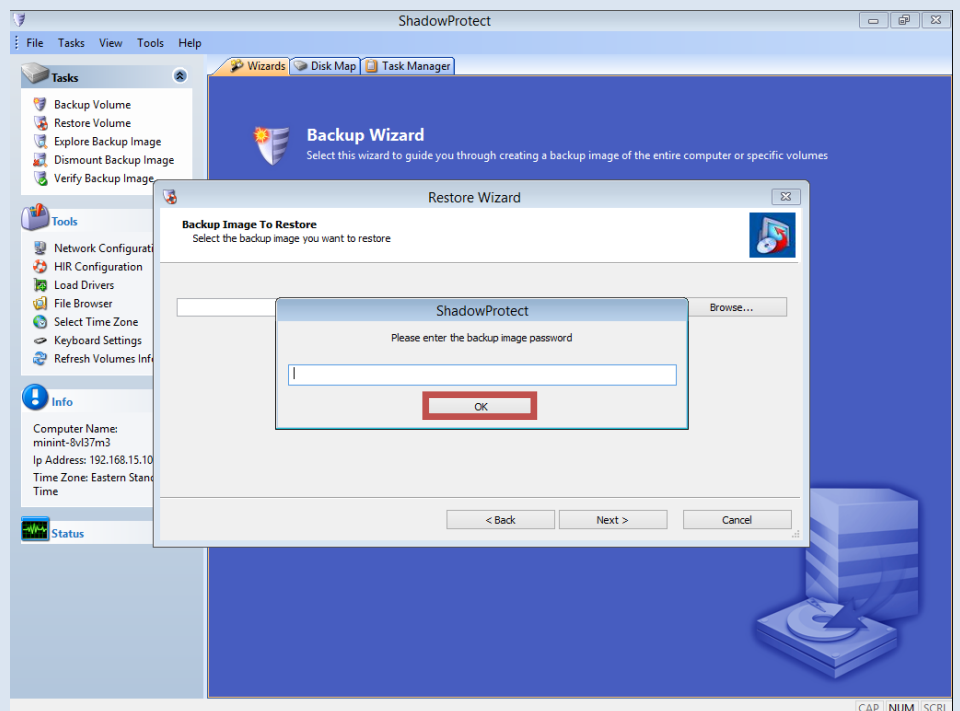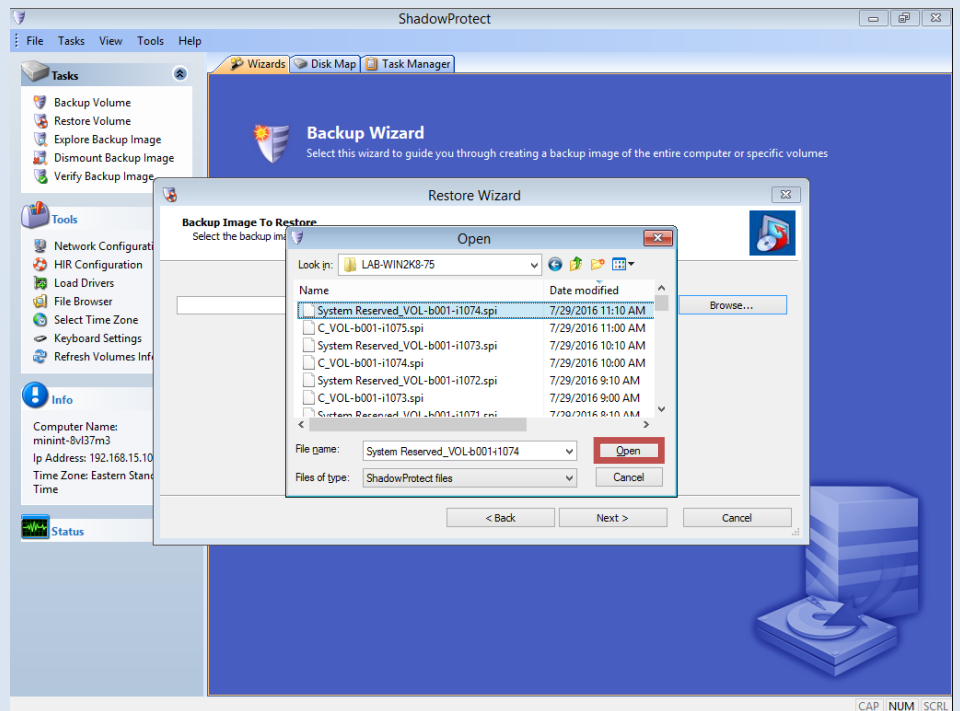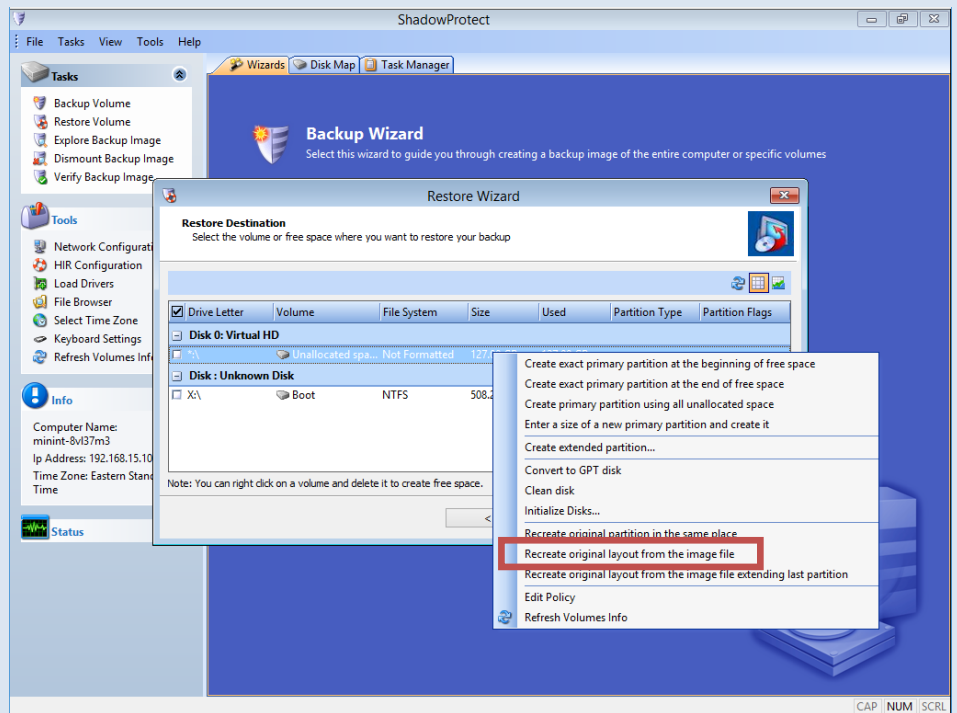
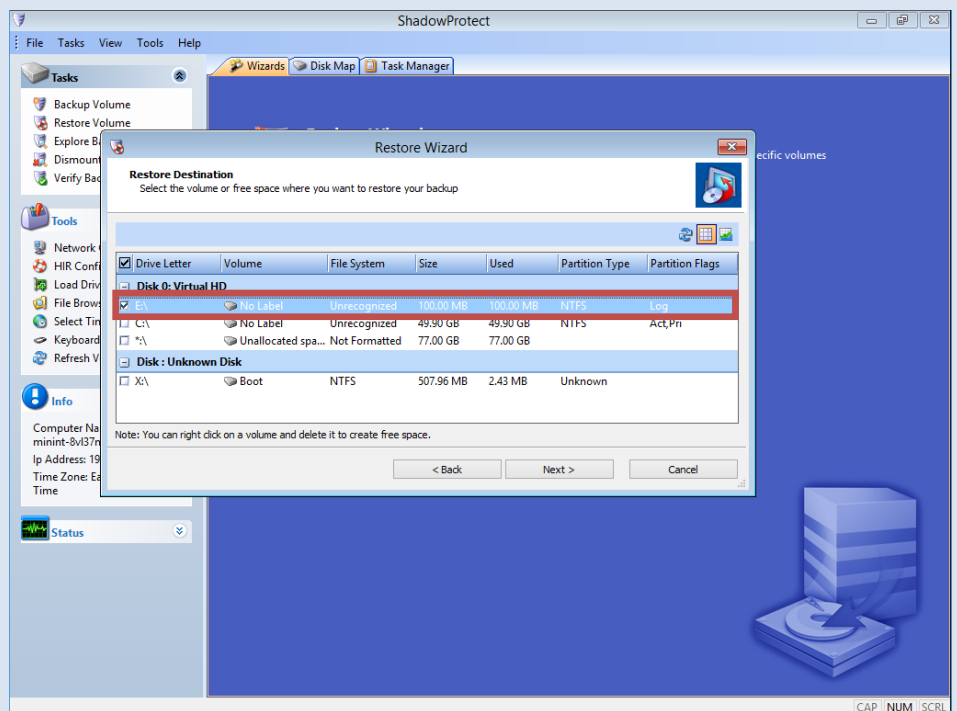k. Click **Next**

l. Click **Next**

m. Right click the **Unallocated Space** you wish to restore to

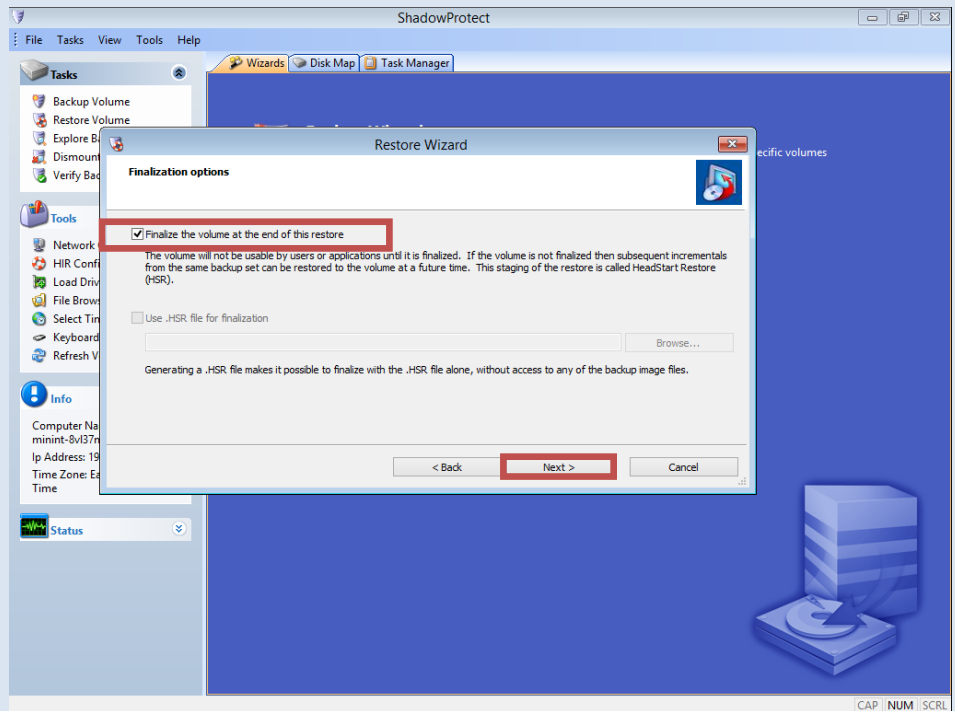n. Select **Recreate original layout from the image file**

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

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

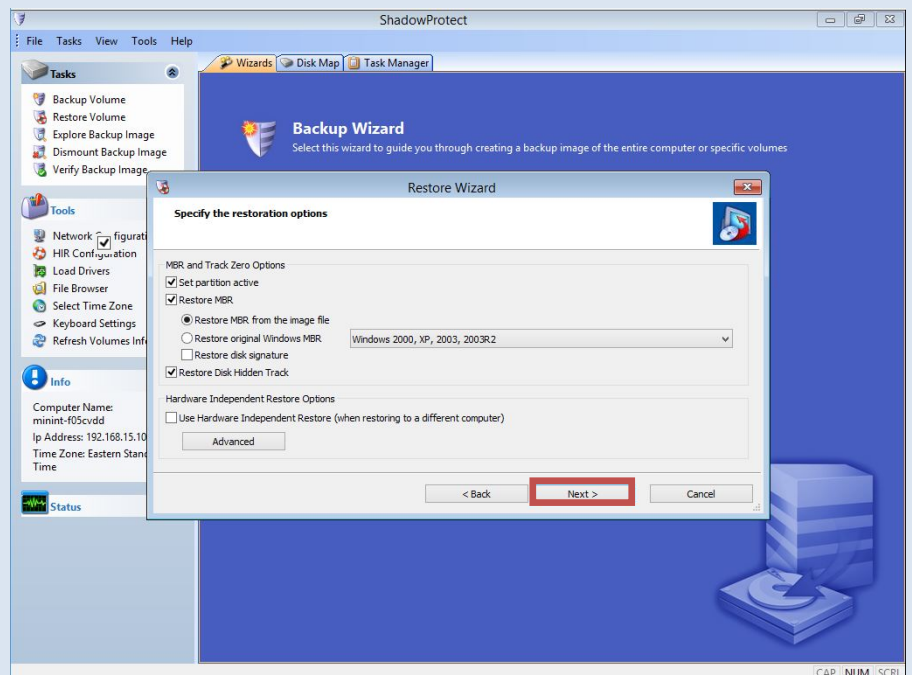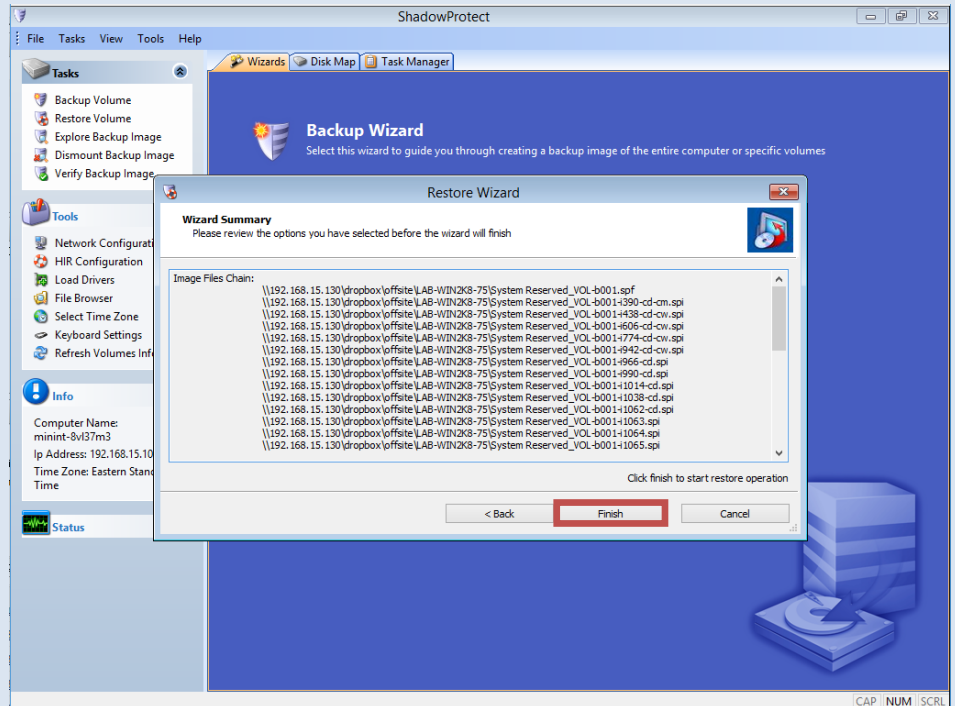p. Select **Finalize the volume at the end of this restore**

q. Click **Next**

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

ⓘ 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.33) and **Hardware Independent Restore** (pg.28) sections of the guide.
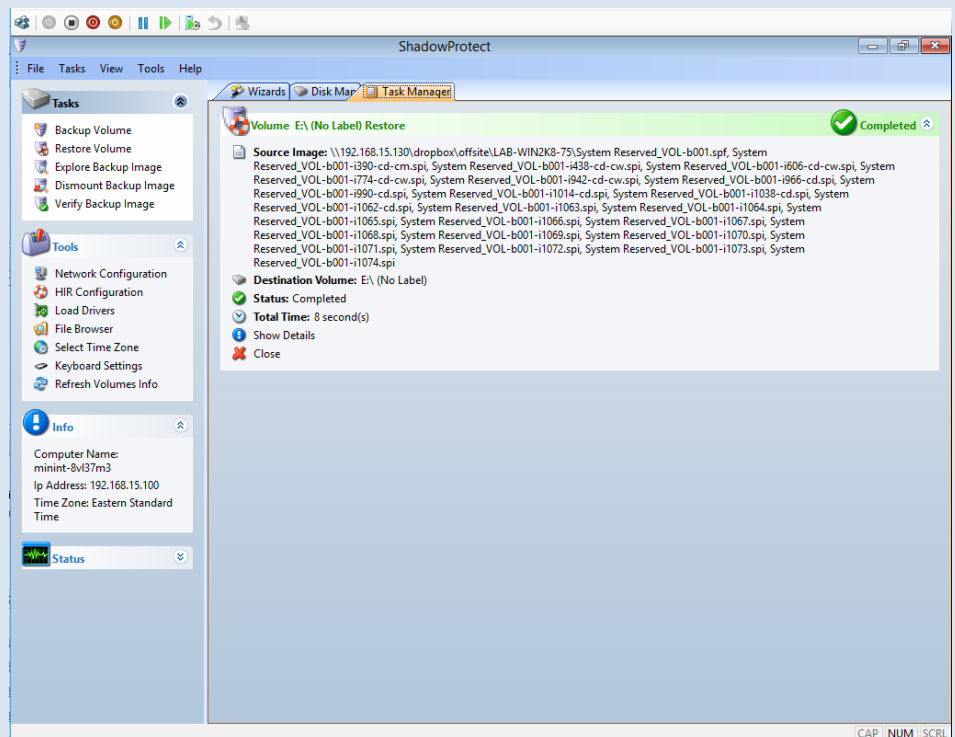
HeadStart Restore

ⓘ 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 use 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 replacement hardware or platform is desired.

1. Launch ImageManager

a. Select the computer you want to restore and click **Create HeadStart Restore Job**
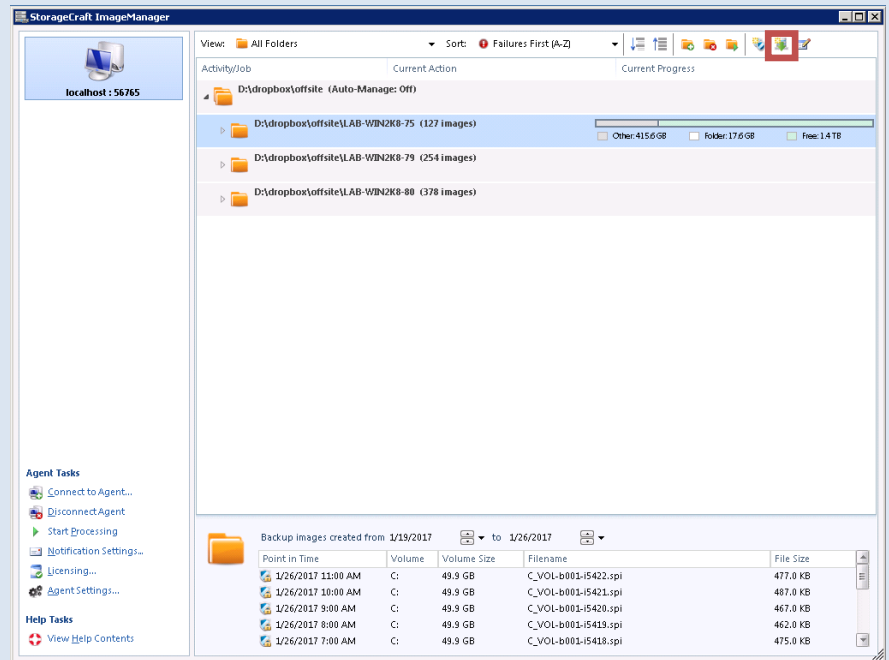
b. Select the Type of Restore you want to perform (VMDK, VHD/VHDX or Volume); the Destination Type) Local Drive, Network Drive, ESX/ESXi Server) and Location (Add as needed). Provide a sub-directory name if local or network drive location, remove name in parentheses; select the Lag Time.
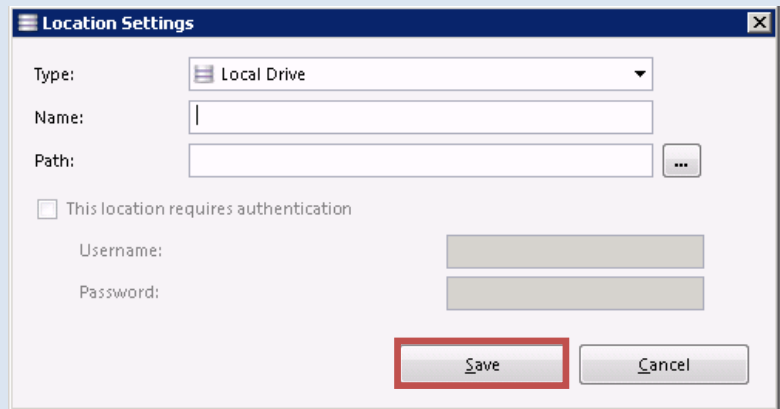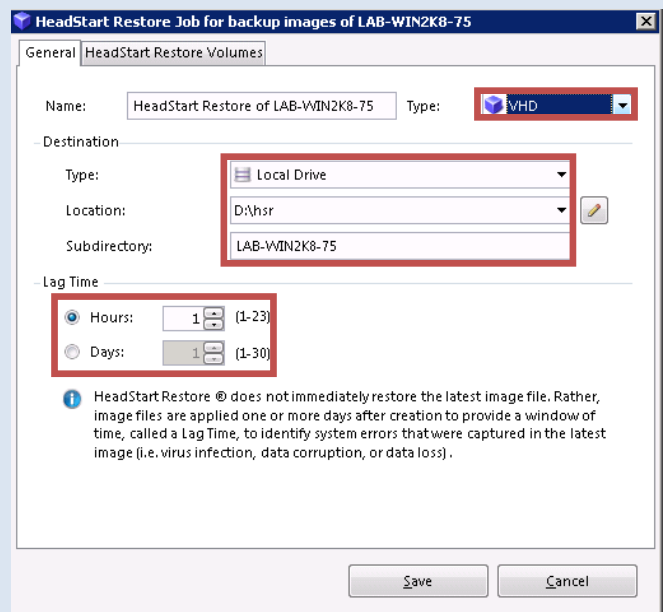
Add Location

Local Drive

Enter a name for the location

Path to the local drive/folder

Enter credentials if/as needed

Click **Save**

Network Location
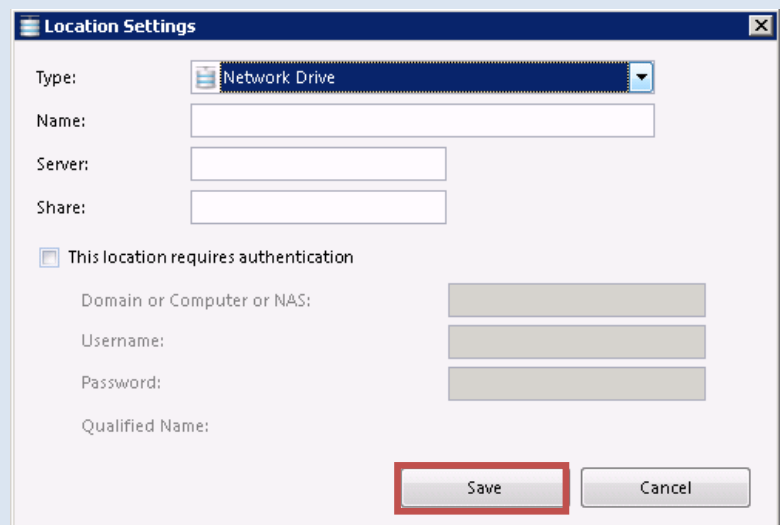
Enter a name for the location:
Enter the IP or Server Name:
Enter the Share Name:

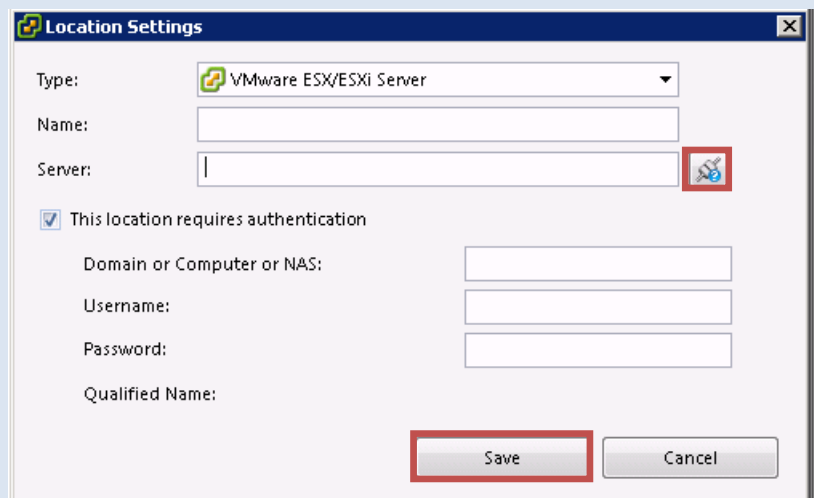Select and Enter credentials if/as needed
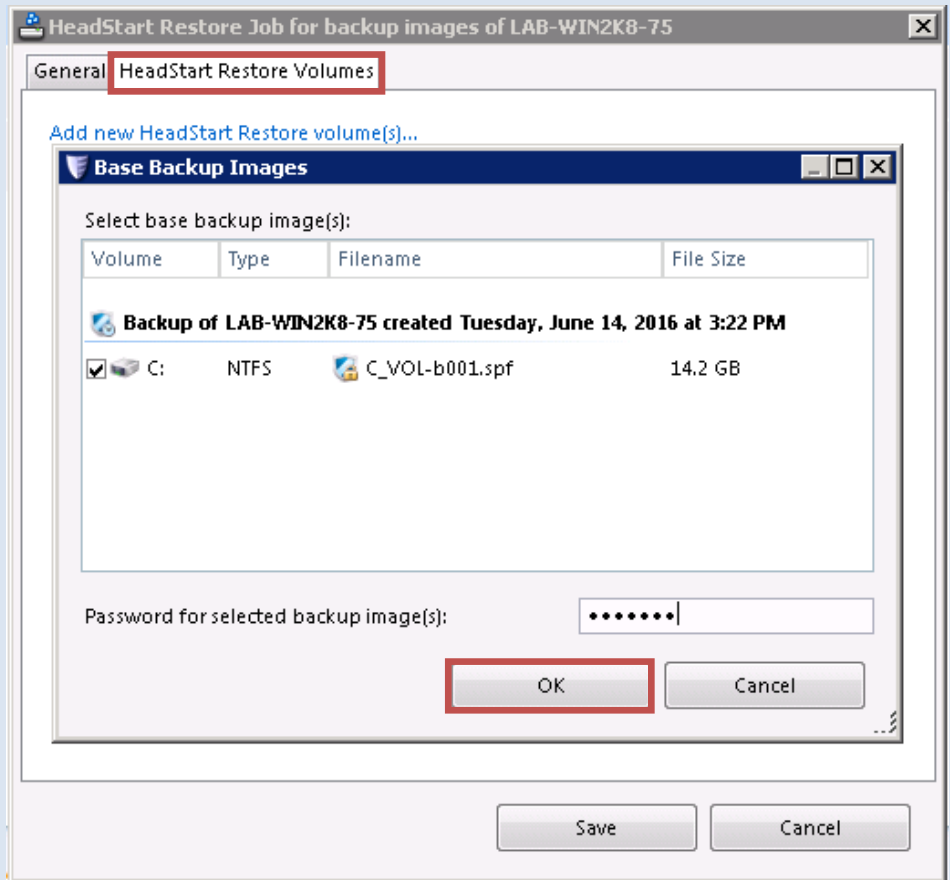
Click **Save**

VMDK to ESX/ESXI Server

For direct VMDK restore to ESX/ESXi platform, enter Name, Server IP, Domain info & Creds and click the Connect button to verify access to the machine. [VM to be restored must be provisioned on the platform and disk partitions created/available.]
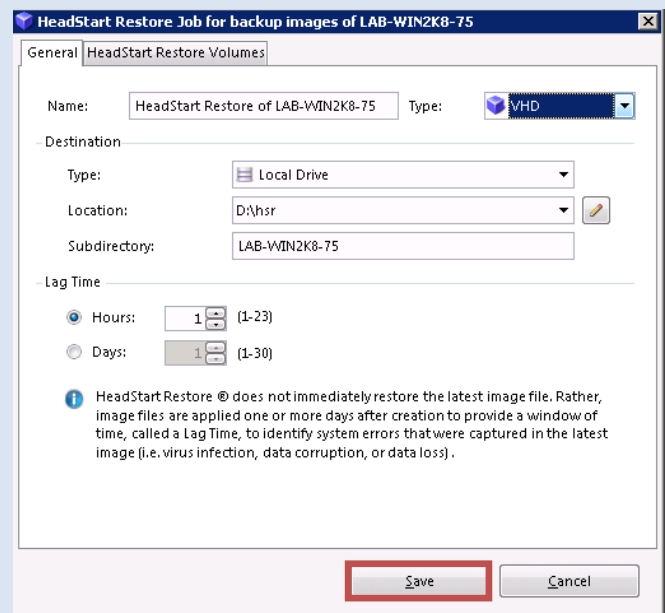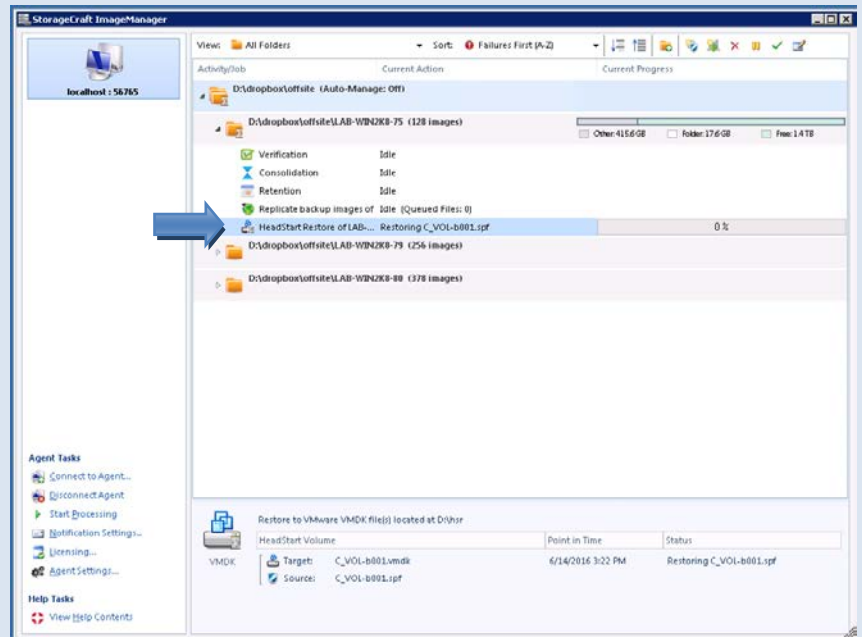
Click **Save**

c. Click the **HeadStart Restore Volumes** tab.

d. Click **Add new HeadStart Restore Volumes**

e. Select Volume(s) to Restore, enter the Encryption Password and Click **OK**


f. Click **Save**

g. You will see the job running from the main ImageManager window.

ⓘ You can pause a HeadStart restore job if you need to restart the appliance or the destination machine. Note that incremental (or base) image restores that were in progress will restart after the job is un-paused.

⚠ If you are using HeadStart Restore for a machine that is running in Failover/Production mode; be sure all users are logged off the VM, that a final incremental was taken, and that it has been restored prior to Finalizing the restore job.

h. When the job completes, and you are ready to finish the restore, select the job you want and click the **Finalize Selected HeadStart Restore Job** button
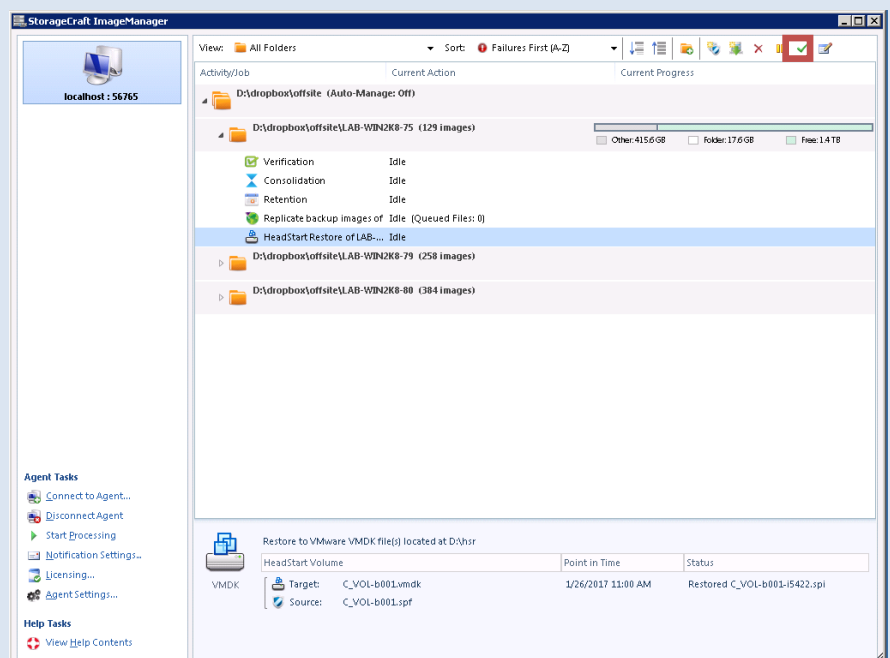
i. You will be prompted as to which incremental (when) to Finalize to.

j. You may select an incremental, or just leave the default setting of **Automatically Pick most Recent**... and click **Finalize**

k. You will be prompted to Confirm the Finalization. Once you click Yes, the last incrementals(s) will be restored and the volume(s) will be finalized.

l. The job will Show as Finalized upon completion.

m. Once you have Finalized the Restore(s) you can use the volumes as desired.
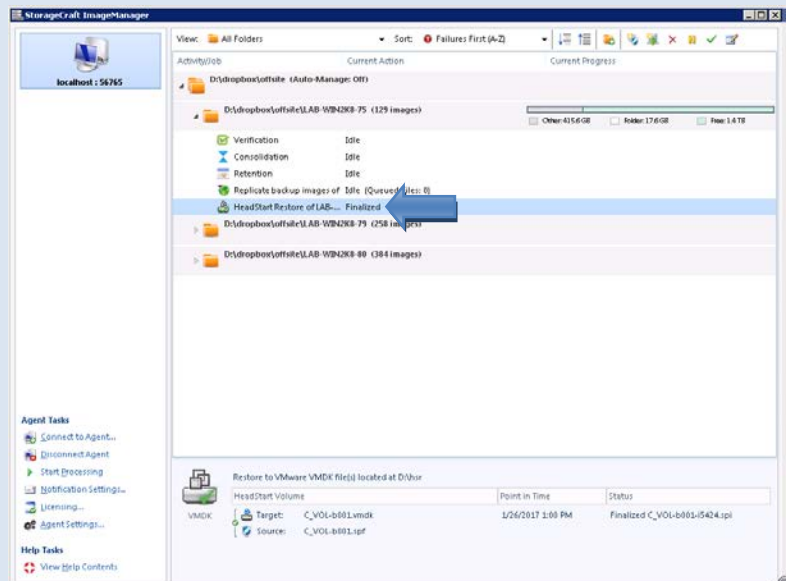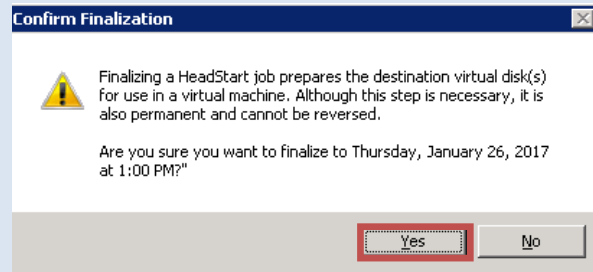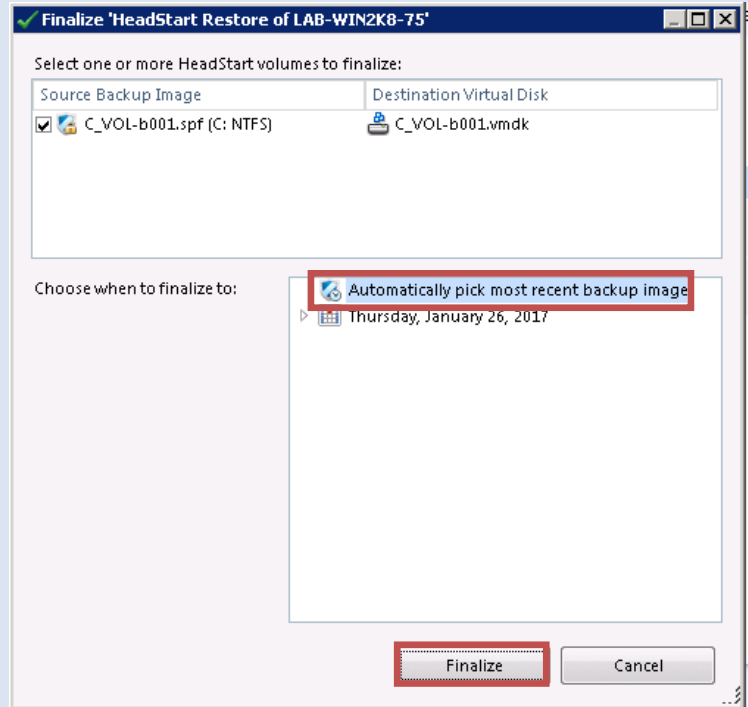
ⓘ Local or Network created VHD/VHDX or VMDK volumes can be moved/copied and then attached or imported as desired. Direct ESX/ESXi restores will require a restart of the VM after finalization.

n. You may delete the HSR job after you've completed the Restore: Right-click on the job and select Delete or select the job and click **Delete Selected Job** from the toolbar.
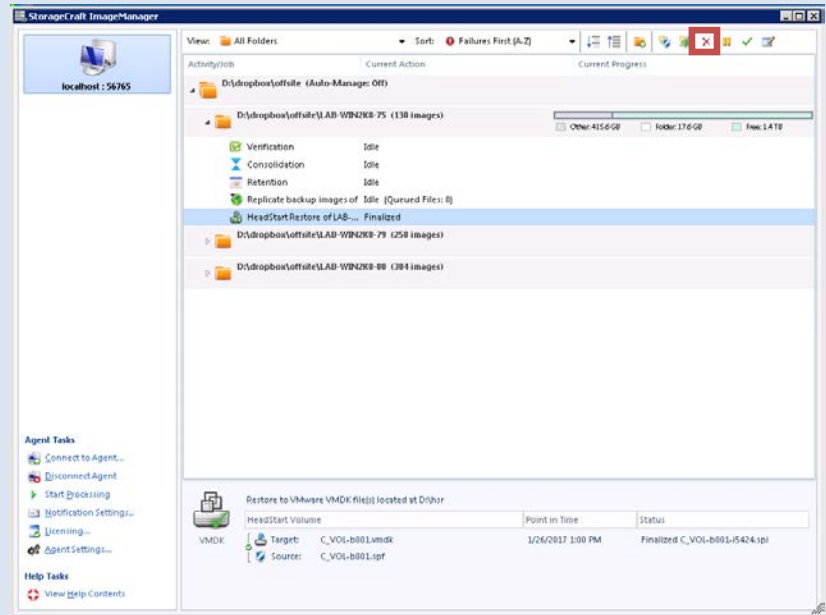
o. Confirm the Delete when prompted.
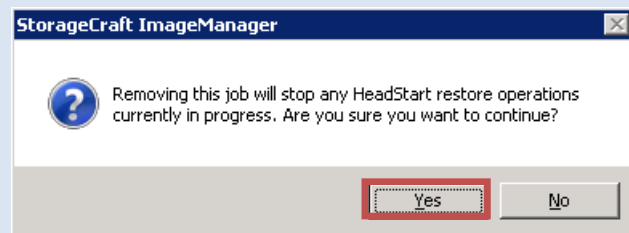
ⓘ This completes the HSR process. If you have trouble booting the restored machine, see **HIR Restore** (p 28) and/or **Boot Config Utility** (p 33). [Attach the Recovery Environment ISO to the VM or boot the physical machine from a CD created from the ISO.]

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 a 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.
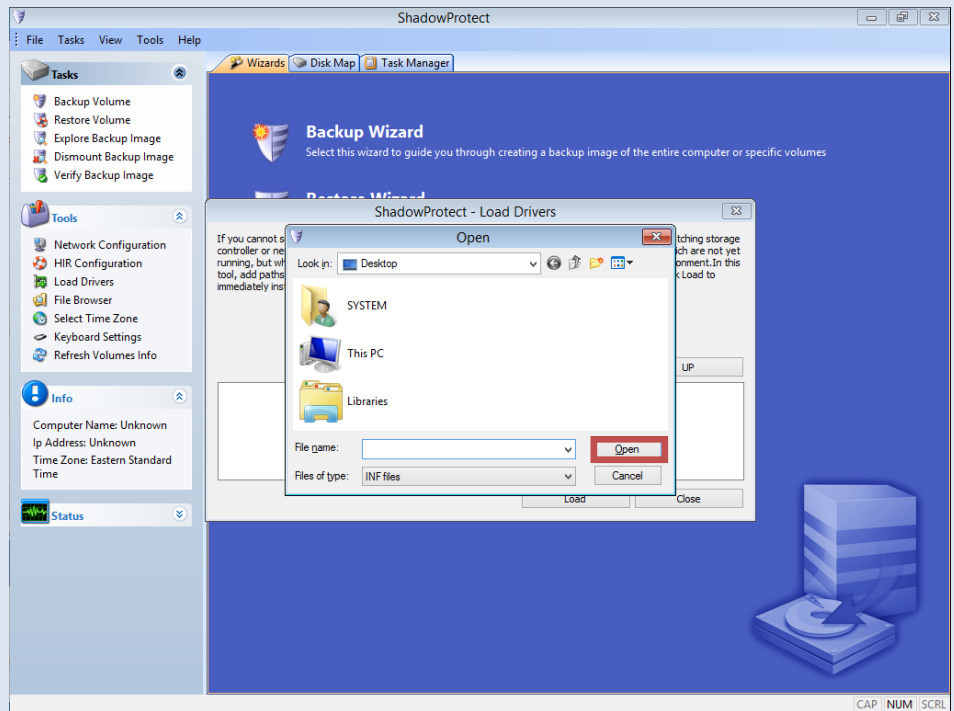
a. Click **Load Drivers**
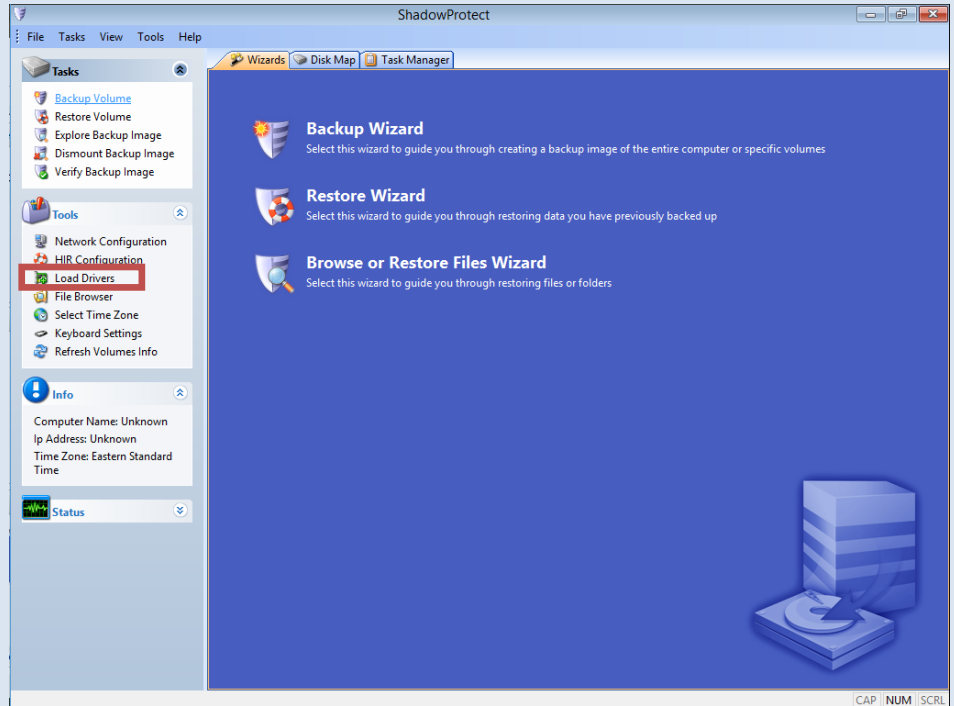
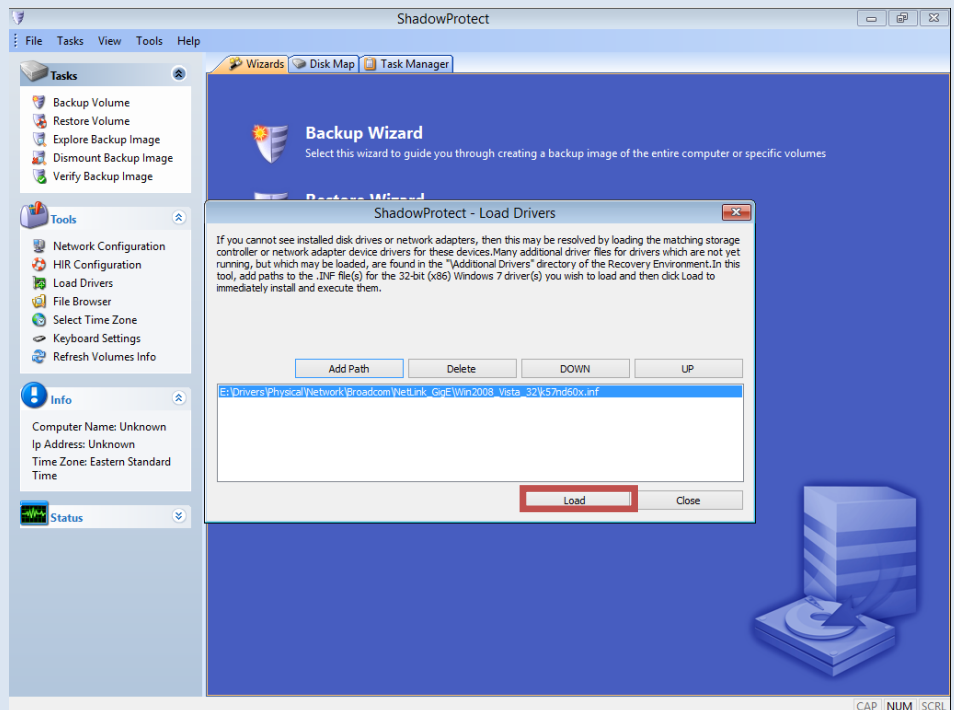b. Click **Add Path**
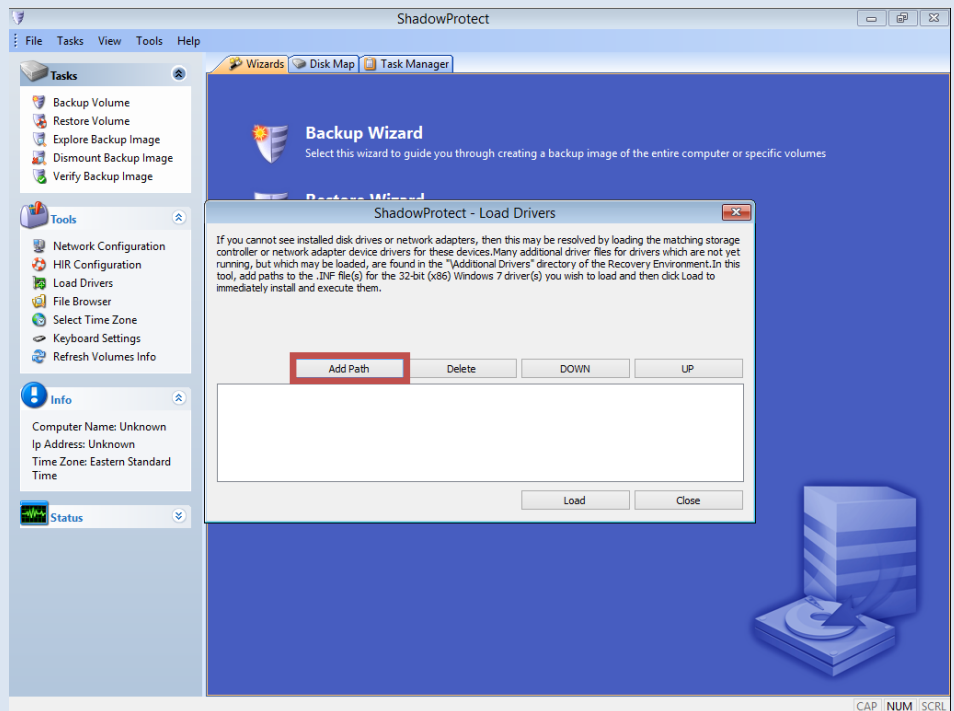
c. Navigate to the driver folder

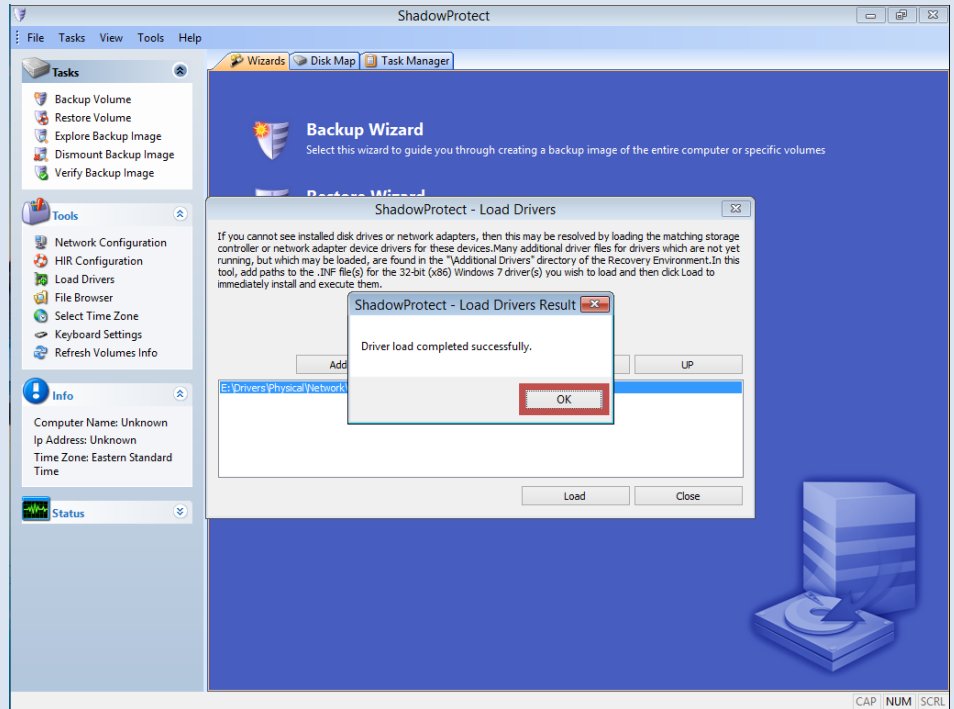d. Select the .INF file

e. Click **Open**

f. Click **Load**

(i) Multiple drivers can be loaded into the system at once.
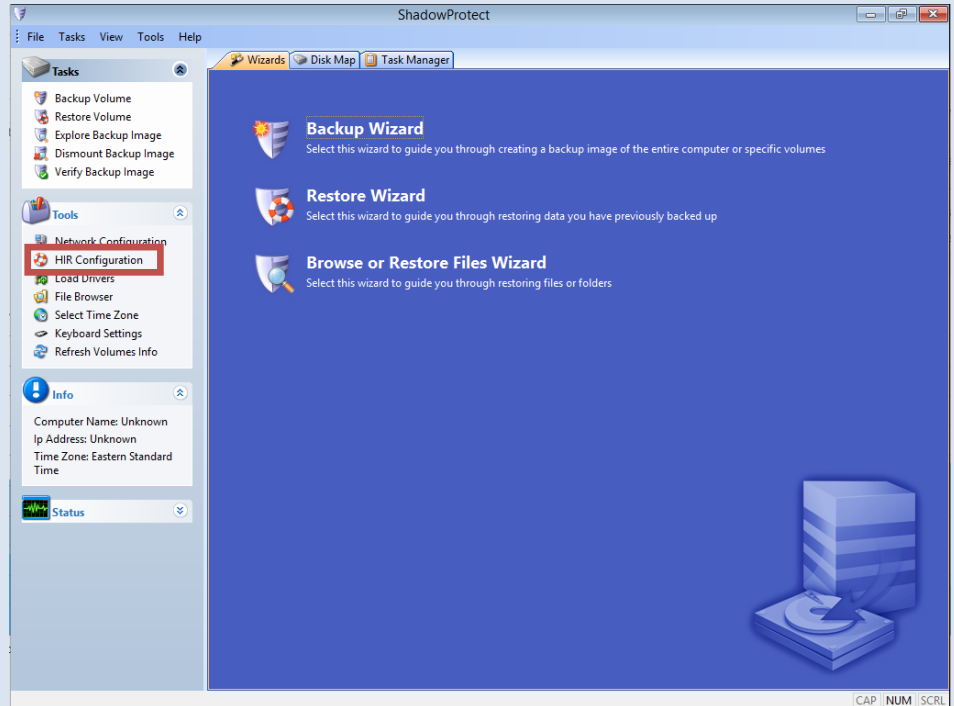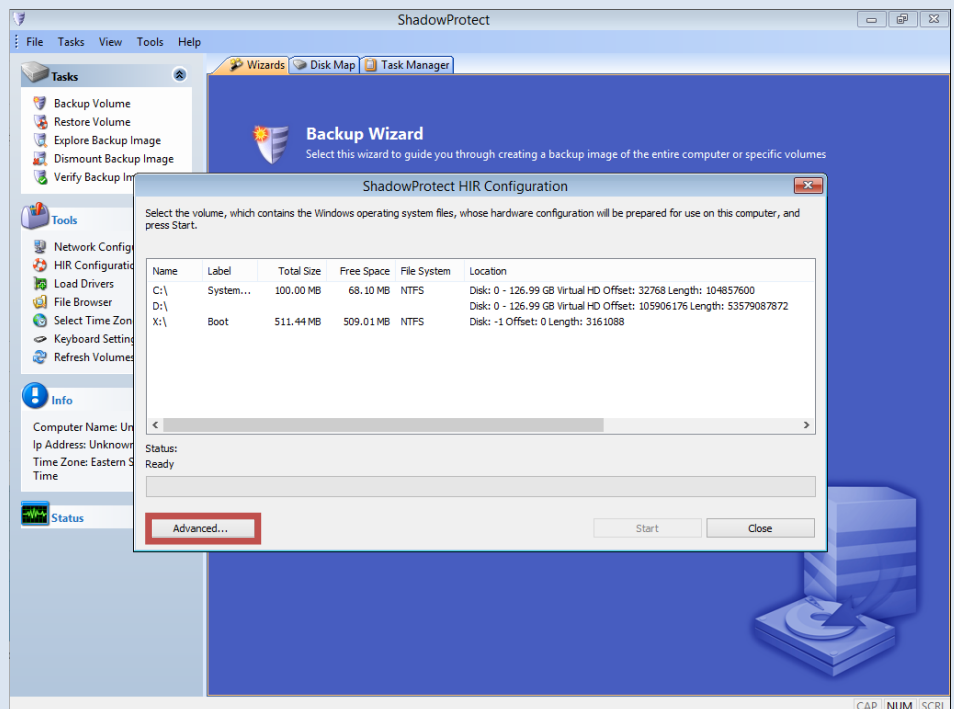
g. Click **OK**

Hardware Independent Restore

ⓘ 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 a external USB drive. Plug the USB drive into the machine you are restoring to.
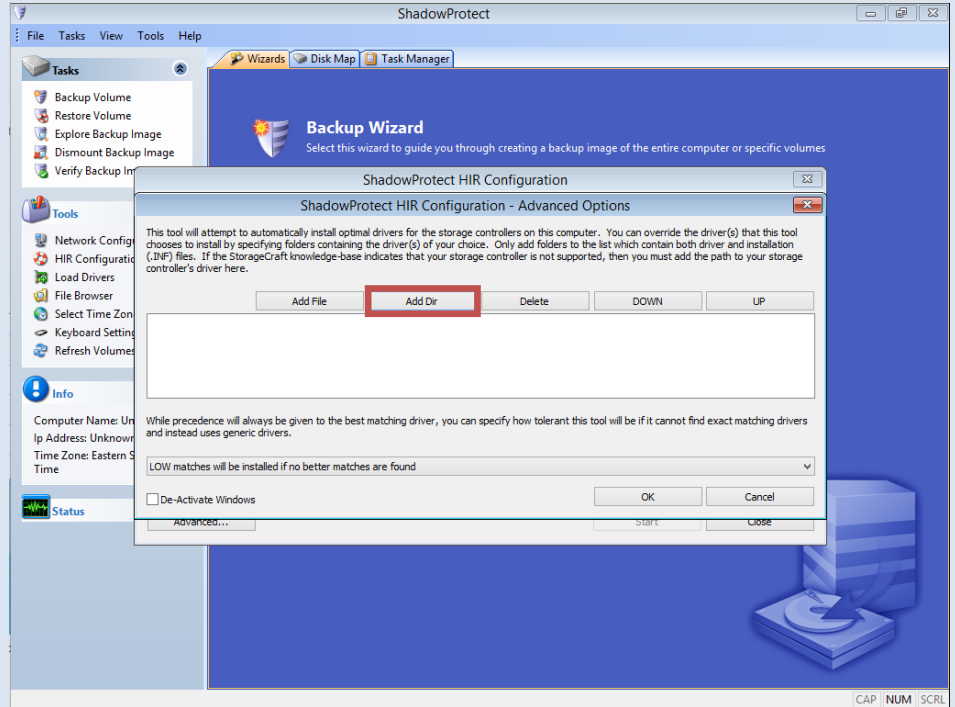
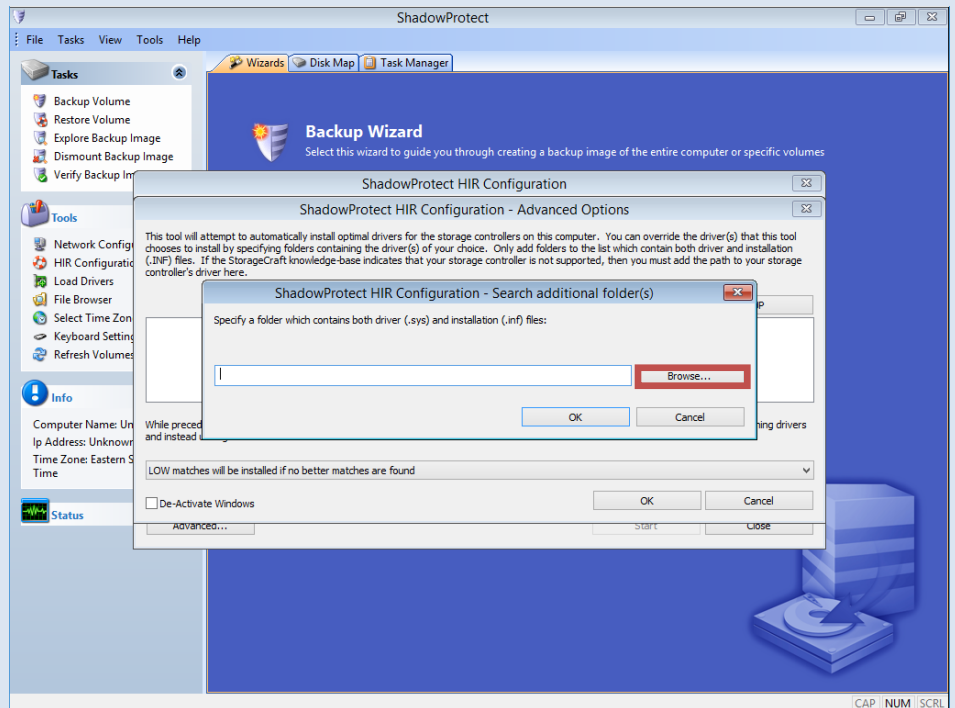a. Click **HIR Configuration**
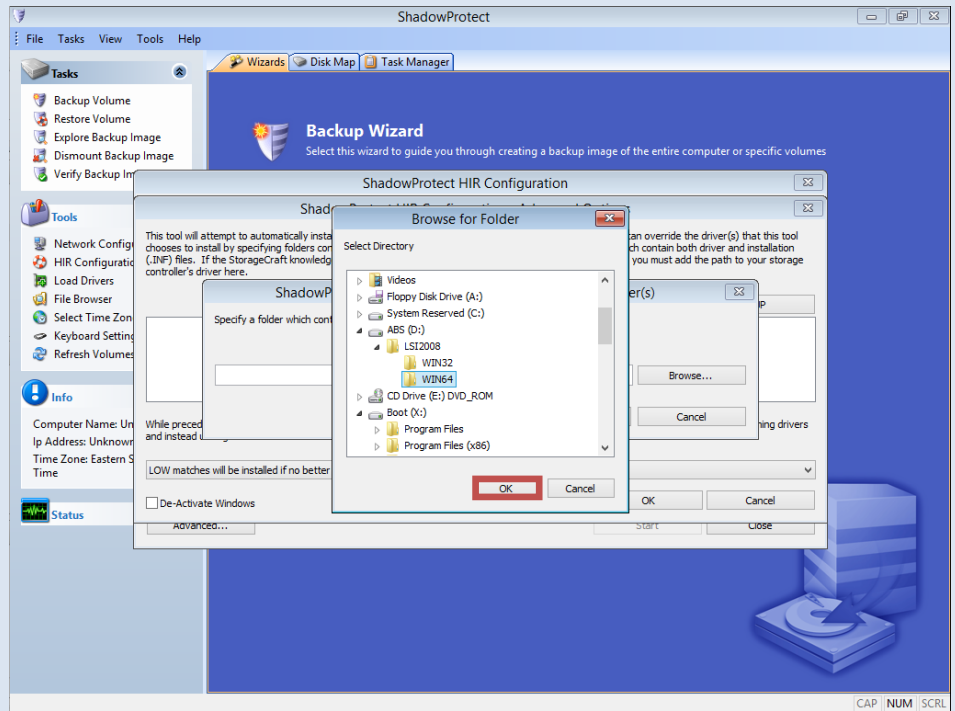

b. Click **Advanced**
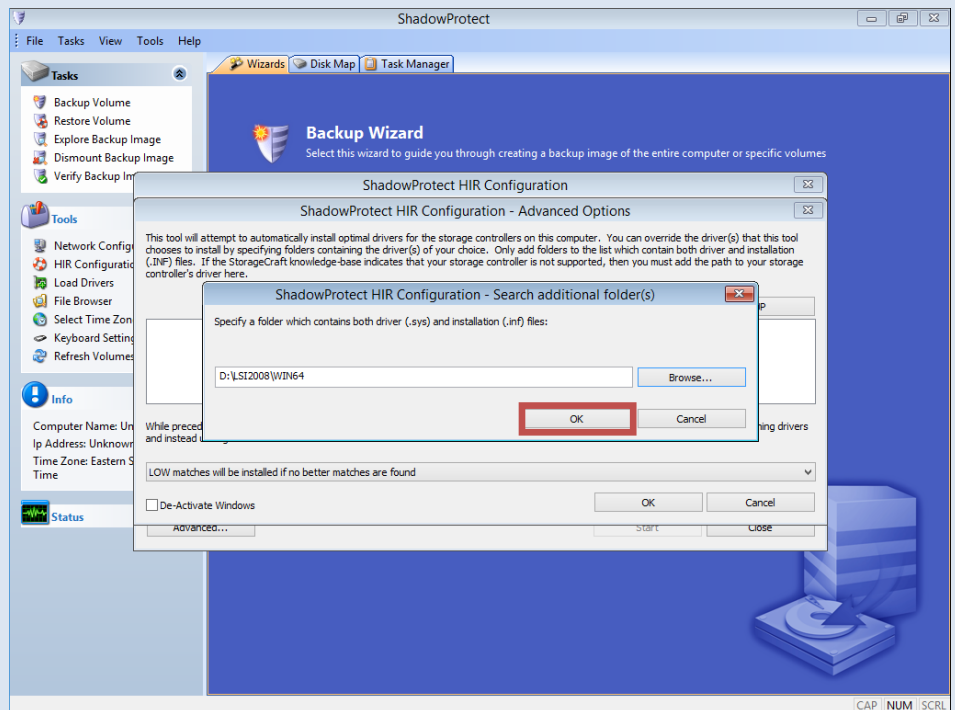
c. Click **Add Dir**

d. Click **Browse…**

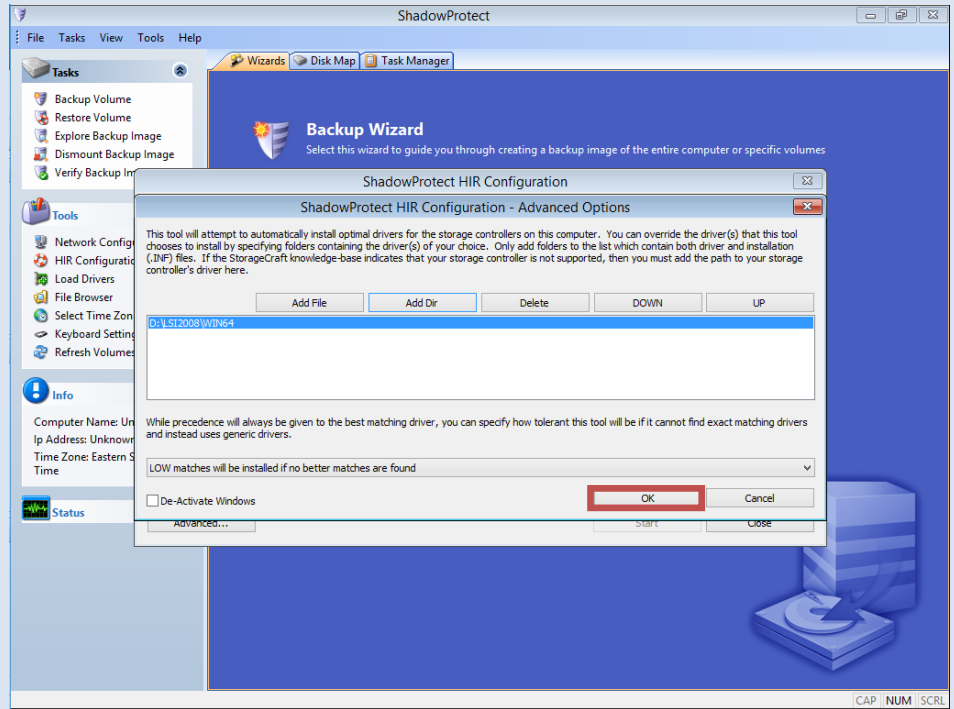e. Select the folder containing both driver and installation files
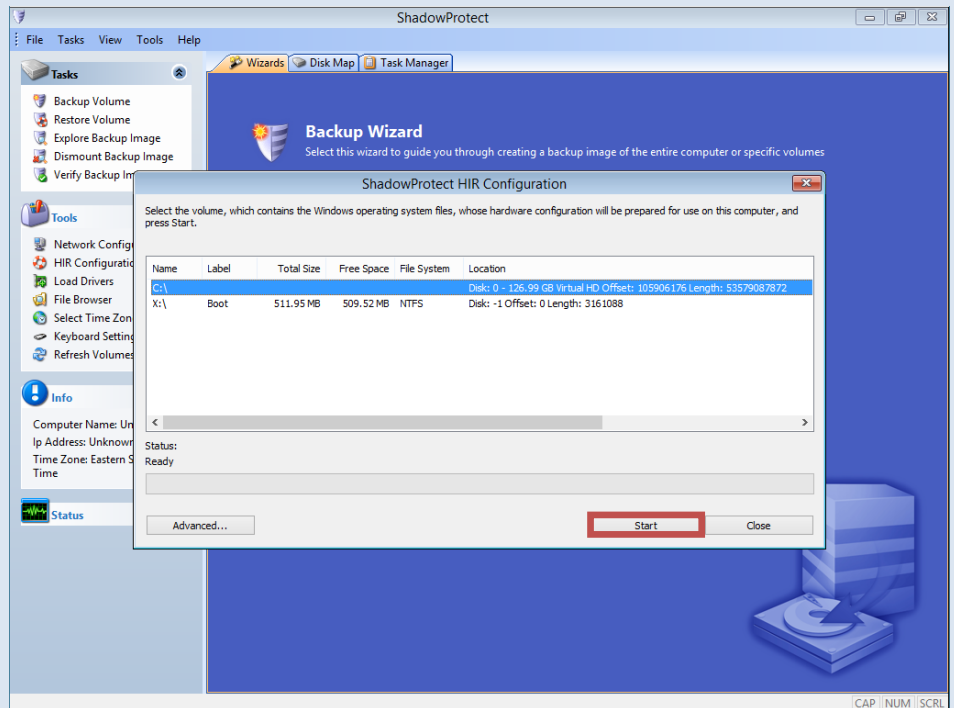
f. Click **OK**

g. Click **OK**

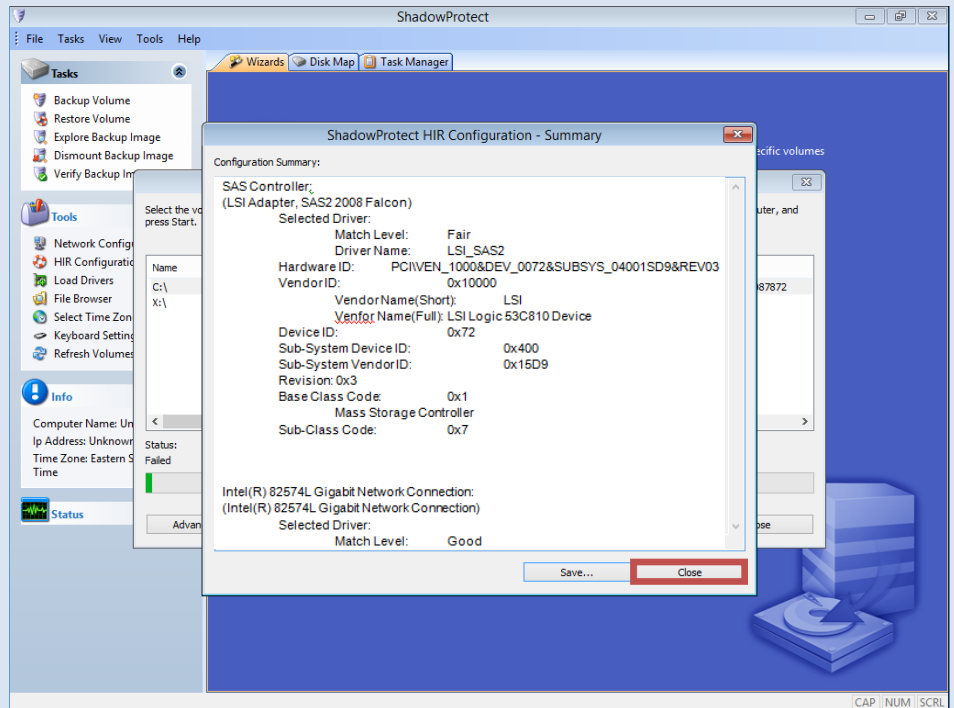h. Add any other directories that contain hardware drivers

i. Click **OK**

j. Select the volume that contains the Windows system files, click **Start**
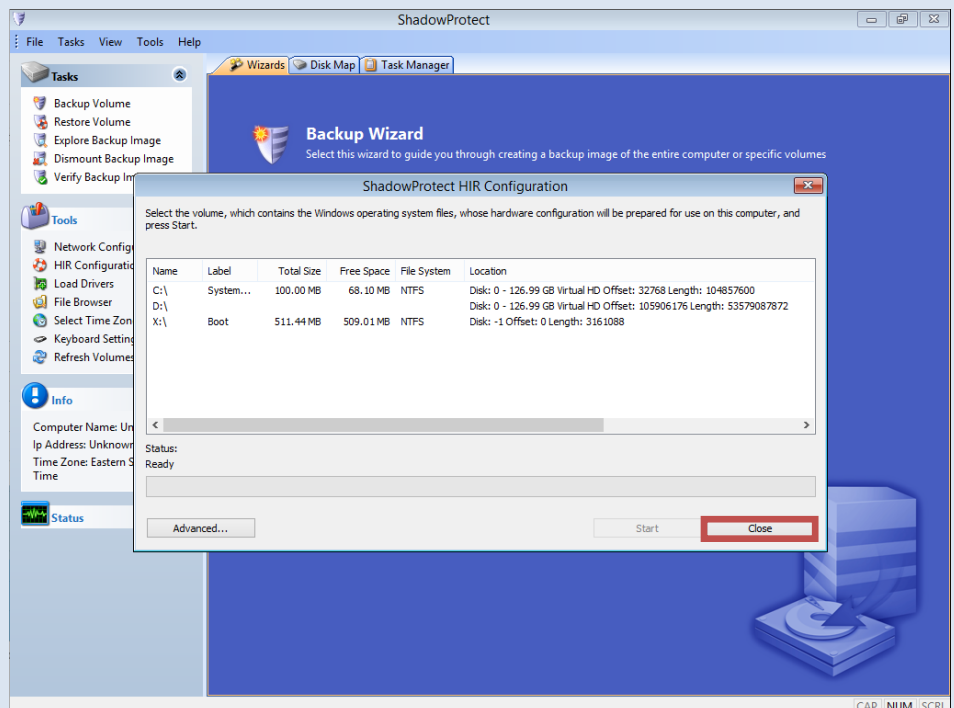
k. You will see a summary screen. Click **Close**
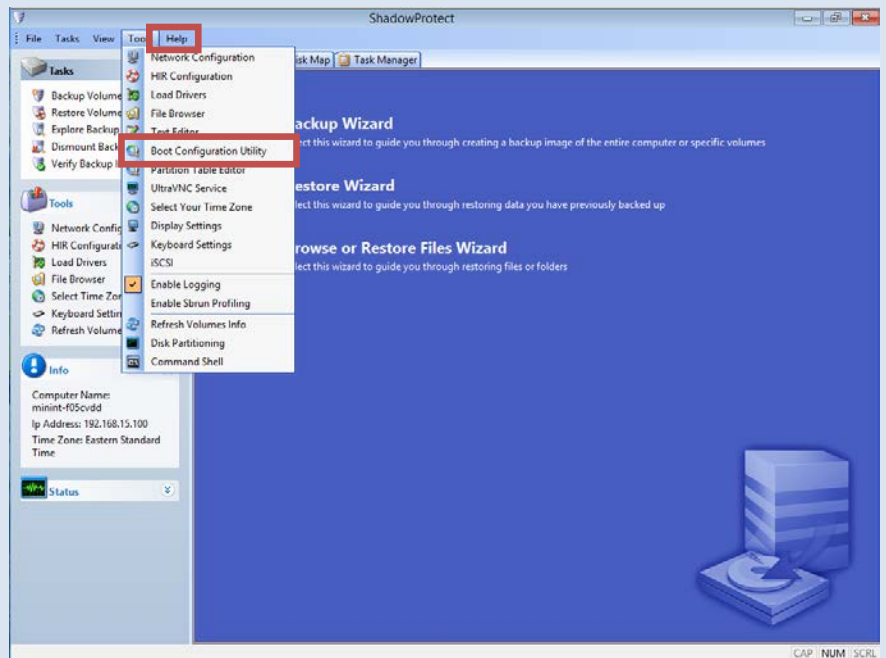

l. Click **Close**

Reboot the system and attempt to boot into Windows

Boot Configuration Utility

ⓘ 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.