

BACK UP ^A SERVER

Guard Against A Rainy Day

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Whether you're working in a three-person home office or a 3,000-seat enterprise, the basic ideas of backup and restoration remain the same. Backup makes copies of any desired data in order to protect that data in case the original version becomes damaged or otherwise inaccessible. The data copies from the server into storage. Restoration is the process of taking that backed-up data in storage and moving it back to the server, where it becomes primary, active data. One of the reasons we like CMS Products BounceBack Server software (\$295; www.cmsproducts.com) is that it introduces a step between backup and restoration: instant recovery. Instant recovery allows users to have nearly immediate access to their system operation and data in the event of a system crash.

To understand the significance of instant recovery, recall that some backup systems only copy data. For example, historically, Windows followed this model, allowing users to back up their files and

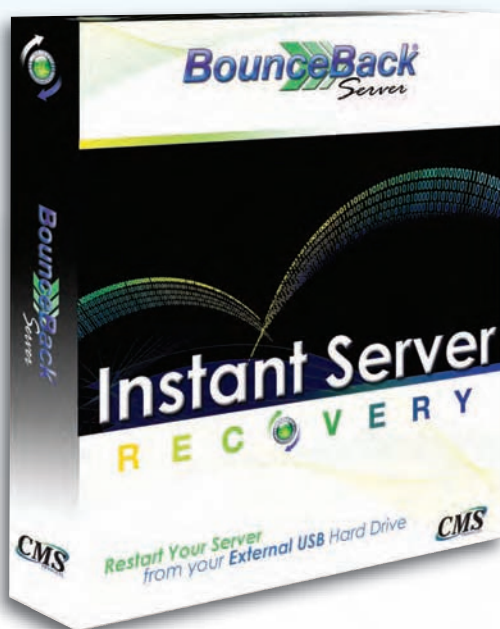
settings but not the operating system itself. This approach may have made for simpler operation and a more streamlined interface, but in the event that users needed to perform a system restore, the process would require a fresh operating system installation, patching, installation of all needed applications, more patching, and only then, after several hours of work, restoration of the backed up data. Instant recovery uses a so-called "bare metal backup" model, meaning that every bit of data in the source drive

volume gets replicated to the backup repository. This way, there is no lengthy re-installation process before data recovery. Data, OS files, and everything else comes back to the server in one big batch.

The net time savings of a bare metal backup approach can be substantial. However, even with these improvements, a bare metal restoration will still often take several hours—or more. Given that

CMS BounceBack Server is targeted at small to mid-range businesses running any of several different Microsoft business server operating systems.

downtime of even a few minutes can be a critical loss for many businesses, it makes sense to have some type of failover measure in place. In large companies, it's common to have redundant, mirrored drives in place to take over for primary drives the moment they fail. Small



companies may not have the money or expertise for such measures, but they can manage something like installing CMS's BounceBack Server and attaching a USB drive. In a nutshell, BounceBack Server replicates every bit on a Windows Server 2003 R2, Windows Server 2008 R2, or SQL Server 2005/2008 system to a backup drive. If anything happens to the server's primary drive, the system can be rebooted to the backup drive and run straight from it. This is what CMS calls Instant Recovery.

The Process

We're going to focus on CMS BounceBack Server as being representative of the backup/restore process. The instant recovery aspect may be unusual, but we include it

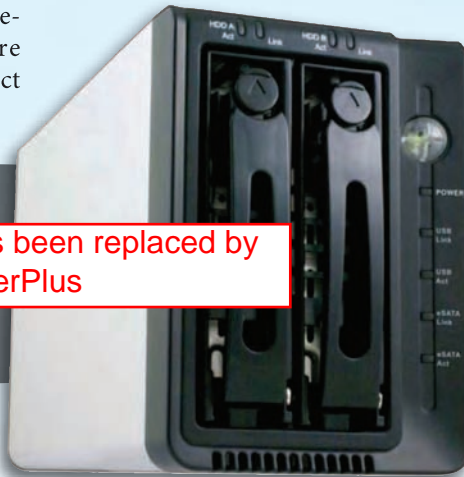
The CMS backup enclosure features eSATA ports as well as RAID 1 and hot-swappable drive functionality.

here as a best practice recommendation for businesses that might benefit from having an immediate short-term fix when disaster strikes. Note that CMS sells BounceBack Server in both software-only or enclosure-included versions. The enclosure features two hot-swappable drive bays, and CMS recommends configuring these in a RAID 1 mode, thus replicating the server image to both attached drives. This way, one drive can be removed periodically and taken off-site. (If the building burns down, for instance, the server data would still be safe in its off-site location.) However, CMS's enclosure is not mandatory. The software will work with just about any external USB, FireWire, or eSATA drive, and there are many similar 2- or even 4-bay enclosures on the market.

Installation

You'll need to install the software to your server. Installing and setting up the software won't take much time, but don't rush; your attention to detail here will pay when you need to recover from a disaster.

1 Attach the external backup drive (or appliance) to your server system. Make sure that the system recognizes the drive properly. Note that enclosures utilizing USB 3.0 or eSATA interfaces will deliver throughput performance very similar to that of an internal drive. USB 2.0 enclosures will be markedly slower.



This appliance has been replaced by BounceBack ServerPlus

2 Insert the BounceBack installation CD into your server system. In most cases, the BounceBack software will automatically launch, but, if not, use Windows Explorer to double-click the BounceBack executable (.EXE) file on the CD. At this point, the BounceBack installation software will launch.

3 Select Full System Backup to create a bootable image of your system drive on the backup appliance. This step is necessary in order to have bare metal backup functionality.

4 From the menu, select the backup appliance that you wish to use for this backup. You will be prompted that this process will reformat the selected device and any existing data on that device will be lost. Copy off any data that you don't want lost, and then click to start the backup process.

5 Once partitioning and formatting are complete, the BounceBack software will begin copying all of your data to the selected backup appliance, including the complete operating system, applications, system settings, and data. No user intervention is needed. The on-screen progress bar will keep you posted on the progress of the backup process.

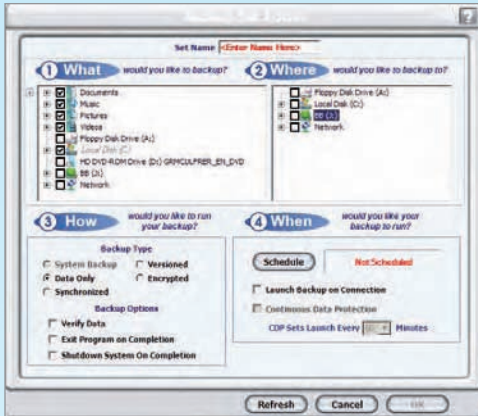
6 After all data has been copied, the system registry will be automatically copied to the backup appliance. When the backup process has finished, the software will display a screen indicating that the process has completed and your system is now protected.

Files on the BounceBack backup target are kept in their native formats, as are the multiple versions of previously backed up data. This is an important point as, much like with regular external drives, you have the ability to replace lost or damaged files by simply browsing to the desired version of the file or folder in question and clicking CMS's QuickRestore function. Sometimes, this is all that's needed to recover from a data disaster, and it can save a massive amount of time compared to a conventional data restoration.

Instant Recovery

Corrupted system images can arise from accidental file deletion,

INSTANT RECOVERY



BounceBack Server provides many options for how, when, and where data should be backed up, allowing you to create multiple backup profiles.



BounceBack Server provides on-screen indicators to show how much of your backup or restore has completed.

viruses, physical media damage, or any number of other causes. Assuming that the source of the trouble rests with the storage subsystem and that the server machine can still boot to an external drive, you can opt to get back up and running quickly with Instant Recovery.

1 Consult your server system's manual (if necessary) and find out how to set the BIOS (Basic Input/Output System) to boot from an external drive. If this is not done, the system may continue trying to boot from the failed internal drive and never find the external backup.

2 With the BIOS configured to boot from the external drive(s), make sure that the backup appliance is connected, and then reboot

the system. After a moment, Windows should begin to load from the backup drive.

3 In the event of a failed hard drive that is still recognized by the system BIOS, a menu will appear on the screen after the POST process (the early sequence of system self-checks that appears every time you cold boot the system) that offers the choice of your standard operating system OR starting up from your Instant Recovery device. If you see this, select the Instant Recovery option. Your system will start up from the external USB backup appliance.

4 You will notice that when Instant Recovery mode is in use, a different wallpaper is used on the Windows desktop. This is meant to remind you that you are, in fact, not running your normal configuration and that you still need to get your system failure remedied ASAP.

Restore

Unlike with many other backup solutions, BounceBack Server doesn't require a rescue CD to initiate restoration from your external backup media. All necessary files are contained on the external backup drive volume. Still, there may be some work to do before starting the restore procedure. Some companies would rather swap a failed drive first and ask questions later, but, according to CMS IT manager Scott Myers, "In our experience, about 85% of all startup failure problems are caused by soft failures and do not require a new mechanical hard drive." Given these odds, it might make sense at least to try a restore to the "failed" internal drive before swapping any hardware. If the failure is software-related, the disk formatting process will erase the failure point.

1 Rather than booting to a restore disc, BounceBack restoration begins with booting into Instant Recovery mode as described above. When boot-up completes, you will see the Instant Recovery wallpaper and a yellow box in the center of the screen offering the choice to continue working normally or to begin the restore function. (If you've closed this restore window, clicking on the Instant Recovery icon in the system tray will bring it back.) Click the Restore button in the yellow panel to begin the restore process.

2 From the next screen, select the internal drive in your system and click Begin. The restore process will begin transferring your entire system image from the external USB backup appliance to the internal system drive.

3 When the process completes, restart your computer from the internal system drive. Typically, this can be done by either unplugging the external backup drive or by modifying the BIOS back to its original settings so it looks first to the internal drive when booting.

See updated BounceBack ServerPlus kit on website.



Offsite storage of your backup data is highly recommended for extra protection. CMS offers a padded case for transporting its backup drives.

4 CMS strongly recommends that after restarting your system normally from the internal drive, you should start the BounceBack program and complete a full system backup to the external backup device in order to ensure that the contents of your system drive and the backup appliance are in sync. ■