



Retrospect

Best Practices: Dissimilar Hardware Restore with Retrospect

Description:	This document outlines best practices for making Windows boot on different hardware
Area of Protection:	Bare-metal Restore for SMBs
Retrospect Edition(s):	Retrospect 8 Multi Server (Part #: APPNEWMSV080EC) Retrospect 8 Single Server (Part #: APPNEWSSV080EC) Retrospect 8 Small Business Server (Part #: APPNEWSBS080EC – includes Exchange Agent) Retrospect 8 Disk-to-Disk (Part #: APPNEWDTD080EC) Retrospect 8 Professional (Part #: APPNEWPRO080EC)
Retrospect Add-On(s):	Retrospect 8 Dissimilar Hardware Restore w/ASM (OPTNEWDHR080EC) Retrospect 8 Dissimilar Hardware Restore (OPTNEWDHR080EN) Retrospect 8 Dissimilar Hardware Restore Disk-to-Disk/Professional Edition w/ASM (OPTNEWDHD080EC) Retrospect 8 Dissimilar Hardware Restore Disk-to-Disk/Professional Edition (OPTNEWDHD080EN)
Use Case:	Any business needing to quickly migrate or restore Windows to different hardware

Introduction

An essential aspect of running any business is ensuring that all systems are functioning smoothly and always available, so that business data (customer records, emails, working files, etc.) can be accessed as needed. If Windows systems suffer a failure, it is critical to minimize costly business downtime, which requires the option of restoring Windows systems to different hardware in disaster recovery scenarios:

- In case of system hardware failures, restoring to different hardware enables businesses to flexibly and cost-effectively work around supply-side inventory constraints or hardware model retirements.
- Isolating causes of system stability problems often take days or even weeks. Restoring to alternative hardware minimizes business disruptions while allowing already stretched IT staff to go through the iterative process of accurately diagnosing unstable systems.

In addition, dissimilar hardware restore also saves valuable time for other situations:

- During planned hardware migration, restoring working software configurations to new hardware bypasses the long and error prone process of manually recreating the configurations with exact software versions, updates and settings. Restoring working software configurations also helps isolate causes in case of unexpected problems during migration.

This document discusses how best to use the Retrospect Dissimilar Hardware Restore add-on as a very cost effective solution to these planned and unplanned situations.

System Requirements

Retrospect's Dissimilar Hardware Restore feature supports the 32-bit WinPE used by the Retrospect Emergency Recovery Disc. Booting computers in 64-bit UEFI mode, which requires a 64-bit OS, is not supported. As a solution, many of these computers do provide the firmware option to boot in BIOS mode, which does work with Retrospect's Dissimilar Hardware Restore feature.

How it works

After either moving the disk(s) or restoring to a different computer, you can use the Retrospect Emergency Recovery disc to boot the computer. Then select "Adjust drivers to support new hardware"

to make Windows bootable. Retrospect's Dissimilar Hardware Restore feature will analyze key hardware components and the system files and drivers already installed to determine what is required for Windows to boot. If additional boot related drivers are needed, and Retrospect can't find them in Windows' driver repository, Retrospect displays the specific hardware description and prompts you to provide additional driver folder(s). Retrospect will search these folders and install the drivers matching your computer's boot hardware. After completing the process and booting into Windows, you can download and install additional drivers if needed using Windows Device Manager or hardware vendors' driver installation tools.

Preparation

Dissimilar Hardware Restore License

Retrospect Dissimilar Hardware Restore is an add-on to all editions of Retrospect 8. After adding the license code for Dissimilar Hardware Restore to Retrospect, the feature is enabled when you use Retrospect to create the Emergency Recovery Disc.

Drivers

The Emergency Recovery Disc uses 32-bit WinPE to boot the computer for bare metal recovery and dissimilar hardware restore. Your target Windows system may be 32- or 64-bit.

To prepare for the restore process:

- **32-bit Emergency Recovery Disc:** WinPE has built-in drivers for many integrated disk controllers, RAID and network hardware. To be safe, extract 32-bit driver files (with .inf and .sys file extensions) from your hardware vendors' driver packages and copy them to a CD or USB flash drive. To extract files from driver package in .zip or .cab format, double click the package in Explorer to access and copy its contents. For driver package in .exe or .msi format, double click to install it and then copied the files from the installed location.
- **Target Windows system:** Based on whether your target Windows system is 32- or 64-bit, extract corresponding driver files from your hardware vendors' driver packages and place them on a CD or USB flash drive.

Booting in BIOS Mode

As noted in the System Requirements section above, Retrospect's Dissimilar Hardware Restore feature does not support computers booting in 64-bit UEFI mode. To use this feature, backup source computers and restore target computers must have BIOS/firmware configured to boot in BIOS mode.

Testing the Emergency Recovery Disc

Once Retrospect's License Manager shows the license for Dissimilar Hardware Restore, create the Emergency Recovery Disc using [the steps](#) outlined in the Retrospect User's Guide. Then boot the target computers with the disc and check the following:

- The "Adjust drivers to support new hardware" option is enabled, as shown in [the screenshot](#) in the User's Guide
- Local disks are accessible via the "Setup my hard drive before restoring" option
- If needed, network is accessible via the "Map network drive" option
- Your driver files on CD or USB flash drive are accessible via the "Load drivers for network or storage adapters" option
- If needed, click "Restore as a client" and verify the target computers can be accessed as clients from the Retrospect server

Windows and Other Software Licenses

After restoring a Windows system to different hardware, Windows and certain Microsoft and third party software may require you to reactivate or even enter different license codes. It is a good practice to understand your software vendors' license requirements in advance.

Performing Dissimilar Hardware Restore

With the recommended preparation done, the steps for dissimilar hardware restore are straightforward.

1. Move original disks or perform a restore to the new computer
2. Boot the new computer with the Retrospect Emergency Recovery Disc
3. Click "Adjust drivers to support new hardware"
4. Select "Adjust the OS to the new hardware automatically" (recommended), or "Set parameters for the OS adjustment" for advanced control, such as what driver version to use, etc.

See the [Retrospect User's Guide](#) for more information.

If you would like more information on the Retrospect Dissimilar Hardware Restore add-on, please contact us at sales@retrospect.com.