



# High-Rely BARE METAL CHRONICLES

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ADVENTURES IN THE CHALLENGES OF OBTAINING PEACE OF MIND WHILE COMPUTING

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## **Backup Exec System Restore Version 7.0 performs baremetal restore with High-Rely and hardware retargeting.**

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*Summary: The new Backup Exec System Restore Version 7.0 is busted out to test a complete bare metal restore to whole new hardware platform using a 5-bay High Rely as the backup media.*

The latest release of Backup Exec System Recovery (BESR Version 7.0) claims to have eliminated the struggles associated with performing a bare metal restore to dissimilar hardware. The steps required for manual system recovery can be time consuming and costly, but using the recovery points created with BESR you can restore your operating system, its applications and drivers within minutes. The following is the results of testing the High-Rely 5bay mid-tower unit with the task of performing a bare metal restore to dissimilar hardware using the BESR software.

Installation is fairly straight forward and many of the options are standard, but just before the installation takes place there is a note recommending that the user test the Symantec Recovery Disk (SRD) on their new host machine. The SRD boots to a pseudo Windows Vista environment that supports all of the storage, hardware abstraction layer and kernel drivers for the installation of Windows 2003 and Windows XP.

The disk should contain drivers to recognize your storage controllers and network interface card. With the new version 7.0, it is also possible to create your own customized SRD with system drivers not

included with the standard disk. This way administrators can add drivers as needed to support their unique hardware requirements.

Once installed BESR will search for local hard drives available to be used as backup destinations. The software also detects removal and insertion and will rescan disks when these events occur. With the insertion of a new drive the software will prompt the user if they would like to add the drive as an available backup destination. The whole design is perfect for managing multiple hot-swappable drives.

Once a drive is chosen for as a backup location the software prompts the user to perform their first backup either scheduled or a one time backup. The software can perform full, multiple drive or specific files and folders backups with the option to create incremental restore points or an independent copy of each drive to a restore point. For our test, "Full" was chosen.

The user is also allowed to limit the number of recovery points retained on backup disk. So if this number is set to one, only one restore point will be retained on the disk, the previous restore point will be deleted. In order for this action to work properly, the disk needs to have enough space on the partition to fit the entire replacement backup then only is the previous point deleted. If the disk space is exceeded before this time then the software will prompt for the user to delete some data to make room for the latest restore point.

Finally, the user can set pre and post data capture commands (custom scripts run before and/or after backup) and setup the backup schedule. Once all of these options are set the backup job is ready to be performed. In this case the whole process of

creating one restore point took approximately **21 minutes for 26.5GB** of data on the 5bay mid-tower eSATA unit.

Now that the data has been backed up, the restore point can be used to reproduce the configuration on the new host machine. The original machine is a consumer bought HP Pavilion a1467c workstation powered by an AMD Athlon 64 X2 Dual Core (2.2GHz) processor and 1.5GB DDR ram. The restore is then performed to the host machine which is an Intel Pentium D 940 (3.2GHz) Dual Core on an MSI P965 Neo-F motherboard with 1GB of DDR2 ram. These machines have totally different motherboards with different chipset and support different hardware components.

Once the Symantec Recovery Disk is loaded on the new host, it asks if the network services should be started, these services allow the user to map network drives, and gain access to restore points which maybe stored on the network. Drivers necessary for recognition of storage controllers can also be loaded from these mapped locations. The most common storage controller drivers come preinstalled with the SRD but the network services make it really simple just to access the drivers through a shared resource on the network.

The eSATA controller card installed in the new host to be used with the 5Bay High-Rely, required the installation of the latest drivers. With the network services started, I mapped the server location where the drivers could be found then loaded drivers by directing the search to the INF file found within the mapped location. Of course, simply installing the drivers via another disk would be the method performed most often. Once the drivers installed, the controller card recognizes the drives switched on in the 5Bay. The restore points are now accessible through the High-Rely media.

The restore of 26.5 GB of data took approximately **45 minutes** to complete and finally reboot the machine. Activation may be required for restores of

certain versions of Windows XP systems depending on the key used during installation.

Once the new host machine was rebooted, I logged in to check the functionality of the restore. The settings and configurations appeared to be identical and there were only a few devices in the device manager that were recognized as unknown. Installing the proper drivers for these new devices should clear up the problem.

Overall the process was fairly straightforward to follow and there weren't any major pitfalls that caused issues. The added convenience that the SRD recognizes the network card installed on the new host make bare metal challenges less intimidating. BESR version 7.0 has truly made the task of bare metal restore using the High-Rely disk-based backup solution a routine measure.

### **Notable Features of BESR 7.0**

- Restores to Dissimilar Hardware
- Supports Virtual Environments
- Can backup Remote, unattended locations

### **Saves time**

- Find original CDs
- Reinstall OS
- Reinstall Applications
- Reboot
- Reinstall User Profiles
- Reinstall Drivers except newly required ones
- Avoids multiple Reboots
- Reinstalls Backup Software.

## **Recovery Process**

- Reduce Recovery times
- Saves on hardware investments
- Reduces need for complex storage controllers
- Targets new hardware platforms automatically
- Supports P2V & V2P Virtual and Physical

## **Rates**

~26.5GB backed up to Restore point in 21 min.

77GB/Hr

~26.5GB restored from Restore point in 45 min.

35GB/Hr