EVault System Restore 8.3

User Guide

EVault®
from Carbonite

Contents

1   Overview: Restore a Windows system

If a Windows computer is protected by a Bare Metal Restore (BMR) backup, you can restore the computer, including its operating system and system state, to the machine where it was backed up or to a different machine.

A BMR backup is created using the Windows Agent or Image Plug-in and contains all volumes necessary for starting the protected system. For information about creating a BMR backup, see the Portal online help, Windows Agent User Guide or Image Plug-in User Guide.

To restore a Windows system from a BMR backup, you must:

1. Create recovery media. Recovery media is a USB flash drive or other device with an EVault System Restore ISO image file, and is used to boot destination machines and restore protected computers. See Create recovery media.

   You do not need to create recovery media every time you restore a system. You can use the same recovery media to restore multiple Windows computers.

2. Choose the machine where you will restore the protected system. See Choose a destination machine for a restore.

3. Boot the machine from the recovery media, and restore the protected system. See Restore a Windows system.

4. If required, repair the operating system and drivers for the restored computer. See Repair a restored system.

2   Create recovery media

Before you can restore systems from BMR backups, you must create recovery media. Recovery media is a USB flash drive, CD, DVD or PXE boot server with an EVault System Restore (ESR) ISO image file, and is used to boot destination machines and restore protected computers.

You can create recovery media using the Bootable Media Creator utility (BMC) from EVault.

You do not need to create recovery media every time you restore a system. You can use the same recovery media to restore multiple Windows computers.

The Windows Preinstallation Environment (Windows PE) must be installed on the system where you run BMC. Windows PE is a component of the Windows Assessment and Deployment Kit (ADK). You can download Windows ADK from Microsoft and install it before running BMC or when you run BMC. For supported Windows ADK versions, see the Evault System Restore release notes.

To create recovery media:

1. If the Bootable Media Creator (BMC) is not installed on the machine where you want to create recovery media, double-click the BMC installation kit.

2. If a message states that Bootable Media Creator requires one or more items to be installed, click **Install**.

3. Start BMC. On the Welcome page, click **Continue**.

4. If the Install Windows Assessment and Deployment Kit page appears, you must install Windows ADK before you can create the recovery media. Click **Download** to download the Windows ADK installer from Microsoft, and then run the installer.

   When installing Windows ADK, select **Windows Preinstallation Environment (Windows PE)** on the feature selection page. For more information about Windows ADK, see documentation from Microsoft.

5. To add drivers for specialized hardware, click **Add** on the Build Bootable Media Image page. In the Browse for Folder dialog box, browse to the location of driver (.inf) files, and then click **OK**.

6. Click **Continue**.

7. On the Select the Recovery Media Destination page, do one of the following:

   - To create recovery media on a USB flash drive, select **USB Flash Drive**, and choose a flash drive from the list. To add a flash drive to the list, insert the flash drive into a USB port, and click **Refresh** when it is ready.

     The flash drive storage capacity must be at least 500 MB.

- To create an ISO image file, select **ISO Image**, and specify a location for saving the file.

  After creating an ISO image file, you must burn it to a bootable CD or DVD or set up a PXE boot server before you can use it as recovery media.

8. Click **Continue**.

   When finished, a message states that your recovery media is ready.

9. Click **Close**.

3   Choose a destination machine for a restore

Before restoring a system from a BMR backup, you must choose a destination machine where the system will be restored.

The destination machine can be the machine where the computer was backed up, or can be a different physical or virtual machine. If you restore a system to the machine where it was backed up, files will be restored to their state when the system was backed up.

When restoring a protected computer using recovery media, the destination machine:

- Must have 64-bit hardware. ESR can only restore a system to 64-bit hardware. However, you can restore a computer with a supported 32-bit operating system to 64-bit hardware.

  Note: If you restore a system with a 32-bit operating system to a 64-bit virtual machine, edit settings for the virtual machine and change its guest operating system to the 32-bit operating system before rebooting the restored system.

- Can be a physical or virtual machine (VM). You can restore a backup of a physical computer to a physical or virtual machine, and can restore a backup of a virtual computer to a physical or virtual machine.

  When restoring a computer to a VM, ensure that the VM configuration is compatible with the computer that is being restored.

- Can use UEFI or BIOS. You can restore a backup of a BIOS-based computer to a BIOS or UEFI machine. You can restore a backup of a UEFI-based computer to a UEFI machine, but cannot restore a backup of a UEFI-based computer to a BIOS machine. For more information, see Restoring UEFI-based systems and Restoring BIOS-based systems.

- Can have an operating system and files, or can be in a bare metal state. If you restore to a machine that has an operating system and data, the existing files will be overwritten.

- Can have similar hardware to the protected system, or can have dissimilar hardware.

  If the destination machine hardware supports the operating system of the protected system you are restoring, you should be able to restore even if, for example, the disks are different). You might not be able to restore if the destination hardware is incompatible with the source operating system.

  Some non-Intel or non-AMD processors, such as Itanium, might not restore to Intel/AMD processors.

4   Restore a Windows system

After creating recovery media, you can restore a Windows system from a BMR backup to a destination machine. The destination machine can be the machine where the system was backed up or a different machine. See Choose a destination machine for a restore.

Note: If you are restoring a system to a different destination machine (i.e., not the machine where it was backed up), make sure that the original machine is offline. This will help avoid IP address and name conflicts after the restore.

To restore a Windows system:

1. Boot the destination machine from the recovery media.

   If the recovery media is a bootable USB flash drive, CD or DVD, the device should be the first option in the boot order of the firmware. If another bootable device is listed before the recovery media, ESR might not launch automatically.

   If the ESR ISO file is on a PXE server, the PXE option must be enabled in the firmware and the DHCP server must be set up in the network where the system resides.

2. On the EVault System Restore page, specify the time zone and keyboard, and then click **Next**.

   This time zone is used for showing available restore points (i.e., BMR backup start times) in ESR. The restored machine will have the time zone of the system that was backed up.
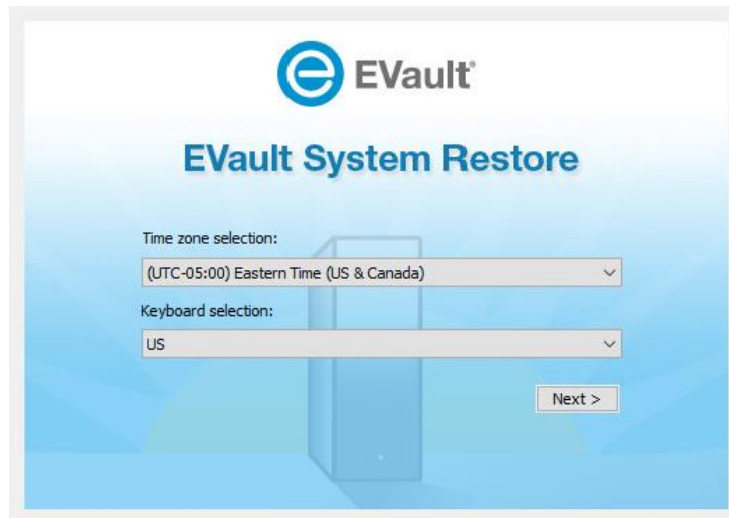
3. On the License Agreement page, read the license agreement. Select **I accept the terms and conditions in the license agreement**, and then click **Next**.

4. On the Main Menu page, click **Restore My System**.

    Note: You can also test a restore without actually restoring the system. To do this, click the **Restore Test-Run** button, and follow the remaining steps.
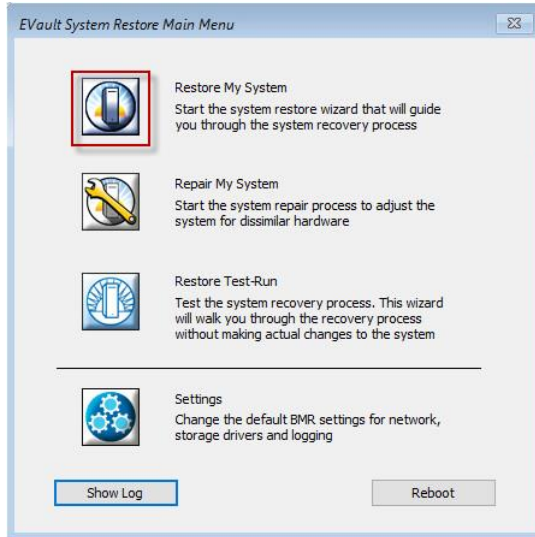
The restore wizard lists steps in the restore process:

*   Step 1. Select the backup source

*   Step 2. Select the restore point

*   Step 3. Create a restore plan

*   Step 4. Execute the restore plan
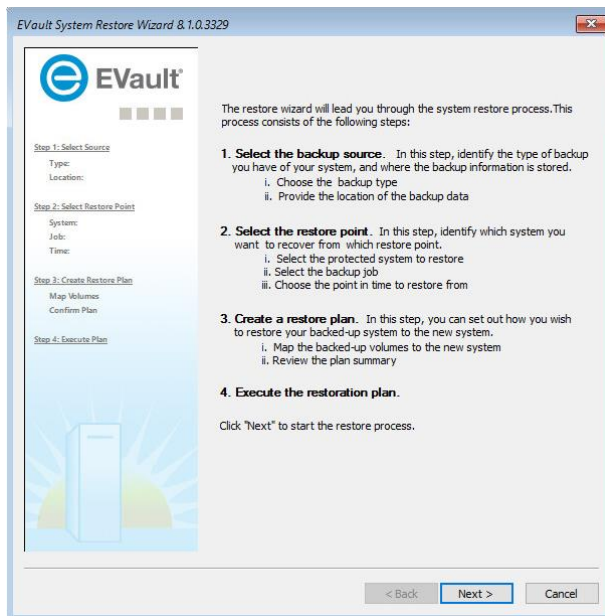
5. Click **Next**.

Step 1. Select the backup source

The backup source is the location of the BMR backup from which you want to restore. The backup location is usually a vault, but can also be direct-attached or local storage where safeset image (SSI) files are saved.

6. On the Choose Backup Location page, do one of the following:

   - To restore from a backup in a vault, select **Vault**. Specify the IP address or hostname (if DNS is available) of the vault. Specify the vault account, username and password used for the backup.

     To specify port, reconnection and encryption options, click **Advanced Settings**. In the Advanced Settings dialog box, specify settings and then click **OK**.

   - To restore from SSI files, select **Local Disk**. Click **Browse** and navigate to the SSI files.

     Note: You cannot restore from SSI files on a USB flash drive. However, you can restore from SSI files on a standard USB hard drive or SSD.
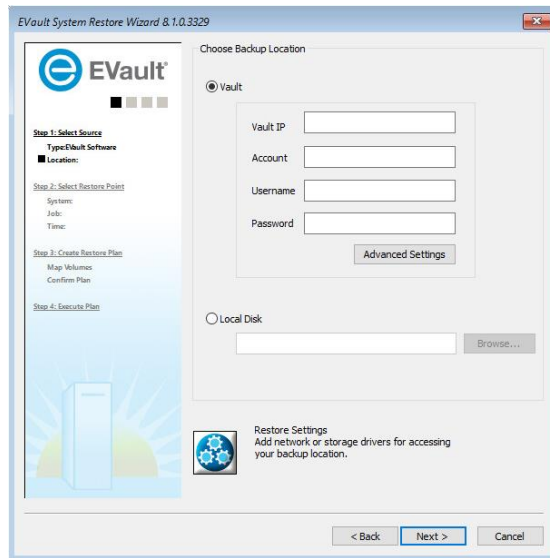
7. If you are restoring from a backup in a vault and ESR is not connected to a network, click **Restore Settings**. In the Settings dialog box, configure a network connection for ESR. See Set up a network connection for ESR.

   Normally, ESR connects to a network automatically. However, if DHCP is not configured on your network or network card drivers are not present, you must set up the connection.

   Note: This process does not configure networking for the restored system. You can configure networking for the restored system after you start it.

8. To install or update device drivers, click **Restore Settings**. In the Settings dialog box, install or update drivers on the All Devices tab. See Install or update device drivers.

9. Click **Next**.

Step 2. Select the restore point

The restore point is the start date and time of the BMR backup from which you want to restore.

10. On the Select Protected System page, click the protected system that you want to restore, and then click **Next**.
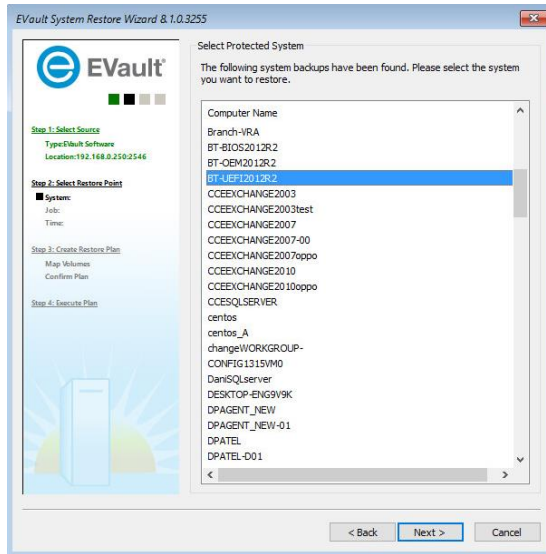
11. On the Select Backup Job page, click the BMR backup job from which you want to restore, and then click **Next**.
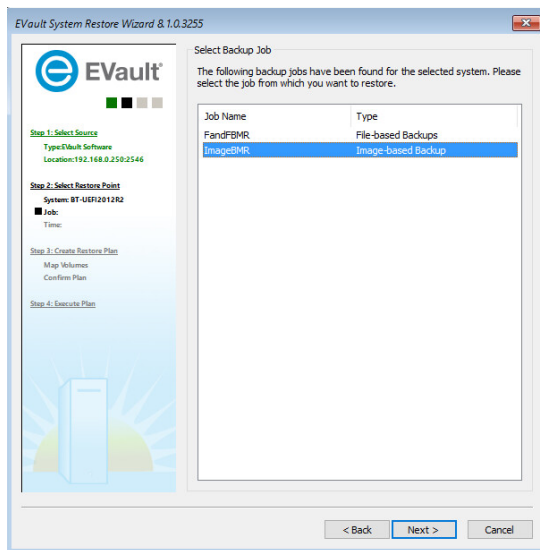
12. On the Select Restore Point page, click the start date and time of the BMR backup that you want to restore, and then click **Next**.

    Restore points are shown in the time zone selected in Step 2.
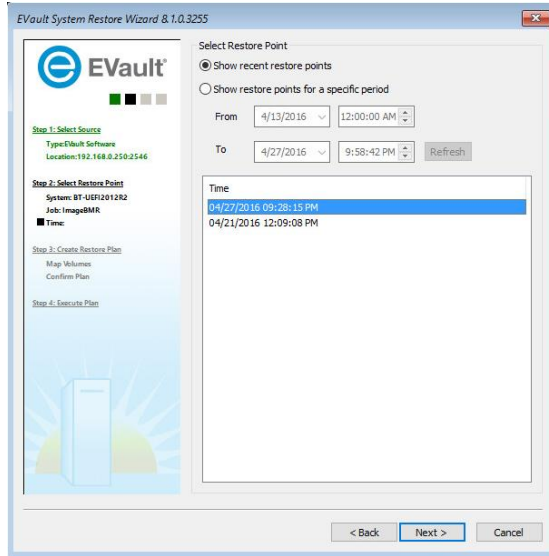
13. In the Password dialog box, enter the encryption password for the backup, and then click **OK**.
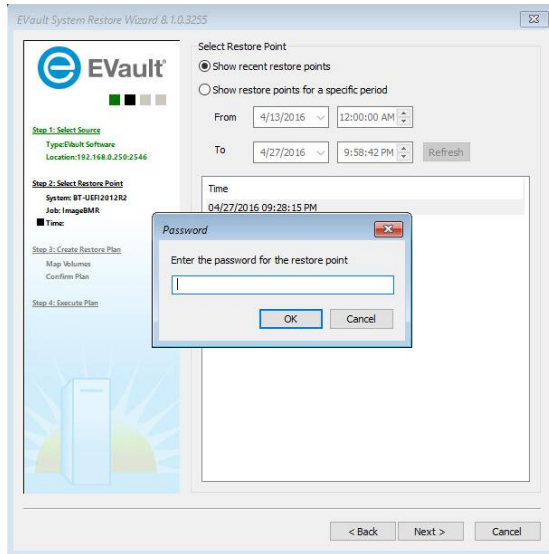
    The Select Source and Destination Volumes page appears. This page shows disks and volumes in the protected (source) system and in the destination machine. Blue rectangles

represent volumes that were backed up and can be restored. For more information, see Items on the Select Source and Destination Volumes page.
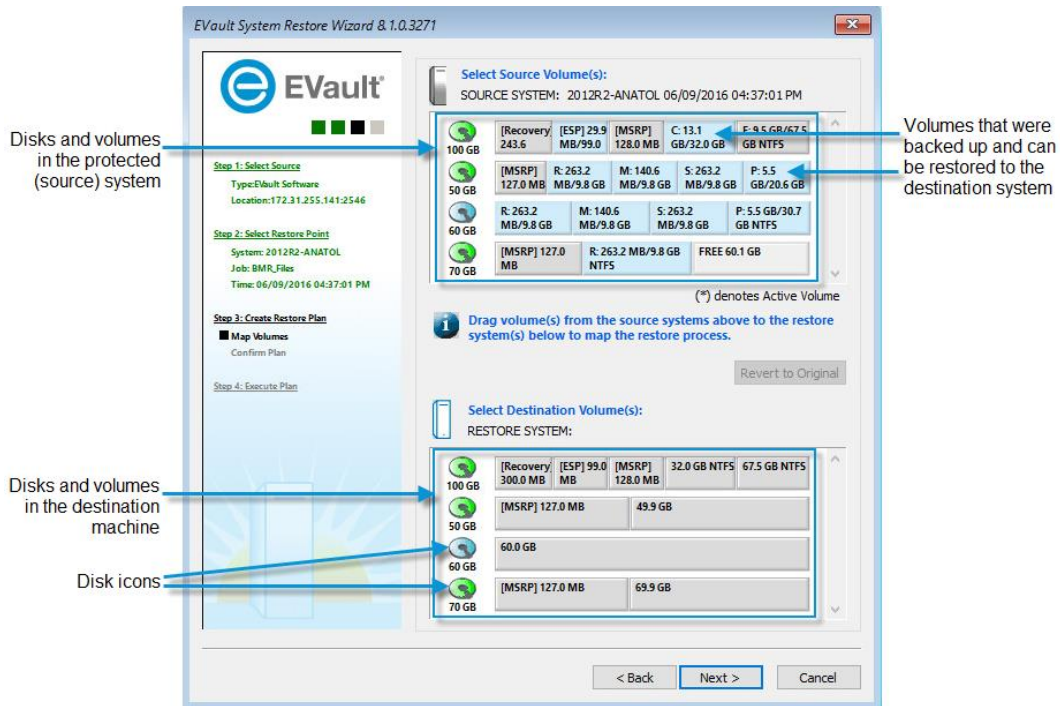
Note: If disks are missing from the destination machine, you might need to add drivers for a RAID controller or other disk device. See Install or update device drivers.

Step 3. Create a restore plan

You can create a restore plan on the Select Source and Destination Volumes page. A restore plan shows which volumes from the backup to restore to the destination machine.

14. If the destination machine has existing volumes, do one or more of the following to make room for volumes that you want to restore:

   • To delete a volume from the destination machine, right-click the volume, and click **Delete Volume**.

     Note: You cannot delete MSRP volumes using this method. To remove an MSRP volume, right-click the disk icon and change the disk format.

   • To change the size of a volume in the destination machine, right-click the volume and click **Edit Volume**. Enter a size for the volume, and then click **OK**.

15. To view the entire label for a volume, point to the volume. The label appears in a tooltip.
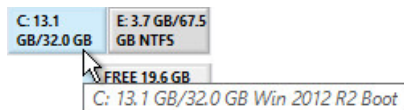
16. Do one or more of the following until the Select Destination Volumes area shows the volumes that you want to restore to the destination machine:

- To change the format of a disk in the destination machine, right-click the disk icon and choose **Convert to GPT disk** or **Convert to MBR disk**.

- If the protected (source) system has an "ESP" volume (e.g., [ESP] 29.9 MB/99.0):

    i.   Drag the ESP volume from the source system to the start of a GPT-formatted disk in the destination machine.
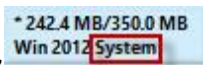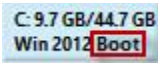
    If a message states that an EFI partition can only be restored to a UEFI system, you are trying to restore the system to a BIOS machine. You can only restore a UEFI-based system to a UEFI destination machine.

    ii. Drag the "Boot" volume from the source system to the right of the ESP volume in the destination machine.

    iii. Drag other volumes that you want to restore, if any, from the source system to the destination machine.

    Note: A system with an ESP volume is UEFI-based. See Restoring UEFI-based systems.

- If the protected (source) system has a "System" volume (e.g., * 242.4 MB/350.0 MB Win 2012 System):

    i.   Drag the "Boot" volume (e.g., C: 9.7 GB/44.7 GB Win 2012 Boot) from the source system to the start of a GPT-formatted disk in the destination machine.

    If an ESP volume is created automatically in the destination machine, you do not need to restore the System volume.

    ii. If an ESP volume is not created automatically, drag the System volume to the right of the Boot volume.

    If a message states that the volume is an OEM volume, delete the Boot volume from the destination machine disk. Drag the System volume to the start of the destination machine disk, and then drag the Boot volume to the right of the System volume. See Restoring OEM partitions.

    iii. Drag other volumes that you want to restore, if any, from the source system to the destination machine.

    Note: A system with a "System" volume is BIOS-based. See Restoring BIOS-based systems.

- To revert disks in the destination machine to their original state, click **Revert to Original**.

EVault System Restore 8.3 User Guide

17. Click **Next**.

The Restore Plan Summary page lists changes that will be made in the destination
machine if you run the restore.
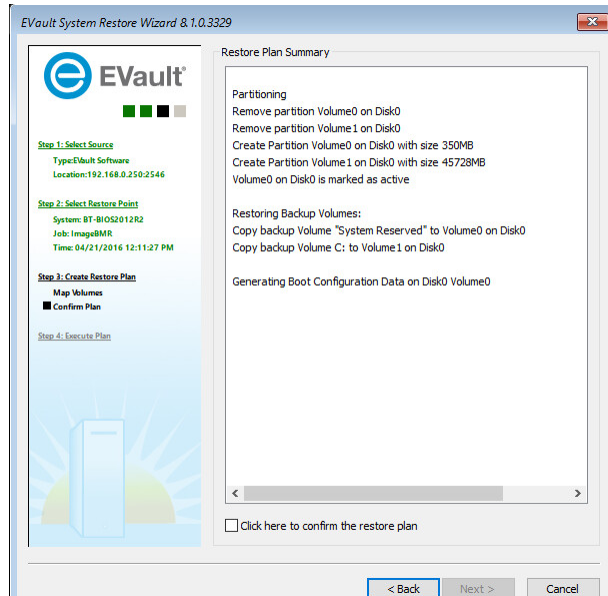
Step 4. Execute the restore plan

18. Review the restore plan. Do one of the following:

- If you are not satisfied with the restore plan, click **Back** to change the restore plan or
Cancel to cancel the restore.

- If you are satisfied with the restore plan, select **Click here to confirm the restore
plan**, and then click **Next**.

The restore begins. A message appears when the restore is finished.

19. Click **OK** in the message box, and then click **Next**.
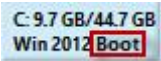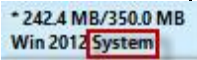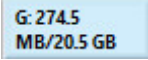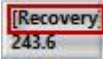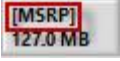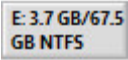
20. Do one of the following:

- If the restore was successful and you want to start the restored system, select **Reboot
the system**. Click **Finish**.

- If the system was successfully restored but the destination machine hardware is
significantly different than the original machine, click **Next** to proceed to the repair
wizard. See Repair a restored system.

- If the restore failed, exit from the wizard.

Note: A restore must finish within 72 hours, or it will fail.

4.1   Items on the Select Source and Destination Volumes page

As described in Step 3. Create a restore plan, the Select Source and Destination Volumes page shows disks and volumes in the protected (source) system and destination machine. The following table describes items on the page.

Item	Example	Description
Blue rectangles		**Volumes that are backed up and can be restored**
ESP/EFI partition	[ESP] 29.9 MB/99.0	An Extensible Firmware Interface (EFI) System Partition. A UEFI-based system must have an EFI system partition or the system will not boot up. See Restoring UEFI-based systems.
Boot volume	C: 9.7 GB/44.7 GB Win 2012 Boot	A boot volume. A BIOS-based system must have a boot volume or the system will not boot up. See Restoring BIOS-based systems.
System volume	* 242.4 MB/350.0 MB Win 2012 System	A system volume. A BIOS-based system must have a system volume or it will not boot up. See Restoring BIOS-based systems. A volume with the "System" label can also be an OEM partition. See Restoring OEM partitions.
Optional volume	G: 274.5 MB/20.5 GB	Volume that was backed up and can be restored, but is not required for the destination machine to boot up.
Gray rectangles		**Volumes that are not backed up and cannot be restored**
Recovery volume	[Recovery] 243.6	A recovery volume that contains system files, drivers and factory default setup information. Recovery volumes are not backed up.
MSR partition	[MSRP] 127.0 MB	Microsoft Reserved (MSR) partition. An MSR partition is disk space reserved for Windows use on a GPT disk. If one is required in the destination machine, it is created automatically.
Volume	E: 3.7 GB/67.5 GB NTFS	In a source system, a volume that was not backed up. In a destination machine, an existing volume on the disk. You can delete, change or overwrite an existing volume.
Free space	FREE 9.8 GB	Free space on a disk.
Disk icons		**One icon for each disk. The icon color represents the disk format.**
		GPT-formatted disk. If you drag a volume to an uninitialized disk on a UEFI destination machine, the disk type automatically changes to GPT.
		MBR-formatted disk
		Uninitialized disk

4.2   Set up a network connection for ESR

To connect to a vault during a restore, ESR requires a network connection. Normally, ESR sets up a network connection automatically. However, if DHCP is not configured on the network or you want to use a static IP address, you can set up the connection manually.

Note: This process sets up a network connection for ESR, not the restored system. You can configure networking for the restored system after you start it.

To set up a network connection for ESR:

1. In the ESR wizard, do one of the following:

    - To set up a default network connection, click **Settings o**n the ESR main menu page.

    - To set up a network connection for a specific restore, click **Restore Settings** on the Choose Backup Location page.

    The Settings dialog box shows recognized network adapters in the destination machine. The Device Properties area shows driver information for the selected adapter.
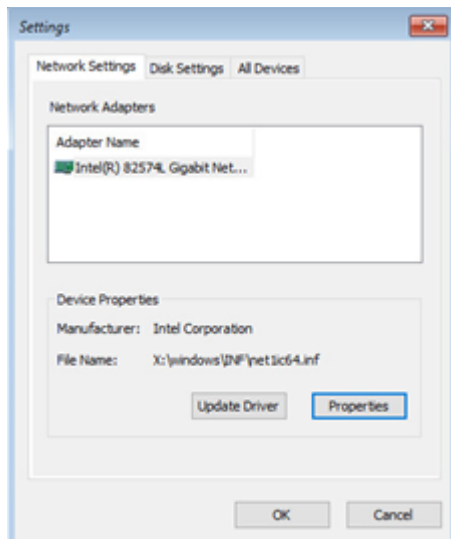
2. To install or update the driver for a network adapter, select the adapter, and then click **Install** or **Update Driver**. In the Install Driver dialog box, do one of the following:

   - To install the driver from a local disk, select **Local Disk.** Browse to the .inf file location, or enter the path to the driver manually.

   - To install the driver from a network share, select **Network Share**, and enter the path to the .inf file. You cannot browse to a network share.

3. Select the network adapter to use for the network connection.

4. Click **Properties**. If a driver is installed for the adapter, a LAN is connected, and a port is enabled, the Network Configuration dialog box appears.
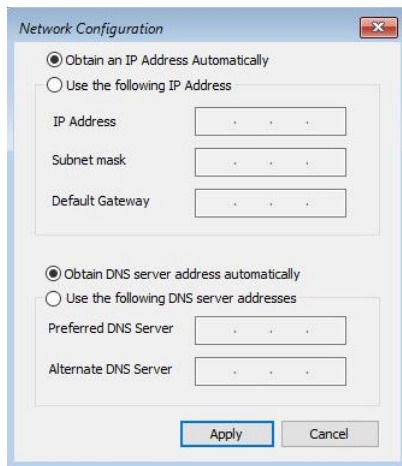
5. In the Network Configuration dialog box, select **Use the following IP Address**.

6. Enter the IP address, subnet mask, and default gateway for the network adapter.

7. If you have DHCP and want to access other systems using domain names instead of IP addresses, select **Use the following DNS server addresses**. In the Preferred DNS Server field, enter the primary DNS IP address for the network adapter. You can also provide an IP address for an alternate DNS server.

8. Click **Apply**.

4.3   Install or update device drivers

ESR includes commonly-used recovery-critical drivers. You can install other drivers for destination machine devices. For example, if you cannot see all available storage devices in the destination machine when restoring a system, you might need to add a driver for a RAID controller or other disk device. You can also update existing drivers.

To install or update a device driver:

1. In the ESR wizard, do one of the following:

   - To change the default network settings, click **Settings** on the ESR main menu page.

   - To change network settings for a specific restore, click **Restore Settings** on the Choose Backup Location page.

   The Settings dialog box shows recognized network adapters in the destination machine. The Device Properties area provides driver information for the selected adapter.

2. In the **Settings** dialog box, do one of the following:

   - To install or update a network adapter driver, click the **Network Settings** tab.

   - To install or update a storage device driver, click the **Disk Settings** tab.

   - To install or update another device (e.g., PCI device) driver, click the **All Devices** tab.

   The tab lists devices in the destination machine.
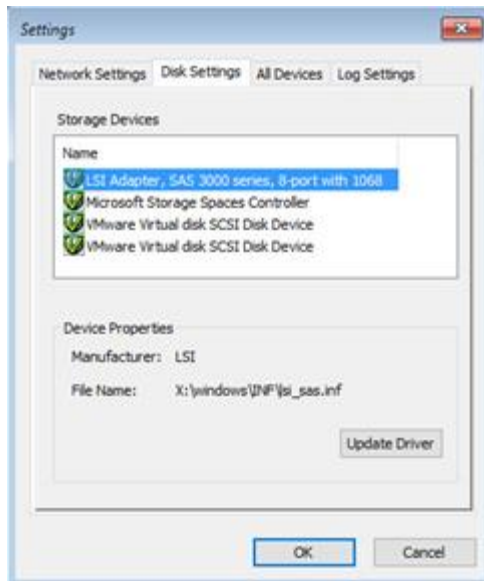
3. Select the device for the driver installation or update.

   If there is no driver for the device, the Install button will appear. If there is a driver, the Update Driver button will appear.

4. Click **Install** or **Update Driver**. In the driver dialog box, do one of the following:

   - To install the driver from a local disk, select **Local Disk.** You can then browse to the .inf file location, or enter the path to the driver manually, and click OK.

   - To install the driver from a network share, select **Network Share**. You can then enter the path to the .inf file manually, and click OK. You cannot browse to a network share.

5. Click **OK**.

4.4   Configure restore log settings

You can configure the following settings for ESR restore logs:

- Level of detail. You can include error messages only, warning and error messages, or all messages in the logs. You can also disable logging.

- Maximum log file size. When the maximum log file size is reached, the log starts overwriting the file from the beginning. By default, the maximum log file size is 100 MB.

- Log file location. By default, the log file is saved on the X: RAM drive, which is lost after reboots. We recommend saving logs on a separate device.

To configure restore log settings:

1. On the ESR main menu page, click **Settings**.

2. In the **Settings** dialog box, click the **Log Settings** tab.
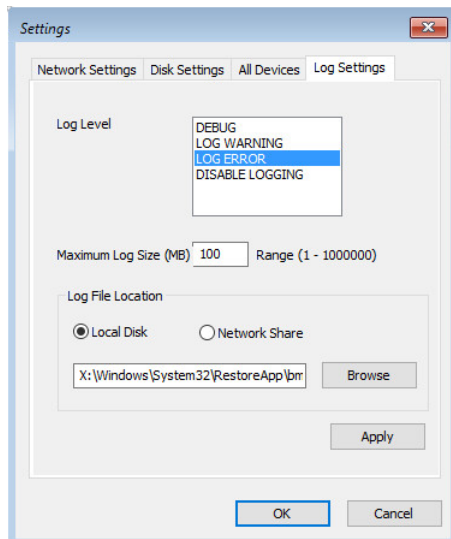
3. In the **Log Level** list, do one of the following:

   - To record all messages in the log, select **Debug**.

   - To record warning and error messages, select **Log Warning**.

   - To only record error messages, select **Log Error**.

   - To not generate a log, select **Disable Logging**.

4. To change the maximum log file size, enter the size in MB in the **Maximum Log Size** field.

5. To change the log file location, do one of the following:

   - To specify a log file location on a local disk, select **Local Disk.** Browse to the location, or enter the path manually.

   - To specify a log file location on a network share, select **Network Share**, and enter the path manually. You cannot browse to a network share.

6. Click **Apply**.

7. Click **OK**.

5   Repair a restored system

If you restore a system to a destination machine with significantly different hardware, the restored system might not be able to boot. Drivers might be missing for boot-critical devices, and the Hardware Abstraction Layer (HAL) and kernel might not be optimal for the destination machine. You can repair boot-critical devices and perform HAL and kernel repairs using ESR.

Note: Some drivers, such as network drivers, are not necessary for booting a system. After starting a restored system, Windows can update drivers for devices that are not boot-critical.

To repair a restored system:

1. If ESR detects that system repairs are necessary after a restore, the repair wizard starts automatically at the end of a restore.

    To start the repair wizard manually, click **Repair My System** on the Main Menu page.

2. In the operating system list, select the operating system to repair.

    The repair wizard shows information about the operating system, hardware, and boot-critical devices. Status icons appear for the operating system and device drivers. For more information, see Items in the repair wizard.

3. If a yellow operating system status icon appears in the OS Platform and Hardware Details area, the operating system needs to be repaired. Click **Repair OS**.

4. If a yellow status icon appears in the Boot Critical Devices Details area, at least one boot-critical driver needs repair. Do one or more of the following:

   - To repair drivers for all boot-critical devices that need repair, click **Repair All Drivers**.

   - To repair the driver for one boot-critical device that needs repair, click the device name and then click **Repair Selected Driver**.

   - To install a specific driver for a device, click the device name and then click **Change Selected Driver**. In the Browse for Folder dialog box, select the folder that contains the .inf file. If ESR cannot find a matching .inf file in the selected folder, a message appears.

   Note: If ESR does not find the best driver for a device, it might use a more generic driver. Ideally, provide the latest driver (from the vendor) for your specific hardware.

5. Click **Close** to exit from the repair wizard.

5.1 Items in the repair wizard

As described in Repair a restored system, the repair wizard shows status icons for the operating system and boot-critical device drivers. The following table describes possible icons and statuses.

Icon	Description
OS Platform and Hardware status icons	
	Repair is not required. The HAL or kernel does not need to be adjusted for the current hardware.
	Repair is required. The operating system might not be able to boot with the current HAL. This can occur, for example, if you restore a single-CPU operating system to hardware with multiple CPUs or cores. In this instance, you can repair the operating system so that it uses all CPUs.
	Repair is not possible. The selected operating system is not compatible with the current hardware. For example, you cannot restore a non-ACPI operating system to ACPI-compatible hardware.

Icon	Description
Boot Critical Devices status icons	
	Device drivers are OK. The selected operating system does not need new drivers for boot-critical devices.
	At least one device driver needs repair. The Status column for each device indicates whether its driver is OK or needs repair.

6 System-specific restore information

This section provides information about restoring specific types of Windows systems, including:

- Restoring UEFI-based systems

- Restoring BIOS-based systems

- Restoring systems with OEM partitions

- Restoring application servers

- Restoring systems with device installation restrictions

- Restoring data to the original volume

- Restores with dynamic disks and spanned volumes

6.1 Restoring UEFI-based systems

If a protected (source) system on the Select Source and Destination Volumes page includes a partition labeled "ESP", the system is UEFI-based. An ESP (EFI system partition) is required for a restored UEFI system to boot into Windows.
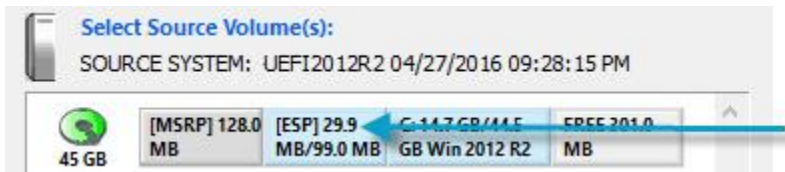
You can only restore a UEFI-based system to a UEFI destination machine. You cannot restore a UEFI-based system to a BIOS destination machine.

Restore the ESP partition from the source system to a GPT-formatted disk in the destination machine. If you drag a volume to an uninitialized disk on a UEFI system, the disk type automatically changes to GPT.

If an ESP volume already exists in the destination machine, the ESP partition from the protected machine should overwrite the existing ESP partition. You can also delete an existing ESP partition if, for example, it is too small to overwrite.

The order of partitions on the GPT disk should be: ESP, OEM (if any) and MSR followed by primary data partition(s). Partition order rules are enforced during a restore.

If required, an MSR (Microsoft Reserved) partition is automatically created on the destination machine during a UEFI system restore.

6.2   Restoring BIOS-based systems

If a protected (source) system on the Select Source and Destination Volumes page includes a partition labeled "System", the system is BIOS-based.

You can restore a BIOS-based system to a UEFI or BIOS destination machine.

Restoring a BIOS-based system to a UEFI destination machine

If you drag the Boot volume from a protected BIOS-based system to a UEFI destination machine, an ESP volume is generated automatically in the destination machine. An ESP (EFI system partition) is required for a UEFI system to boot into Windows.

The ESP partition must be on a GPT-formatted disk in the destination machine. If you drag a volume to an uninitialized disk on a UEFI system, the disk type automatically changes to GPT.
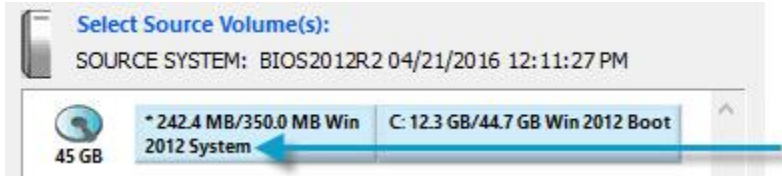
The order of partitions on the GPT disk should be: ESP, OEM (if any) and MSR followed by primary data partition(s). Partition order rules are enforced during a restore.

If required, an MSR (Microsoft Reserved) partition is automatically created in the destination machine.

You do not have to restore the System volume from a protected BIOS-based system to a UEFI destination machine.

When restoring a volume from a BIOS-based system to a UEFI destination machine, there might not be enough space, even if the destination disk is the same size. This problem can occur because an uninitialized UEFI disk defaults to GPT format and additional space is required for a GPT partition table. To prevent this problem, choose a larger destination volume or convert the volume to MBR format.

Restoring a BIOS-based system to a BIOS destination machine

To restore a BIOS-based system to a BIOS destination machine, you must restore both the System volume and the Boot volume from the source to the destination machine. The destination disk must use MBR formatting. A BIOS-based system can have GPT-formatted disks, but cannot boot from a GPT disk.

An active partition is required for booting. The active partition is marked with an asterisk (*).

To avoid losing disk space, initialize all disks larger than 2TB as GPT format. MBR partitioning does not allow to use disk space beyond 2TB.

If the destination machine does not boot after the restore, you may need to go into the BIOS and select the disk for booting. Dragging the System/Active volume to the first disk in the destination machine usually avoids this problem.

6.3   Restoring systems with OEM partitions

You can restore a BIOS-based system with an Original Equipment Manufacturer (OEM) partition to a BIOS or UEFI destination machine.

Note: A "System" label appears on an OEM partition on the Select Source and Destination Volumes page in the restore wizard.

When restoring a protected (source) system with an OEM partition to a BIOS destination machine, the OEM partition must be restored or the system will not boot up. The OEM partition must be restored to the start of a destination machine disk.

When restoring a protected (source) system with an OEM partition to a UEFI destination machine, the OEM volume is not required for booting and does not have to be restored.

If you restore a system with an OEM operating system license to dissimilar hardware, the system might boot but you will not be able to log in to the system without activating Windows. This occurs because OEM licenses are not transferable. When the restore process finishes, contact Microsoft to activate the Windows license.

6.4   Restoring application servers

To fully protect an application server (e.g., a server running Microsoft SQL Server), you must back up the operating system, application binaries, and application data.

If you use an application-specific plug-in (e.g., SQL Server Plug-in) to back up application data, you need a separate BMR job to back up the server operating system and application binaries.

To restore the application server, you can:

1. Use ESR to restore the operating system and application binaries to a destination machine.

2. If required, install an EVault Agent and required plug-ins on the restored system.

    Note: If an Agent was installed on the protected system, it should have already been restored.

3. Use the appropriate plug-in to recover application data to your system.

For information about steps 2 and 3, see the Portal help or Windows Agent and plug-in guides.

If you use the Image Plug-in to create a BMR and SQL application aware backup job, you should be able to restore a working SQL Server using EVault System Restore. However, ESR will not prompt you to restore all SQL Server volumes. It will only require you to restore volumes that are required for booting.

6.5   Restoring systems with device installation restrictions

When device installation restrictions in a system's group policy could prevent a restored system from starting successfully, ESR tries to change the device installation restrictions during a restore.

You can change the device installation restrictions back after starting the restored system.

To change device installation restrictions on a Windows 7 or Windows Server 2008 R2 system, see Microsoft KB article 2773300.

To change device installation restrictions on a system running Windows 8, Windows Server 2012, or a later Windows version, do the following:

1. Start the restored computer.

2. Install required drivers.

3. Using the Registry Editor, import the HKEY_LOCAL_MACHINE_SYSTEM_DriverDatabase_Policies_Restrictions.reg file from the root of the Windows directory drive (usually drive C) into HKEY_LOCAL_MACHINE\SYSTEM\DriverDatabase\Policies\Restrictions.

4. Using the Group Policy Editor, apply a change to a setting in Local Computer Policy\Computer Configuration\Administrative Templates\System\Device Installation\Device Installation Restrictions. The group policy settings will then be applied to the computer.

6.6   Restoring data to the original volume

If you restore a volume from a Local System BMR backup (not an Image BMR backup) to the original simple volume, you might have the option to merge data with existing data.

Merging data is strongly discouraged because:

- The machine can run out of space during the restore.

- The machine might not boot after the restore.

- You could restore from an NTFS volume to a FAT volume and lose security and other streams.

## 6.7   Restores with dynamic disks and spanned volumes

ESR can only restore volumes to basic disks. It cannot create dynamic disks, and cannot restore volumes to dynamic disks on destination machines. You can convert basic disks to dynamic disks after starting a restored system.

Dynamic disks do not appear to be dynamic on the Select Source and Destination Volumes page of the restore wizard. When a volume in a protected (source) system spans dynamic disks, each portion of the spanned volume appears as a separate volume with the same drive letter. When a destination machine disk has dynamic partitions, one large volume appears for all dynamic partitions on the disk.

As an example, consider the system shown in the following Disk Management screen. This system has three dynamic disks (Disks 1, 2 and 3) and four volumes (R, M, S and P) that span disks.
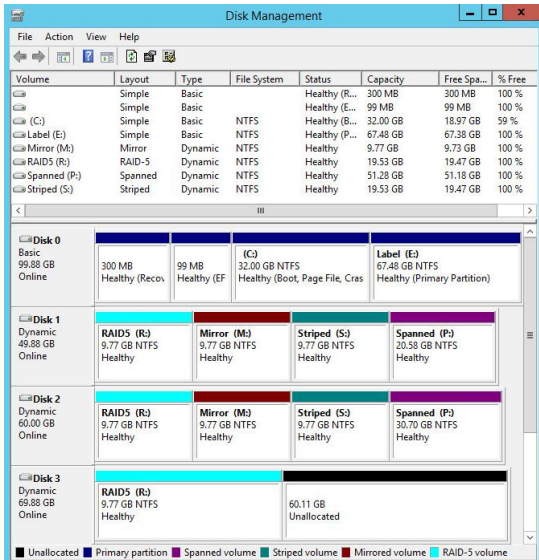
When this system is the protected (source) system in ESR, each portion of a spanned volume appears as a separate volume with the same drive letter. For example, the R spanned volume is shown as three separate R volumes.
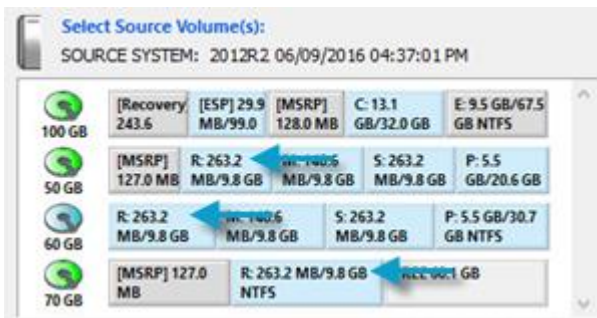
When this system is the destination machine in ESR, all dynamic partitions on a disk appear as one large volume. For example, a 49.9 GB volume represents the portions of volumes R, M, S and P on Disk 1. You must delete this volume before you can restore data to the disk. Similarly, you must delete the 60.0 GB and 69.9 GB partitions before you can restore data to them.
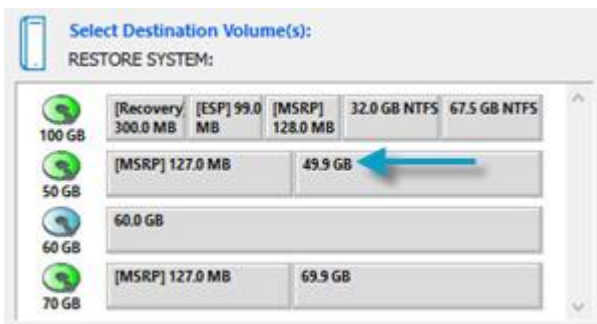
When you restore a spanned volume to a destination machine, one basic volume is created for the contents of the entire spanned volume. The volume contains as much space as the original volume, unless a volume was only partially full and can fit in the destination disk. Volumes can only be restored as simple volumes, not spanned, RAID5, mirrored or striped.

The following screenshot and table show how volumes from the sample system are restored:

Volume	Original	Restored
P	Spanned volume with two parts: 20.6 GB and 30.7 GB	One 51.3 GB volume (20.6 GB + 30.7 GB)
S	Striped volume with two 9.8 GB parts	One 19.5 GB volume (approx. 2 * 9.8 GB)
M	Mirrored volume with two 9.8 GB parts. Second part for mirroring only.	One 9.8 GB volume
R	RAID5 volume. Three portions; 9.8 GB each. 2/3 of the RAID volume was used for data. The rest was used for parity.	One 19.5 GB volume (approx. 2/3 * (3 * 9.8 GB)

7   EVault Customer Care

If you have a question about EVault that isn't covered in this guide, our frequently-updated Knowledge Base contains comprehensive information about EVault. The Knowledge Base is your first stop when searching for any EVault solutions you may need. We highly recommend searching here first for the quickest answers to your questions.
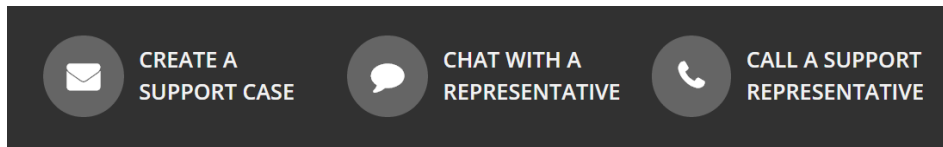
EVault Knowledge Base: http://support.carbonite.com/evault

What can we help you with?

| type a topic or question... | Search |

Popular Searches
pending reboot, restore, clnt-e-04103

7.1   Contacting EVault

If you need live assistance from a qualified support agent, EVault Customer Care is here for you 24 hours a day, 7 days a week (excluding US holidays). Please feel free to get in touch with us, and we'll help out any way we can! You can find the contact information for EVault Customer Care in the EVault Knowledge Base: http://support.carbonite.com/evault

✉ CREATE A SUPPORT CASE   💬 CHAT WITH A REPRESENTATIVE   📞 CALL A SUPPORT REPRESENTATIVE

Tip: When contacting EVault Customer Care with a technical issue, please have both the program's log files and the store you are having difficulty with ready.

To gather log files, click **File** menu and choose *Open log folder*. Compress the contents of the folder in a .zip file and attach it to your support request.

If the log archive and/or mail store exceeds 10MB, you may not be able to send them as an email attachment. In that case, upload instructions will be provided to you upon request.