

# BACKING UP AN IMAGE OF YOUR HARD-DRIVE



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ImageBackup.lwp

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## GENERAL IMAGE BACKUP TIPS

- For an overview of backing up, see my "A Stress Free PC" article at <http://www.jimopi.net>
- Image backups are a complete image of your entire hard drive and can be used to restore your PC to operational status quickly.
- There are three basic ways to backup images. Back-up to: 1) A second Internal Hard-drive, 2) A separate partition on the C Drive, or 3) An external hard-drive (USB, eSATA, Firewire, or NAS).
- External hard-drives are preferred because of their portability to be taken off-site for safety. NOTE: External drives formatted as FAT-32 do not work well with large images. You should reformat it to NTFS. *Details on choosing which external hard-drive to purchase can be found in my GENERAL INFO & TIPS document at <http://www.jimopi.net>*
- You must always set up your backups to back up all the partitions on the hard-drive. If you do not do so, the restored image will probably not boot correctly. *Many PC makers use hidden partitions as part of the boot process.*
- Always keep external hard-drives powered off when not in use. This helps protect them from infection if your system gets bitten by a malware bug.
- I recommend keeping an external hard-drive that contains a full image backup of all your PC's in a safe place OFF-SITE. I have two identical external hard-drive that I swap out of my safe-deposit box every 6 months.
- The use of free or shareware backup programs is discouraged. "Your data is too valuable to risk". Don't choose foolish frugality over common sense.
- Backup Programs that come with the purchase of an External Hard-drive are adequate, but I and many LACS members prefer Acronis True Image Home for reliable image backups.
- To speed up regular image backups and to save space on the external hard-drive, one idea to put all your large files like PHOTOS, VIDEOS, MUSIC onto either a second internal hard drive or a second partition on the main hard drive. This way, those files can be backed up separately and less frequently, thus speeding up the back-ups of the main hard-drive.
- I use a checklist to backup each month. It can be found at my website under: CLEAN, SCAN, & BACKUP-MONTHLY CHECKLIST: [http://www.jimopi.net/PDFs/Word%20Pro%20-%20MonthlyClean\\_ImageBkup.pdf](http://www.jimopi.net/PDFs/Word%20Pro%20-%20MonthlyClean_ImageBkup.pdf)
- Dell Recovery (Hidden) Partition: For problems after imaging this partition, see my GENERAL TIPS sheet.
- Cloning: Another way to save an image is to clone a hard-drive. This method makes the new drive identical to the original drive. The new drive is bootable and ready to go. Cloning is not normally used for regular image backup archiving since the clone drive must be physically able to replace the original drive. Also multiple backups on the same drive are not possible. The only advantage is that the cloned drive can be stored away and used to get a PC immediately back in service by installing it in the PC.

## WINDOWS 7 IMAGE BACKUPS:

- Open the "Backup/Restore Center" and select "Create a System image". Select the drive to hold the backup.
- Backups to a drive on a network is not supported by Win7 Home Premium. You need Win 7 Professional or Ultimate for this feature.

- Win7 Image backup will erase old images to make room for new ones. The user has little control over the process and you cannot look at your backed up files. I do not use Windows 7 backup. I use Acronis.

## ACRONIS TRUE IMAGE HOME TIPS:

**ACRONIS TUTORIAL:** <http://www.techrepublic.com/downloads/how-do-i-create-a-reliable-backup-with-acronis/2338455> . Also see the many youtube videos for your version of Acronis.

### GENERAL NOTES:

- **BUYING ACRONIS:** Acronis True Image Home is available for about \$30.00 from Gene Barlow at: <http://ugr.com/> and includes a free tutorial. I recommend paying a little extra for the physical CD rather than the download version. The order page is at: <http://www.ugr.com/TrueImage.html> . If you need a secret code to order, try putting in "Los Angeles Computer Society". If that does not work, call Gene Barlow and ask him for the latest code. His Sales phone number is: 435-652-3005.
- **VERSIONS OF ACRONIS:** To avoid complications follow this info:
  - Windows XP: You should be using Acronis TI Home ver 2009 or newer,
  - Windows 7: You should be using True Image Home 2011 or newer.
  - Windows 8 and 8.1: You should be using very latest build of True Image Home 2014 or newer.
  - Windows 10: You should be using very latest build of True Image Home 2015 or newer.
  - Also, the newest PC hardware may require the very latest version available.
- **IF THERE ARE MULTIPLE PARTITIONS ON THE HARD-DRIVE.** If you bought a PC with Windows already on it, there are probably two to six partitions on the main hard-drive. **YOU MUST SET THE BACKUP TASK TO BACK UP ALL THE PARTITIONS ON THE MAIN DRIVE!** If you don't, then the system will probably not boot after you recover/restore the image to a new drive and your backup will be useless.
- **TUTORIALS AND "USER INTERFACE" DIFFERENCES:** For some strange reason, the User Interface of just about EVERY SINGLE VERSION of ACRONIS TI HOME IS UNIQUELY DIFFERENT from other versions. This makes it impossible for me to give step-by-step advice on its operation. There are lots of youtube videos on the use of Acronis. Just search youtube.com for the exact title of your version (*ie: Acronis True Image Home 2015*).
- **UEFI:** Booting an Acronis Rescue CD on a PC with a UEFI (*new style BIOS*) only works if you have the very latest build of "Acronis True Image Home 2014" or higher.
- **EXTERNAL HARD-DRIVE FORMAT:** An external hard-drive should be formatted as NTFS to allow it to handle the large-size backup files created by Acronis. Drives formatted as FAT-32 cannot hold files larger than 4 GB each. This complicates matters as backup files are divided up.
- **NAMING BACKUP FILES:** My preference is to give a personalized name to my backup folders and files. I suggest that before running a "Backup" task for the first time, you create a folder on your external hard-drive (using XP) to use for your Acronis TI backup archives, *ie: "Acronis TI BACKUPS"*. Go to the next step. If you do not name your backup file, Acronis will probably name it *mybackup.tib*
- **ACRONIS SECURE ZONE Feature:** I recommend against using the "Secure Zone" feature. It can cause partitioning issues on your main hard-drive. Also, it is a far better idea to back up to a different physical hard-drive in case of a hardware failure of your main hard-drive.
- **FULL BACKUPS vs INCREMENTAL BACKUPS:** I do not recommend doing a full backup each time, as it wastes hard drive space. The best idea is one full backup, then 5 incremental backups, then another full backup and adding 5 incremental backups to it, etc, etc, etc. This can be done manually each month or a Scheduled Task can be created that will accomplish it automatically. My preference is to do a monthly image backup, then I do a manual weekly backup of my personal data.

- **RESCUE CD:** As soon as you have created your first backup, you should create a Bootable Rescue CD. You should then boot that CD and make sure that it not only boots, but also recognizes all the hard drives on your system. You can go through a partial "Create Backup" process to see if all the drives are visible.
- **VALIDATING IMAGES:** This function ensures the image is usable. *NOTE: If you upgrade to a newer build or newer version of Acronis, you may not be able to validate an image taken with an earlier build/version. This does not mean the image is not usable, it just means you cannot validate it. To be safe, I suggest you do a full backup using the new build/version of Acronis, validate the new image, then burn a fresh "Rescue" CD.* The only real test of your image is to try a restore to a blank hard-drive and see if it boots.
- **MOUNTING AN IMAGE - ACCESSING "BACKED UP" DATA:** To see the data inside one of your Backup Archive files, you need to "Mount" the archive as a "Virtual Hard-Drive". (On some versions of Acronis TI you must select the "Validate" option to get to the "Mount" Option). Acronis will assign a drive letter to the virtual drive. After that, go to "My Computer" in XP and open the virtual drive as a regular hard drive. Be sure to un-mount the drive as soon as you are done.
- **DEFAULT BACKUP OPTIONS:** It is a good idea to change the Default Backup Options so that .bak & .tmp files are not excluded from the backup process. (*Tools > Options > Default Backup Options > Source files exclusion > uncheck the box "Exclude files matching \*.bak and \*.tmp"*). Problems with Microsoft Office can occur if you do not do this.

### REMOVING ACRONIS:

- If you are having problems installing a new version of Acronis, or a failure to boot afterwards, check this website for tips on completely removing Acronis before retrying the Install:  
<http://kb.acronis.com/aticleanup>

### DELL ISSUES: HOW TO CLONE A DELL HARD DRIVE:

1. Install TrueImage on your hard drive and restart.
2. Burn an Acronis Recovery CD and shut down.
3. Install your second drive (properly cabled).
4. Boot and press F12 for a one-time setup.
5. Insert the Acronis Recovery CD and select CD Drive as boot device.
6. After TrueImage appears select Clone Disk. Follow the prompts. Be careful!
7. Source drive is the original drive - destination drive is the new empty drive.
8. Do not choose to verify image. Do not choose manual options.
9. Select DO NOT DESTROY DATA ON SOURCE DRIVE!!!!
10. After cloning is complete, shut down and immediately swap drives. Do not try to start with both drives installed or drive corruption will occur.

### LENOVO/IBM THINKPAD ISSUES:

- When backing up, always backup the entire hard drive, not just the C partition. Otherwise Boot issues will occur after a recovery.
- When Cloning Lenovo/IBM thinkpad drives, follow these instructions:  
[http://pl887.pairlitesite.com/misc/config-stories/cloning\\_a\\_thinkpad.pdf](http://pl887.pairlitesite.com/misc/config-stories/cloning_a_thinkpad.pdf)

### TROUBLESHOOTING RESTORE FAILURES

- The most common cause of a restore image to fail to boot is that you did not back up all the partitions from the original hard-drive.
- If the PC Blue Screens during boot after restoring an image, make sure the new drive C was partitioned so it has plenty of extra available space for the image. If it does not, either rerun Acronis Restore and correct your errors while setting up the partition/s on the restore, or repartition the drive with a non-destructive partition manager like: EASEUS Partition manager.

### GETTING DATA OFF OF A CORRUPTED HARD-DRIVE.

- Create an Image of the bad drive using the option "Ignore bad sectors". Once the image is completed, you should be able to access most of the data. (This option is only available in TI version 11 or higher). Try this before running recovery programs like SpinRite or Recuva.

### **CANNOT BACK UP IMAGE TO DVD's** *(Tip from www.infopackets.com)*

**Problem:** I've run into a problem being able to record my image backups directly to DVD. According to Acronis, I need to install packet-writing software in order for this to work. What is packet writing software and why isn't it included as part of the Acronis package? "

**Answer:**

In short: Packet Writing software is a "plugin" (per se) for Windows that allows you to use your CD or DVD record much like you would a floppy disk or hard drive. In other words: packet writing allows you to write to recordable optical media "on the fly", rather than on a per-session basis (as with CD Mastering Software).

For example: with packet writing software installed on my system, I could write a document in MS Word and then save it directly to my CD or DVD recordable disc without having to launch a special CD / DVD recording program (I.E.: CD Mastering Software).

Packet Writing software isn't included with Acronis True Image because it isn't entirely necessary. And to this day I am unaware of any freeware packet writing software programs (if you happen to know, please email me). Currently, the two most popular packet writing programs are Roxio / Adaptec DirectCD and Ahead [Nero Burning ROM] InCD -- and they both cost money.

If you want to burn your backups to DVD using True Image, you have two options. You can:

- a. Burn direct to DVD during the backup process: this will require third-party Packet Writing software (supplied by Roxio [DirectCD] or Ahead [Nero InCD], for example), or
- b. Write the image backup to the hard drive, and then burn to DVD recordable later: this method does not require Packet Writing software.

With respect to option (b): if you have another hard drive partition ("D drive") or another physical hard drive, you can write the image backup temporarily to D drive, then burn it to DVD afterward using your favorite CD / DVD software.

An alternate method is to Create a backup location folder on the C: Drive, set up the compression for maximum, and max file size to 4.4 GB (yes 4.4 GB). This will break up the image into 4.62 GB pieces that can be manually burned to DVDs. Estimate: With maximum compression, 35GB of drive files compresses to about 18GB. This is about 4 DVD's .

### **"UNIVERSAL RESTORE" FEATURE**

- This feature allows you to take an image from a PC and restore it onto a completely new PC. Currently the Universal Restore feature is only available with Acronis TI Echo Workstation which costs about \$130.00. This could be used in a disaster recovery situation where the original PC is damaged beyond repair. Universal Restore helps you load the correct drivers, etc into windows in a situation where a normal restore may not boot. Universal restore seems to work OK even with backup archives made with Home versions of Acronis.

### **PROBLEMS USING "NAS" DRIVES WITH ACRONIS**

- NAS or Network Attached Storage drives connect via your local ethernet and have their own IP address. They do work fine with Acronis with a few cautions.
- You need to select an NAS Drive that uses either EXT2, EXT3, XFS, or ReiserFS 3.6 formatting and NOT FAT32.
- NAS Drives cannot be formatted as NTFS (as of this date 9-2009), because they all have Linux based controllers and Linux does not currently support writing in NTFS format. If you try to backup your image to a drive formatted as FAT32, the drive controller breaks up the very large files into 4GB segments. When TI attempts to validate the image, things go nuts, and if it works at all, "Validate" will take many, many hours to run. The Linux controller works like crazy and may fail.

- For more about NAS hard-drives, see the NAS hard-drive tips on my NETWORKING TIPS sheet at [www.jimopi.net](http://www.jimopi.net)

### **CLONED DRIVE WILL NOT BOOT**

- If the new drive will not boot, run `chkdsk /f /r` or "HD Tune" on the original drive to make sure there are no bad sectors. If sectors are bad, you can try SpinRite, but the drive may be toast.
- If SpinRite is not available, try making a backup image using the "Ignore bad sectors" option. If putting that image on a new drive does not boot, you may have to reinstall windows.

**NORTON "GOBACK" ISSUES:** See the writeup in my UTILITY PROGRAMS Sheet.