



System Image Backup and Recovery

Enveloc's new System and Drive Imaging feature is an important part of an effective disaster recovery plan and can allow you to restore a machine after a complete crash or loss to the same machine (once repaired) or to a totally different computer. An external hard drive, NAS device or reliable network storage is required for this feature.

Background and Overview

Enveloc leverages built-in Microsoft utilities, tools and APIs to create a VHD, or Virtual Hard Drive, file. A VHD file is a single file that represents an entire disk drive. A VHD may be attached using Enveloc software or Windows Disk Management, and its contents accessed like a normal drive, or the VHD may be used to restore a failed system to operational status.

If you choose to image a drive containing the operating system, Enveloc will help you restore it to dissimilar hardware configurations, on certain Vista, Windows 7 and Server 2008 machines.

Enveloc's imaging feature is available for the following operating systems (both 32-bit and 64-bit versions):

- Windows Vista - Business, Enterprise and Ultimate editions
- Windows 7 – Professional, Enterprise and Ultimate and Starter editions
- Windows Server 2008 – All editions, including all R2 editions (may require installation of backup component)
- Windows Small Business Server 2011

For full functionality, the OS that is being imaged must be patched to latest Service Pack/Update level. Also, any mission-critical data has ideally been backing up remotely to Enveloc's servers

You may choose to keep a single image on disk or you may opt for a two-image rotational plan.

Scheduling is similar to Wireback in that you may schedule (up to) an hourly frequency (subject to other backup schedules and time/resource restrictions.)

Encryption/Locking of Drive Images

Enveloc knows that to be completely protected from all eventualities, your backups should ideally be taken offsite to a secure location and the drive images are no exception.

To that end, we have provided three levels of security for these drive images: **None**, **Good** and **Best**.

1. **None** = No encryption or locking is used. Your VHD can be attached and read or restored by anyone
2. **Good** = Enveloc's proprietary locking method is used with your encryption key to render the VHD unusable by almost anyone. This method is extremely fast and easy to use.
3. **Best** = AES encryption using your Enveloc encryption key. This will fully encrypt the files so that NO ONE can read or otherwise use your files. This method can take a considerable amount of time for encryption and decryption so allow adequate time (2 minutes per GB is typical).

The Enveloc program really handles all this for you so there is not much to know. The images are created and modified slightly to facilitate the boot process when restoring to dissimilar hardware. An external drive, Network Attached Storage device or network share may be chosen for the image storage location.

If your imaging job includes the system drive for your currently running OS, it will automatically get all critical volumes (those necessary to restore your system). This could generate a large image.

If you have chosen either of the security options (Locked or Encrypted) the image will be processed after creation and will require a separate standalone Enveloc program to allow access to the locked/encrypted image after creation. The encryption uses the 24-48 character key input by the client at installation time. This key will be required to unlock, decrypt or attach the image.

When the imaging process begins, a VSS (Shadow Copy) snapshot of the drive(s) being imaged is created, then an image is built on the external drive. It will be created in a folder called "WindowsImageBackup_EnvelocXX" where XX is the drive being imaged followed by the generation number (if you chose rotating images).

Drive Image

Select Detail

Drive to Image:
C
Please select a local drive.

Local Destination:
D:\ **Browse**
Please use the Browse button to select a local drive or Network share

Job Name:
Image_C

Security:
 Lock Image Encrypt Image No Security

Versions:
 Use 1 image only (select this option if space at local destination is limited)
 Rotate between 2 images (requires more disk space but is more reliable)

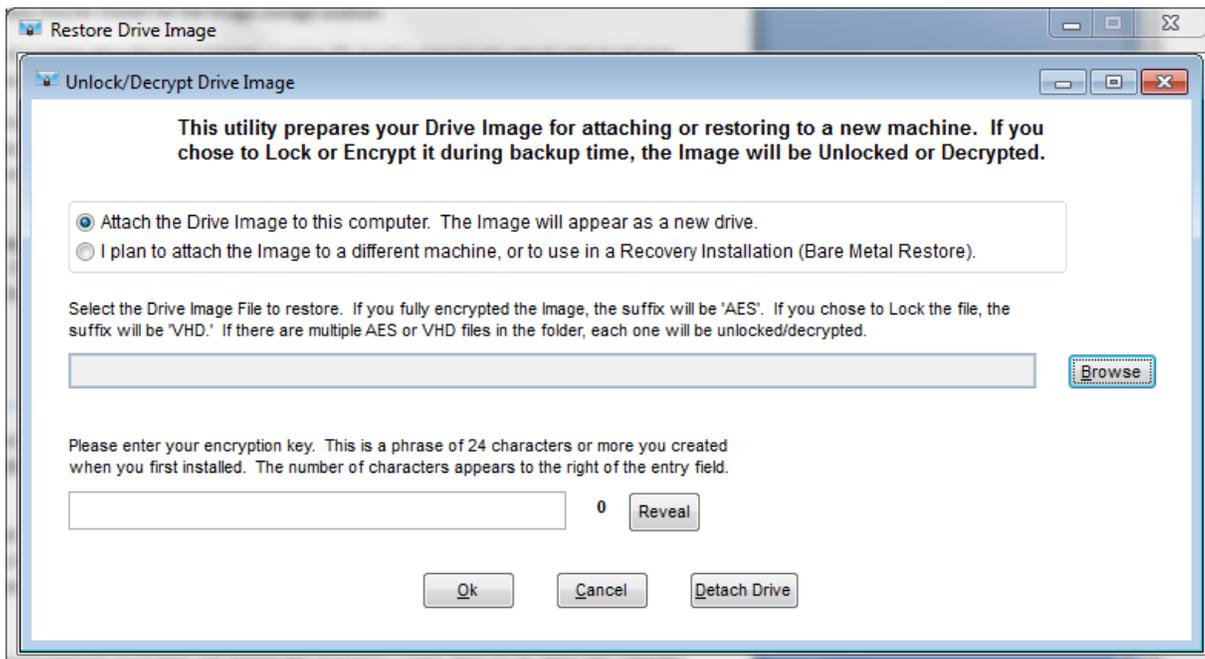
Create Image Now **Add Job** **Edit Job** **Delete Job** **Ok** **Cancel** **Schedule Job** **Back**

Pre-recovery process

You will need a System Repair/Recovery Disc for recovery, so one can be created while the system is still operational (Windows 7) or for Vista, 2008 and 2011 you would use the Windows Installation Disc, which has the same capabilities for recovery/repair.

If you opted to lock or encrypt your image VHD(s) you will require a special utility to unlock or decrypt those image(s). This utility will also allow you to attach (and detach) those images so they can be read on the machine you run it on if you are not going to be performing an operating system recovery. The utility is available here on the Support page of our website.

Although the utility is called `restoreimage.exe` it does not restore the operating system: that can be done only using the Recovery or Windows Installation Disc with the VHD.



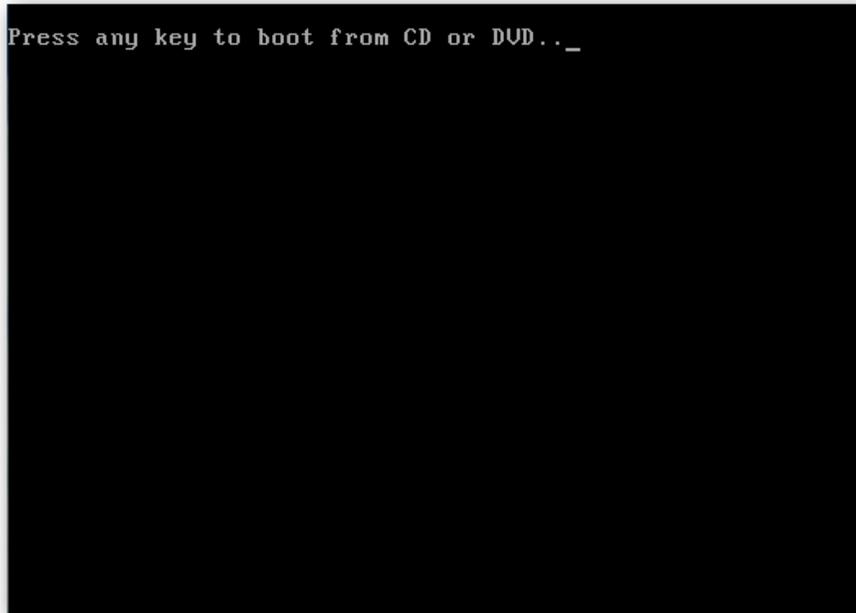
The ability to attach the VHD as a virtual drive using the aforementioned utility will provide for searching and recovery of files and folders from within the image for either Windows 7, Server 2008 and SBS 2011. Unfortunately, Vista does not support attaching VHD images.

The steps for Vista are almost identical and Windows 7 is very similar – except that the System Repair Disc from Windows 7 launches right into the system recovery menu.

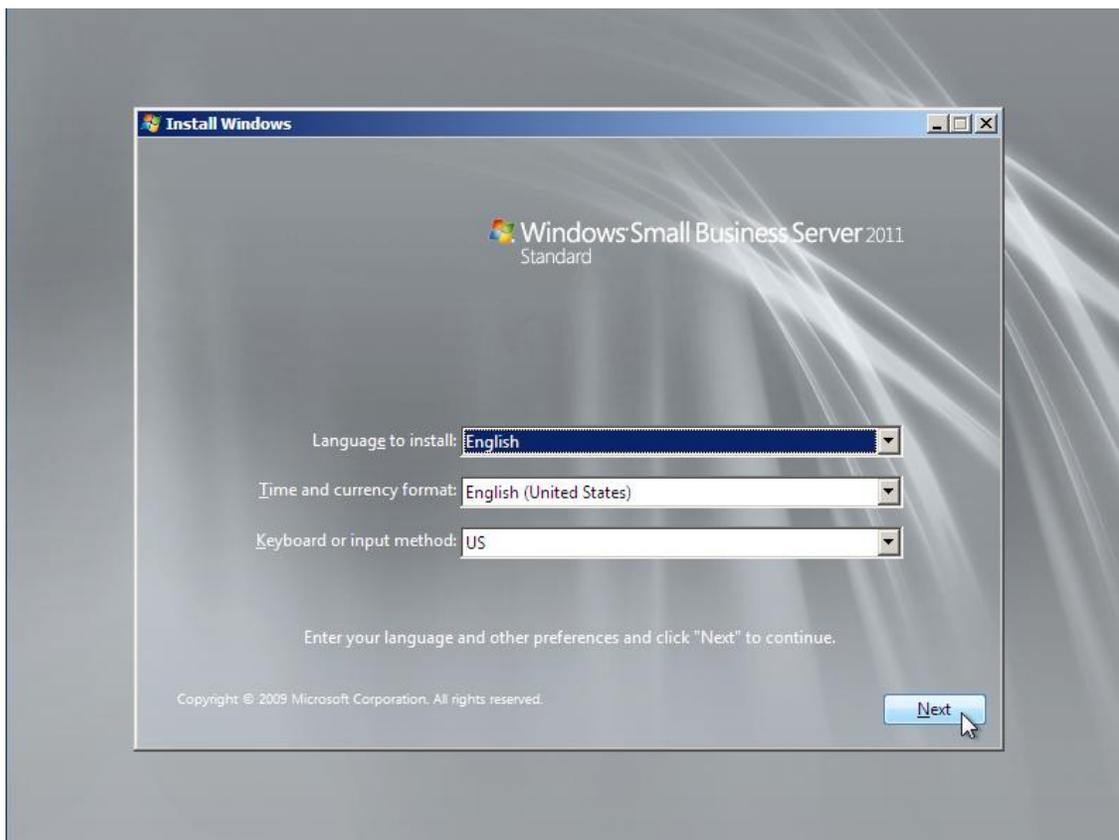
The following example recovery is for a Windows Small Business Server 2011 machine.

Recovery Process

Insert the System Repair disc into the CD or DVD drive and as long as the BIOS is already configured to boot from Optical drive (CD/DVD) first, then you will see the following screen. If you don't see the message, you'll need to hit the correct key when booting to access the boot options screen and choose your CD / DVD Drive to boot from.



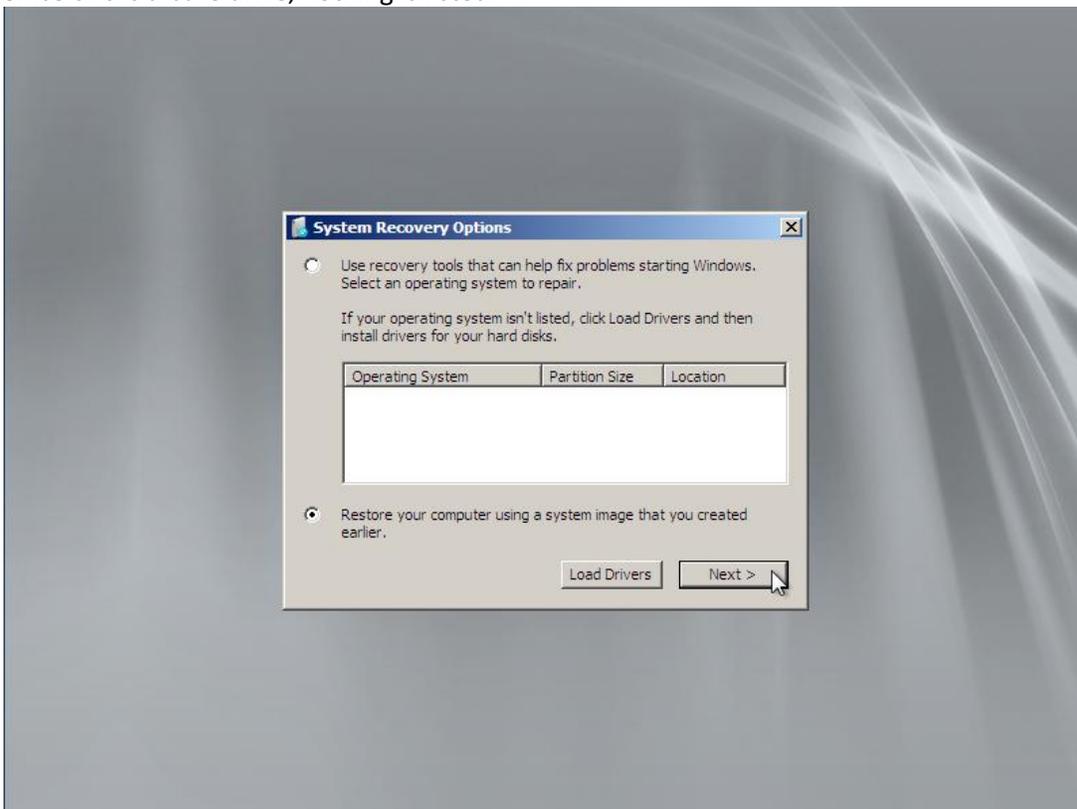
After that the Install Windows screen comes up. Click Next.



Choose Repair Your Computer

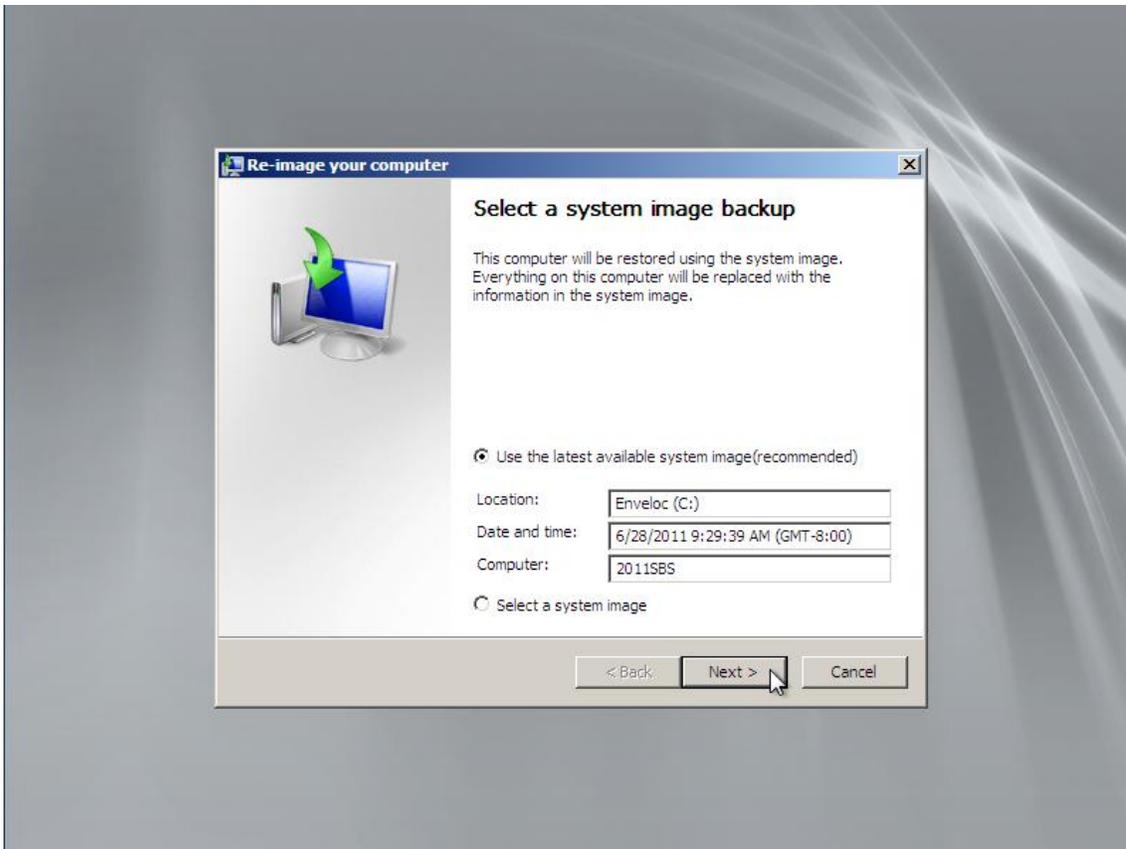


System Recovery searches for any Windows installation(s) you have on the hard drive. Since this is a bare drive, nothing is listed.

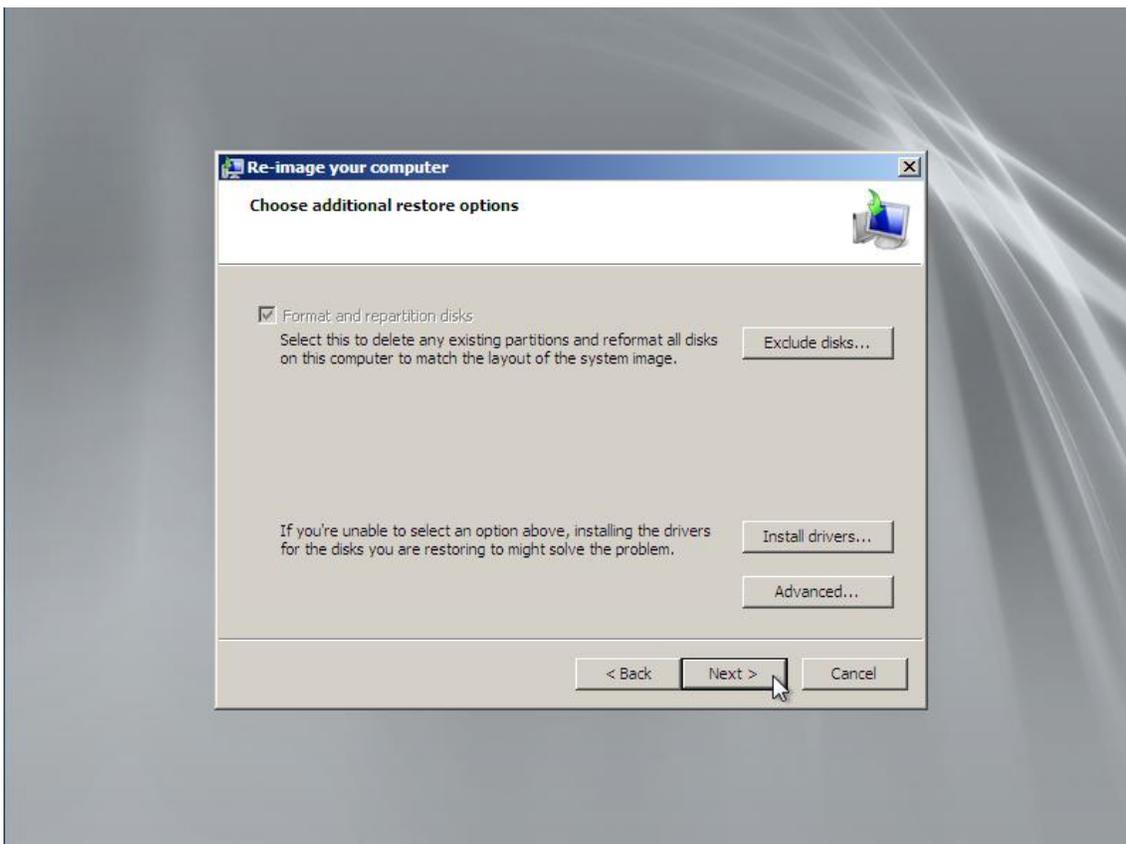


Select "Restore your computer using a system image you created earlier" and click Next.

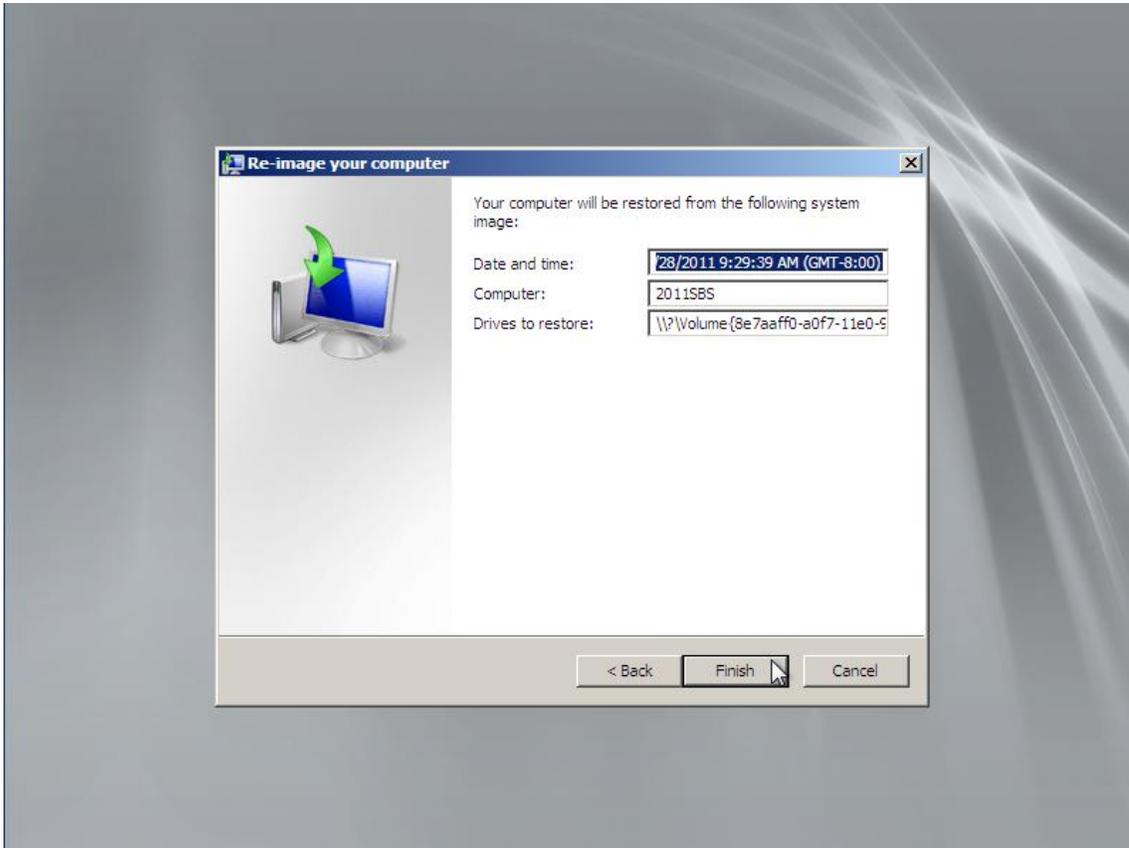
Recovery found the last system image which was saved on an external hard drive called Enveloc. Ignore the fact that it seems to be on drive C, Windows will sort all that out.



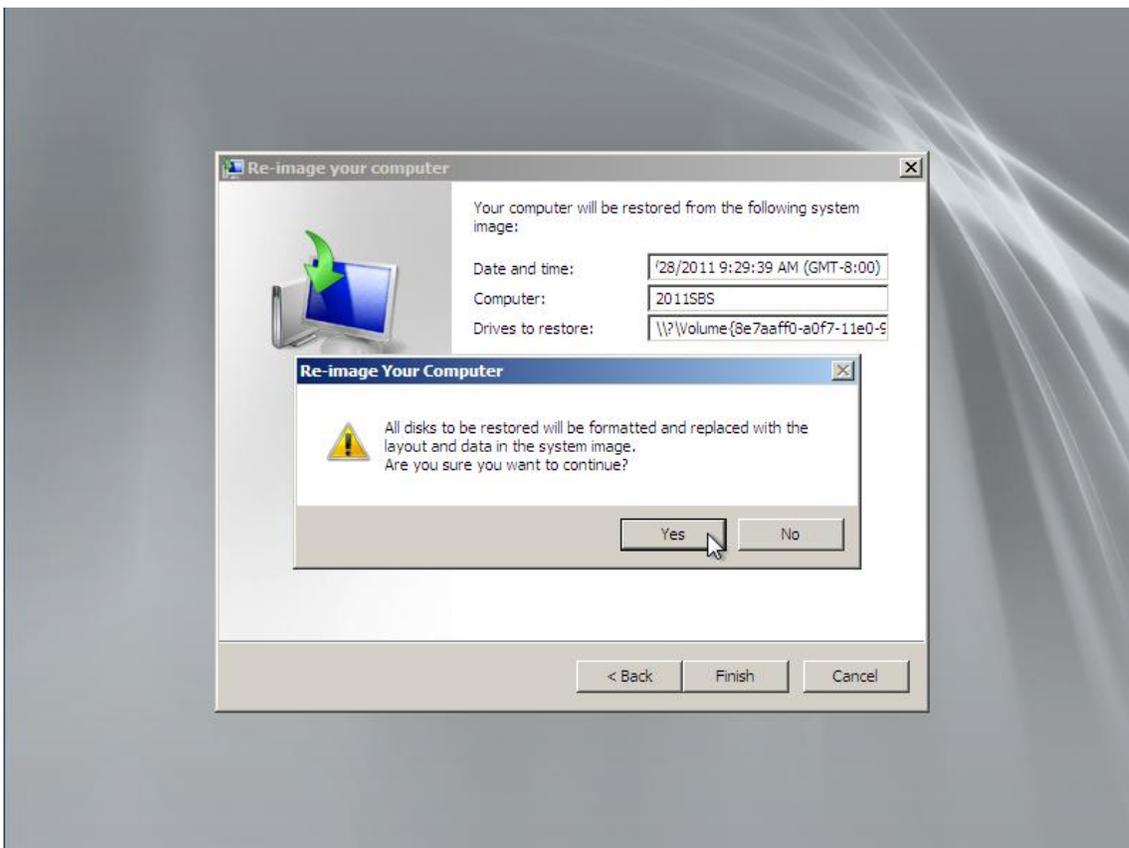
Click Next...there are no other partitions in this example.



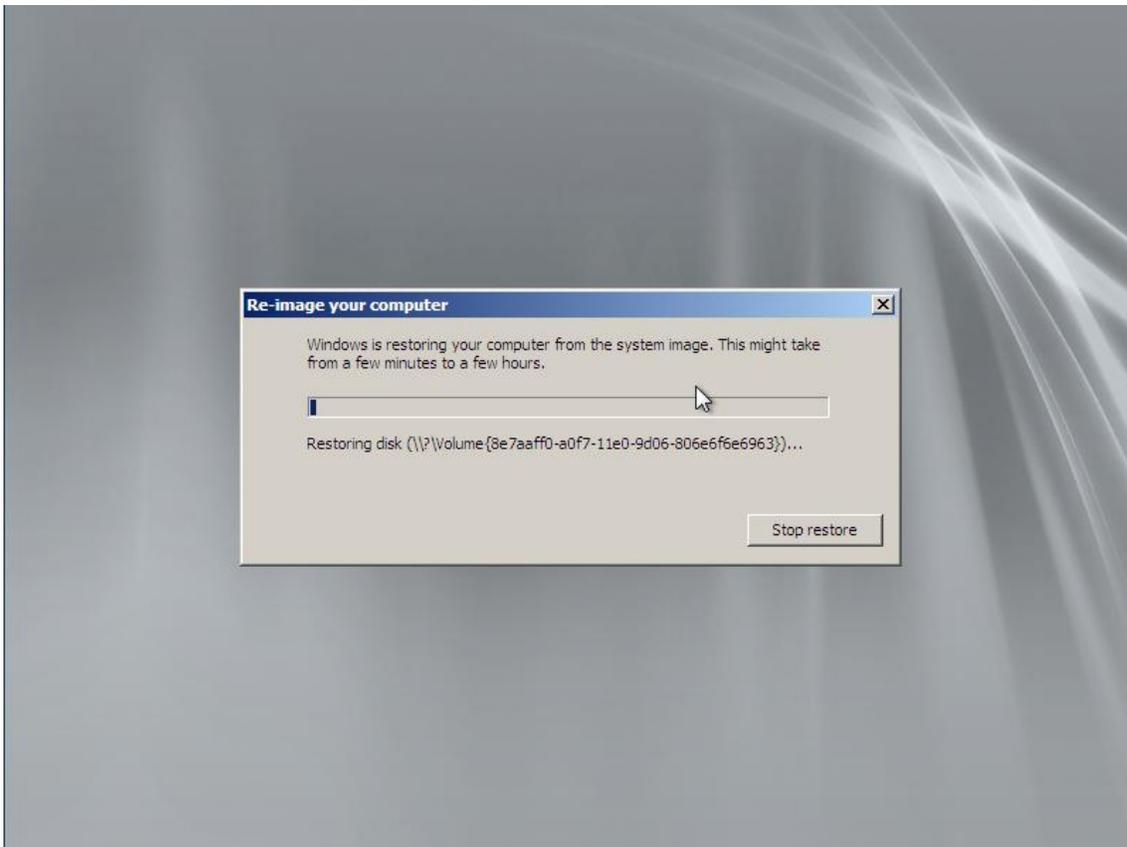
You are then given a final look at the selected image and if everything looks right, click Finish.



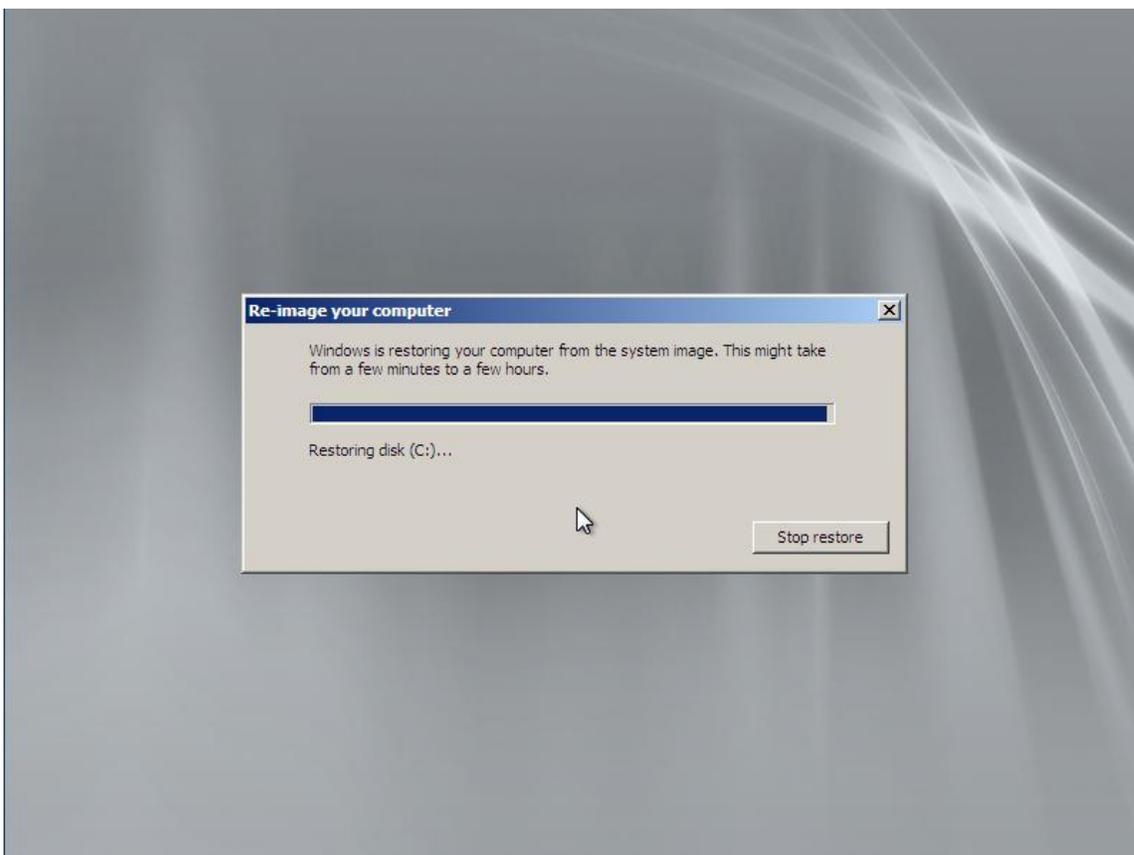
Click "Yes" to the warning message that comes up verifying you want to restore the computer with the selected image.



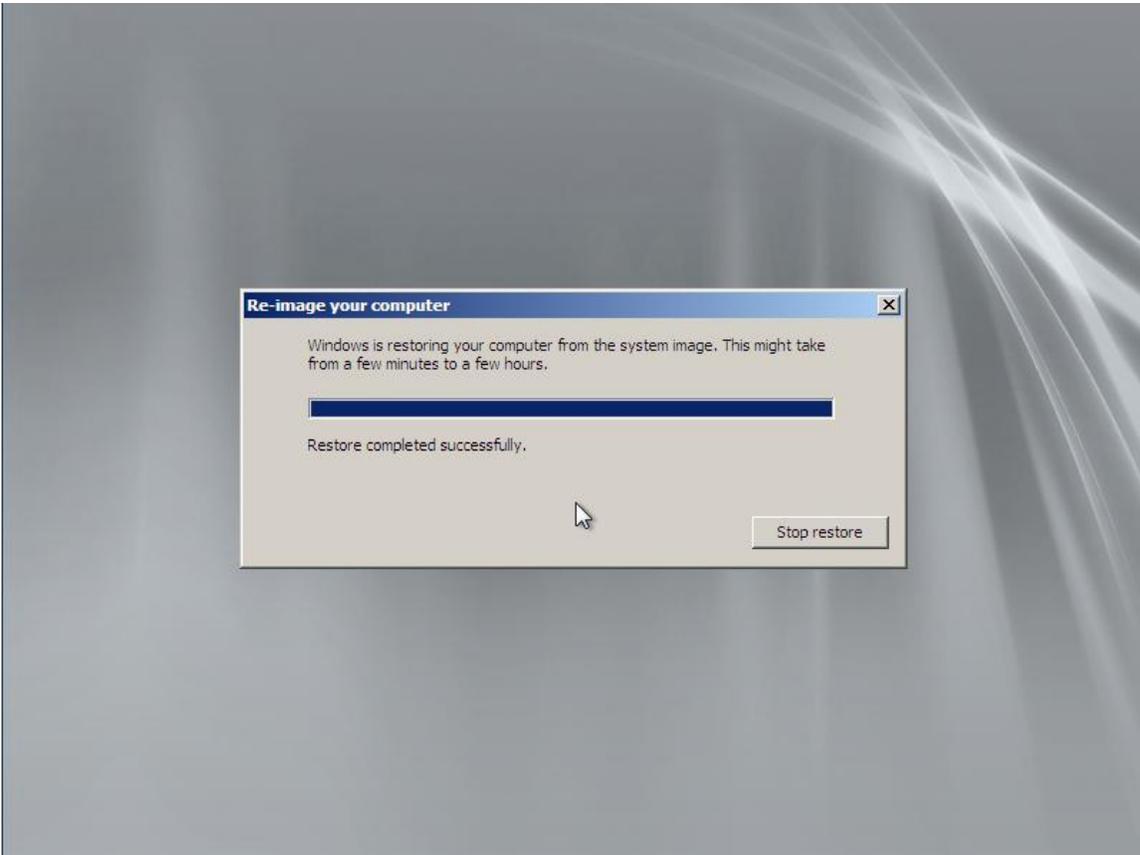
The recovery process will begin. Depending on size of the image and how much data there is, it may take several hours.



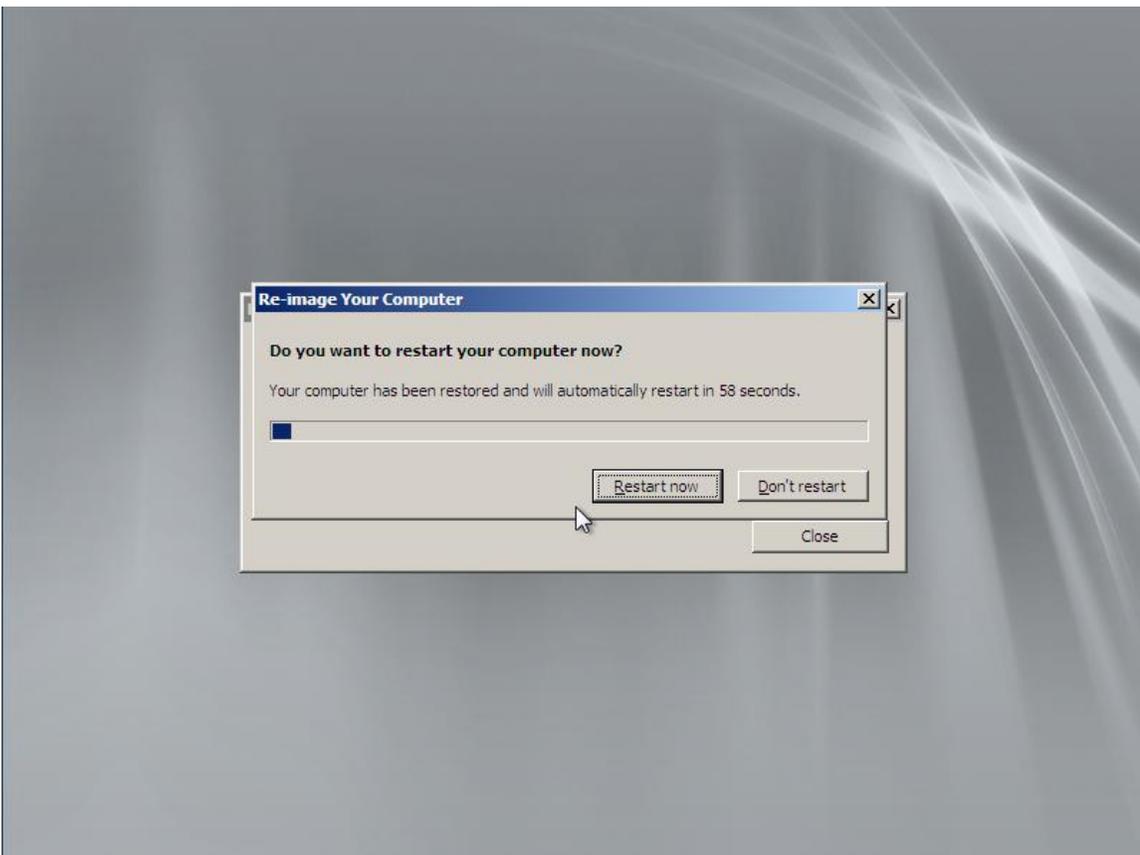
Notice it now shows that it is restoring Disk C.



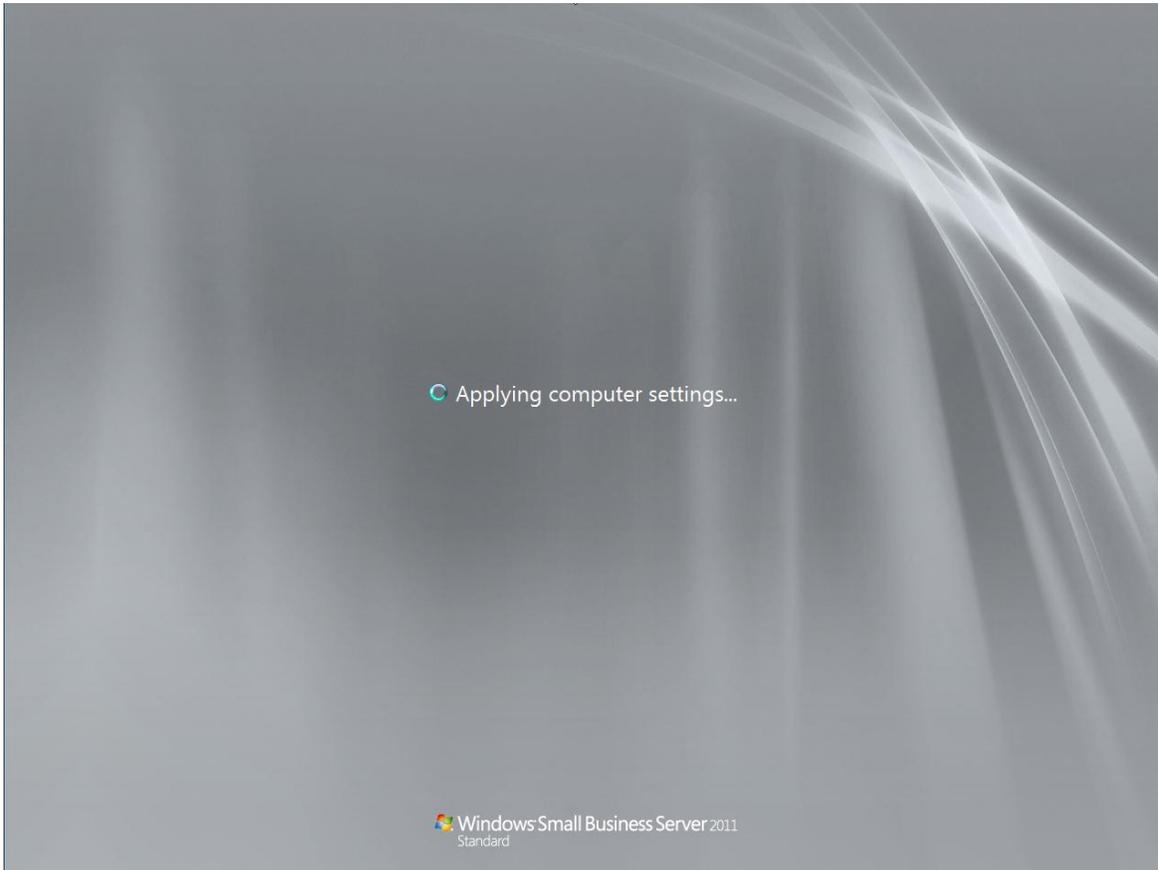
Success!



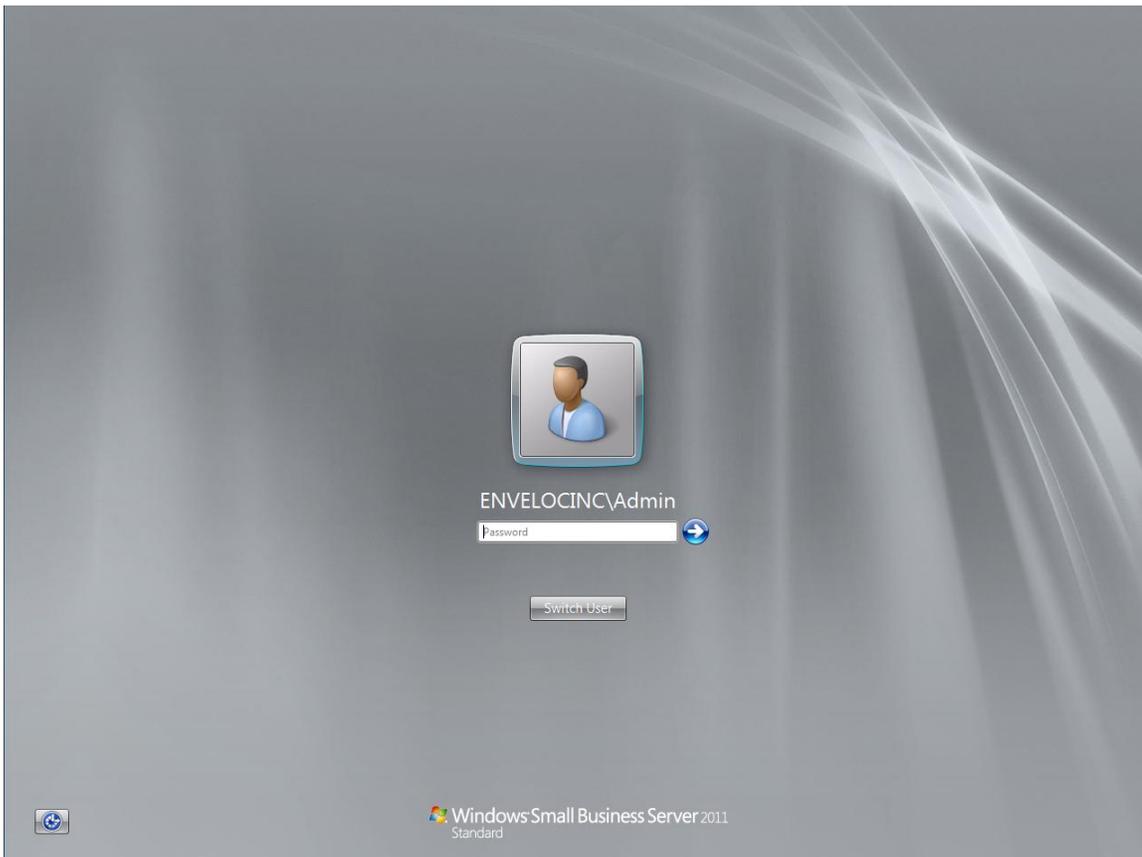
It will restart itself or you can click Restart Now.



It will then boot the restored image for the first time.



When the process is complete, you should end up with the Windows logon screen you are used to seeing!



Post-recovery

After the system image finished restoring to the drive, the Recovery Environment rebooted the system. Once you log in, the device manager will immediately begin searching for and installing appropriate drivers for that system's components as needed. This may take several minutes and require a restart or two. Some drivers may need to be provided by you after restoration of the image.

Once it has finished updating, you may have to re-activate Windows. This depends on whether your recovery was to dissimilar hardware. Just replacing a failed drive and restoring the image to the same system should not require this. You may then restore any backed-up data changed since the image creation date. Conveniently, your Enveloc installation will be restored along with the image so you can easily request anything you need.

As with all restoration/recovery efforts, please contact Enveloc's technical support department for assistance if you need it. We are here to help you.

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