

Backup and Restore

Comparisons and Planning: 'Windows Backup and Restore' including 'Double Image 7.0'

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This document is a draft describing backup and restore considerations for users running Windows systems and running Double Image 7.0.

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BACKUP AND RESTORE

COMPARISON: 'WINDOWS BACKUP AND RESTORE' AND DOUBLE IMAGE 7.0

Topic or Feature	Double Image 7.0'	Windows Backup and Restore
Operating Systems	<p>Windows Server 2016 Windows 10 Windows Server 2012 Windows 8.1 Windows Server 2008 R2 Windows Server 2008 Windows 7 Windows Vista Windows Server 2003 Windows XP</p>	<p>Windows Server 2008 R2 Windows Server 2008 Windows 7 Windows Vista</p> <p>Backup and Restore is deprecated in Windows 8. Microsoft says this program is underused and is touting File History as the feature that replaced file-based backup.</p> <p>See "Windows and Windows Server Developer Preview Compatibility Cookbook"</p>
Backup Storage	<p>Any Windows controlled drive that has a Windows NTFS file system.</p> <p>And any Windows controlled local or external drive with these file systems.</p> <p>And any drive located on a local network or domain network with any of these extended file systems, including those supported under a variety of Linux systems.</p>	<p>Any Windows controlled drive that has a Windows NTFS file system.</p>
Backup Server Storage	<ul style="list-style-type: none"> ➤ Windows ➤ Windows Server ➤ Windows Virtual ➤ VMware ➤ Linux ➤ IBM Domino ➤ Blackberry Server 	<ul style="list-style-type: none"> ➤ Windows ➤ Windows Server

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Backup to network	Local or Domain	Windows Vista has a limitation where only Home Premium, Business, Enterprise or Ultimate editions can schedule automatic backups or back up files and folders to a network location. Full system backup to a network requires Windows 7 Professional or above editions.
Network Storage' Support	<ul style="list-style-type: none"> ↘ Buffalo ↘ D-Link ↘ Dell ↘ Hitachi ↘ HP ↘ IBM ↘ Intel ↘ Iomega ↘ LaCie ↘ Linksys ↘ NETGEAR ↘ Seagate ↘ Synology ↘ Western Digital ↘ ..and others 	<ul style="list-style-type: none"> ↘ Windows NTFS file system, including USB and DVD. <p style="text-align: center;">see limitations</p>
Network Shares	<ul style="list-style-type: none"> ↘ Any 	For Windows 7, file backup to a network share is available only with Windows 7 Professional, Enterprise and Ultimate editions.

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File Systems Supported	<ul style="list-style-type: none"> ↘ NTFS ↘ FAT32 ↘ FAT16 ↘ FAT12 ↘ exFAT ↘ UDF ↘ CDFS 	<ul style="list-style-type: none"> ↘ Windows NTFS 	
File Systems Recognized	<ul style="list-style-type: none"> ↘ ADFS ↘ AFFS ↘ AFS ↘ BeeWeeb ↘ BeFS ↘ BFS ↘ BSD ↘ CDUDFRW ↘ Coherent ↘ DTFS ↘ EAFS ↘ EFS ↘ EXT2 ↘ EXT3 ↘ FFS ↘ FreeBSD ↘ FSUDF ↘ GPFS ↘ GroupDrive ↘ HFS ↘ HTFS ↘ InCDFS ↘ JFS 	<ul style="list-style-type: none"> ↘ OpenBSD ↘ OSpecial ↘ Other ↘ QNX ↘ REISERFS ↘ REISERFS3 ↘ REISERFS4 ↘ REVUDF ↘ RFSD ↘ RomFS ↘ S5 ↘ S51K ↘ Samba ↘ SFS ↘ Spirallog ↘ SystemV ↘ Text ↘ UDF150 ↘ UDF200 ↘ UDFFS ↘ UDFRDR ↘ UDFS ↘ UFS 	<ul style="list-style-type: none"> ↘ NTFS (Full or incremental) ↘ VHD (virtual hard disk for images) ↘ CD and DVD formats selected by Windows Backup and Restore

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	<ul style="list-style-type: none"> ↳ LFS ↳ MaxFS ↳ MFS ↳ Minix ↳ NetBSD ↳ NetWare ↳ NSS ↳ NTFS (Unix, Linux) ↳ NWFS286 ↳ NWFS386 ↳ ODS 	<ul style="list-style-type: none"> ↳ USIUDF ↳ V7 ↳ Version7 ↳ VPCType ↳ VxFS ↳ VxTools ↳ WebDrive ↳ XenixFS ↳ XFS ↳ XiaFS 	
Backup, Restore sub-folders or files	Yes		<ul style="list-style-type: none"> ↳ No, unless referencing a UNC path with a folder
Backup types	<ul style="list-style-type: none"> ↳ File Backup. Files are written in Windows non-proprietary format, exactly as the Source. 		<ul style="list-style-type: none"> ↳ File Backup. Files are saved to Zip files. ↳ System Image. Files are saved block-by-block in a VHD file format, also allowing for subsequent Incremental backups. A VHD image can also be mounted for extracting individual files, or booted from (using Windows 7 Enterprise and Ultimate only) after the full system image backup has been done.

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Schedule	<ul style="list-style-type: none">Double Image provides its own easy scheduler interface to stage scheduled backup or restore tasks. <p>The Double Image interface in-turn references the options in the Windows Task Scheduler for actually running the tasks; much like any other task that is scheduled to run using the Windows Task Scheduler.</p>	<ul style="list-style-type: none">Scheduler setup options are: Daily, Weekly or manual.
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DOUBLE IMAGE 7.0 OPTIONS

see complete details at: <https://hostinterface.com/WebHelp/>

Selecting files during a backup	<ul style="list-style-type: none">In addition to drive, folder, file selection check/uncheck, files may also be selected by applying a date range that is relative to the backup files modification timestamp.Files may also be selected or un-selected based on wild cards. Example: *.doc, *.tmp
Copying Options	<ul style="list-style-type: none">Never over-write newer files with older filesNever over-write read-only filesNever Copy Zero Byte FilesVerify files as they are copiedReset read-only file attribute as files are copied
Run Options	<ul style="list-style-type: none">Start MinimizedAuto-Exit at End of Job
Delete Options (Delete files on target not found on source)	<ul style="list-style-type: none">Minor Delete - delete only files and folders on the target below the copied source folders.Major Delete - delete all files and folders in the target folder to match the source files and folders.Warn Before Major DeleteDelete Excluded - Also delete files on the target that are excluded from the copying on the source.

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Registry Backup and Restore	<ul style="list-style-type: none">➤ Don't back up registry files: Registry files are not backed up.➤ Back up the registry files on a computer if that computer has its Windows system folder backed up: Registry files will be backed up only if the Windows System folder is backed up.➤ Always back up the registry files of any computer that has any other files checked for back up: Registry files are backed up always.
Compression Options	<ul style="list-style-type: none">➤ (default) Copy compression attributes to target files: if the file is compressed on the Source, it is compressed on the target. If the file is uncompressed on the Source, it is uncompressed on the Target.➤ Compress target files as they are copied: Double Image compresses <i>all</i> target files during the copy process.➤ Decompress files as they are copied: Double Image decompresses files being written to the target during the copy process, if compressed.➤ Ignore compression differences between source and target files and folders: Ignore the compression attribute. If the file is compressed on the source and uncompressed on the target, Double Image does not decompress on the Target file. <p>A warning appears if the Target's file system does not support compression and the compression option has been turned on. If you have the Warning Option set to "Don't Pause for Warnings and Errors", the warning is entered in the log, only. Normally this warning can be ignored.</p>
Encryption Options	<ul style="list-style-type: none">➤ (default) If target is Windows NTFS. Keep the target files encryption attributes equal to the source files encryption attributes if the target is Windows NTFS). If the file is encrypted on the source, it is encrypted on the target. If the file is decrypted on the source, it is decrypted on the target.➤ Encrypt target files as they are copied Double Image will encrypt all Windows NTFS target files during the copy process. A warning message is presented (unless turned off) to alert the user of this intended action.➤ Decrypt encrypted files as they are copied Double Image decrypts all encrypted target files during the copy process.➤ Do not encrypt or decrypt files regardless of encryption attributes. If the file is encrypted on the source and not encrypted on the target, Double Image makes no encryption changes to the target file.

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Selecting Files By Date and Wild Cards	<ul style="list-style-type: none">➤ Date and Time: If a file's timestamp falls into the range, then only those files will be copied and all others will be ignored.➤ Including and Excluding Files: Use wild cards to include certain files in a backup or restore or exclude certain files from a backup or restore.
Special copying based on File Attributes	<ul style="list-style-type: none">➤ Don't copy hidden files: Do not include hidden files in the copy process. Files with the hidden attribute are not copied. If 'Don't copy hidden files' is not checked, then hidden files are copied.➤ Don't copy system files: Do not include system files in the copy process. Files with the system attribute are not copied. If 'Don't copy system files' is not checked, then system files are copied➤ Copy offline files: Select this option to have Double Image backup the Offline Files folder, containing a cache/database representing one or more folders and files.➤ Reset archive bit on copied source files: Set this option to reset the archive bit on files copied, as defined in the Double Image source tree. Note that when
Warnings and Errors Reporting	<ul style="list-style-type: none">➤ Ask what to do when any error or warning is encountered.➤ Ask what to do when an error is encountered.➤ Ignore warning & errors, but show special dialogs.➤ Don't pause for any warnings, errors, or special dialogs.
Log Options	<ul style="list-style-type: none">➤ Log all events➤ Log summary events only➤ Clear log before copy
Log View and Search	<ul style="list-style-type: none">➤ See each log line item or view each item in dialog detail.➤ Search for Information in the Log Window.➤ Select 'More' to create multiple 'Find' conditions in the log.➤ Log Find Event Type.➤ Change Colors of Log Entries.➤ Sort individual columns within the log.
Simulation Backup	<ul style="list-style-type: none">➤ A log is produced showing the files selected for a backup or restore and compares the backup and restore files, without actually doing a backup or restore (meaning no writes occur).➤ Report all files or just those that show differences between source and target.

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- Show report to HTML, Text or internal log.

WINDOWS BACKUP AND RESTORE OPTIONS

Windows 7, 8 : <https://support.microsoft.com/en-us/help/17127/windows-back-up-restore>

Windows 10 : <https://support.microsoft.com/en-us/help/4027408/windows-10-backup-and-restore>

Backup Tools

- File Backup - Windows Backup allows you to make copies of data files for all people that use the computer. You can let Windows choose what to back up or you can select the individual folders, libraries, and drives that you want to back up. By default, your backups are created on a regular schedule. You can change the schedule and you can manually create a backup at any time. Once you set up Windows Backup, Windows keeps track of the files and folders that are new or modified and adds them to your backup. To set up file backup, see [Windows Backup and Restore Options](#).
- Select a destination drive
- Let Windows choose the files to backup (recommended)
- Let the user choose the files to backup.

'Set up backup' first needs to be Configured before performing backup via the Wizard. Alternatively, to setup the backup on a new machine for the first time using command line:

```
%SystemRoot%\System32\sdclt.exe /Configure
```

- System image backup - Windows Backup provides you with the ability to create a system image, which is an exact image of a drive. A system image includes Windows and your system settings, programs, and files. You can use a system image to restore the contents of your computer if your hard drive or computer ever stops working. When you restore your computer from a system image, it is a complete restoration; you can't choose individual items to restore, and all of your current programs, system settings, and files are replaced. Although this type of backup includes your personal files, it's recommended that you back up your programs and data files regularly so that you can restore individual files and folders as needed.

Using scheduled Windows Backups you can choose whether you want to include a system image. This system image only includes the drives required for Windows to run. You can manually create a system image if you want to include additional data drives.

BACKUP AND RESTORE

	<ul style="list-style-type: none"> ➤ Previous versions - Previous versions are copies of files and folders that Windows automatically saves as part of system protection. You can use previous versions to restore files or folders that you accidentally modified or deleted, or that were damaged. Depending on the type of file or folder, you can open, save to a different location, or restore a previous version. Previous versions can be helpful, but should not be considered a backup because the files get replaced by new versions and will not be available if the drive were to fail. ➤ System Restore - System Restore helps you restore your computer's system files to an earlier point in time. It's a way to undo system changes to your computer without affecting your personal files, such as e-mail, documents, or photos. System Restore uses a feature called system protection to regularly create and save restore points on your computer. These restore points contain information about registry settings and other system information that Windows uses. You can also create restore points manually. For more information about System Restore, see Microsoft: System Restore
Full Backup and Incremental	<ul style="list-style-type: none"> ➤ An incremental backup adds to the backup file only those items that have changed since the last backup. After a default 50% of differences between source and destination, does a Full backup automatically re-occur; and in this case the older Full backup is re-written. Technical side note. The user can add a registry and provide % value to override 'Backup and Restore' default 50% value. Some users will change this to 0% and thereby have the automatic scheduled backups always perform a Full backup, instead of an Incremental backup.
DOUBLE IMAGE 7.0 LIMITATIONS	
Copy system image	<ul style="list-style-type: none"> ➤ Double Image 7.0 does not provide for snapshot backups. By 2nd quarter 2015 'Double Image-O' will be released to provide snapshot image backups to local drives, external drives and network locations. ➤
Boot from repair disc	<ul style="list-style-type: none"> ➤ Double Image installation does not currently provide a system repair disc for boot recovery.

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WINDOWS BACKUP AND RESTORE LIMITATIONS

Backup from sub-folders or files	<ul style="list-style-type: none">↘ does not support backing up to a sub folder of a volume. The source must be a drive letter or an UNC network path like: \\<your machine name>\D\$\backups\
File Systems	<ul style="list-style-type: none">↘ Backup and Restore can only make a system image of disks with NTFS file system and using the file format VHD (virtual hard disk).↘ If the system image is to be saved on a USB flash drive, it must be formatted with NTFS file system.
System Image Backup	<ul style="list-style-type: none">↘ Windows 7 allows performing a full system image backup to a network location, however, subsequent <i>incremental</i> system image backups cannot be performed to a network;↘ Windows 8 no longer provides 'previous versions' restore points and has replaced that feature with File History.↘ All image based backups to the network <u>must be full backups</u>; although Full system image backups to local or removable storage can be incremental.
System Backup	<ul style="list-style-type: none">↘ Full system backup to a network requires Windows 7 Professional or above editions.
Destination	<ul style="list-style-type: none">↘ Windows 7 file backup to a network share is available only with Windows 7 Professional, Enterprise and Ultimate editions.↘ The destination drive may not be a mapped network drive.

BACKUP AND RESTORE

PLANNING AND STRATEGIES

TOOLS

This topic makes reference to ideas and tools used for doing backup and recovery on Windows operating systems starting with Windows Vista and higher; although the principles can apply to other systems.

BACKUP

To ensure that you can overcome losing a system hard drive entirely, you should have at minimum these basic backups:

- a 'System Repair Disc' on hand, with a label written on it that defines it being for your particular machine and operating system.
- Create Restore Points
- A 'system image' backups: Backups of recent restore points to another non-system disk.
- Use Double Image 7.0 to [create tailored file backup and restore sessions using command lines](#) with files written in native Windows Explorer format. Double Image 7.0 has a wide selection of [options](#) that can be applied via the user interface, command lines or scripts.

CREATE A WINDOWS 'SYSTEM REPAIR DISC'

You can get by with a number of backup schemes to restore a file, a group of files, the registry and ..., but all looks grim when the Windows system disk will not boot on startup. You need a recovery disc to access the System recovery option discussed below. The original Windows installation disc can serve as a start, but it might be better to have a recently created System Repair disc that is more current.

Windows Backup and Restore provides for creating a 'System Repair Disc' to DVD. Once created, the DVD disc can then be used to boot up Windows from the 'System Repair Disc' when nothing else works to boot from the system hard drive.

How to create a System Repair Disc

- Open Backup and Restore by clicking the Start button, clicking Control Panel, clicking System and Maintenance, and then clicking Backup and Restore.
- In the left pane, click Create a system repair disc, and then follow the steps. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.

BACKUP AND RESTORE

CREATE RESTORE POINTS REGULARLY

First note that a Restore Point is not the same as a System Image backup, although a System Image backup will produce a Restore point of the source volume prior to beginning its backup session.

Here we are referring to Restore Points. Before you can recover using the System Restore Option, you must previously have had your system create one or more restore points. A restore point is a representation of a stored state of your computer's system files. You can use a restore point to restore your computer's system files to an earlier point in time. You can [manually create a restore point](#) at any time.

Restore points can be created by the following methods:

- Weekly and automatically by the system's 'System Restore' feature.
- When 'System Restore' detects the beginning of a change to your computer, mainly when you run an install package to install a program or a driver and sometimes when Windows updates are applied.
- [Manually create a Restore point](#)
 - Open System by clicking the Start button, right-clicking Computer, and then clicking Properties.
 - In the left pane, click System protection. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.
 - Click the System Protection tab, and then click Create.
 - In the System Protection dialog box, type a description, and then click Create.

CREATE SYSTEM IMAGE BACKUPS

System image backups stored on hard disks can also be used for System Restore, just like the restore points created by system protection. For more information about system images, see [What is a system image?](#)

DOUBLE IMAGE BACKUP SOFTWARE

So far the topic has been about backup and restore relating to recovery if the Windows system can't boot to a Windows state or the hard drive fails. Other types of recovery needs can require only a partial restore. The Windows Backup And Restore automatically runs either daily or weekly with a weekly default on Sunday evening. Well, it's like kids needing only to see a doctor on a Saturday night--things can go wrong at the wrong time. A full restore can wipe out work that has been done and not backed up yet by Windows Backup And Restore.

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In the case of a partial restore, it might be good to have another solution on hand. Double Image is good for data backup, data restore and for restoring the registry, or a part of.

Double Image has wide selection of backup and restore options. You can backup selected drives, folders and files as well as the Windows active registry; including remote registry backup and restores. The registry can be restored to an active machine. You can do network backups of other machines and backup your machine to other networked computer drives. For details, see [Double Image 7.0 online document](#).

RECOVERY

SYSTEM RECOVERY FROM A WINDOWS 'SYSTEM REPAIR DISC'

The System Recovery Options menu contains several tools, such as Startup Repair, that can help you recover Windows from a serious error.

STARTUP REPAIR

Just after power-on and the system is in the boot phase, press {F8} function key. This invokes Windows Repair from the hard drive. If you learn that the Windows Repair is inaccessible from the system hard disk, then revert to using either your Windows Installation Disc (the one with your license) or a System Repair Disc you created for the machine with the problem.

Try this first to automatically fix problems that prevent Windows from starting. This is of no value if you have a system hard drive failure or system files are beyond repair. Startup Repair can only fix certain problems, such as missing or damaged system files. It can't fix hardware failures, such as a failing hard disk or incompatible memory, nor does it protect against virus attacks.

Startup Repair isn't designed to fix Windows installation problems, nor is it a backup tool, so it can't help you recover personal files, such as photos or documents. To help protect your computer, back up your system and files regularly.

To open the System Recovery Options menu on your computer

1. Remove all floppy disks, CDs, and DVDs from your computer, and then restart your computer using the computer's power button.
2. Do one of the following:
 - a. If your computer has a single operating system installed, press and hold the F8 key as your computer restarts. You need to press F8 before the Windows logo appears. If the Windows logo appears, you need to try again by waiting until the Windows logon prompt appears, and then shutting down and restarting your computer.

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- b. If your computer has more than one operating system, use the arrow keys to highlight the operating system you want to repair, and then press and hold F8.
1. On the Advanced Boot Options screen, use the arrow keys to highlight Repair your computer, and then press Enter. (If Repair your computer isn't listed as an option, then your computer doesn't include preinstalled recovery options, or your network administrator has turned them off.)
2. Select a keyboard layout, and then click Next.
3. On the System Recovery Options menu, click a tool to open it.

To open the System Recovery Options menu using the Windows 7 installation disc or a USB flash drive, or a system repair disc

If your computer's system is severely damaged and you can't access the System Recovery Options menu on your computer, you can access it using the Windows 7 installation disc or a USB flash drive, or using a system repair disc if you created one earlier.

To use this method, you need to restart (boot) your computer using the disc or USB flash drive.

1. Insert a system repair disc or the Windows 7 installation disc; then shut down your computer in order to boot from the disc. (the bios boot up settings need to allow boot from the CD, DVD or USB drive).
2. Restart your computer using the computer's power button.
3. When prompted, press any key, and then follow the instructions that appear.
4. On the Install Windows page, or on the System Recovery Options page, choose your language and other preferences, and then click Next.
 - a. If neither the Install Windows page nor the System Recovery Options page appear, and you're not asked to press any key, you might need to change some system settings. To learn how to do this, see [Windows 7 installation: Create or Use a system repair disc \(USB flash drive\)](#).
5. If you are using the Windows installation disc or USB flash drive, click Repair your computer.
6. Select the Windows installation you want to repair, and then click Next.
7. On the System Recovery Options menu, click a tool to open it.

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SYSTEM RESTORE

Restore Windows from an existing 'restore point' on your system hard drive. This is valuable if your hard drive is not physically destroyed. These are the same restore points you may have seen when viewing Properties of a hard drive or folder, where the 'Previous Versions' tab displays all existing restore points by date and time. Normally you will choose a restore point with the most recent timestamp. You may lose recent program changes, but not your data.

SYSTEM IMAGE RECOVERY

You need to have created a [system image](#) beforehand to use this option. A system image is a personalized backup of the partition that contains Windows, programs and user data like documents, pictures, and music.

Choose this option if System Restore cannot fix the problem and you have a relatively recent system image. You will likely lose some data created or changed since the image was created, unless you have that data on a separate drive or flash drive; or have another backup that [Double Image 7.0](#) created.

WINDOWS MEMORY DIAGNOSTIC

Check your computer for memory hardware errors. [Running the Memory Diagnostics Tool](#) won't do any damage and might uncover the reason your PC hangs, freezes, or crashes.

COMMAND PROMPT

Advanced users can use Command Prompt to perform recovery-related operations and also run other command line tools for diagnosing and troubleshooting problems.

FILE RECOVERY USING DOUBLE IMAGE

For partial restores, consider this: Double Image has a feature that can quickly provide you colorful detailed report log showing which files have been changed, added or deleted since the last backup. If you already have some idea where a problem area is on your system, then from this report you may be able to decide just which files should be recovered.

SCENARIOS

PROBLEM-1 - You have a full system image backup but it's 5 days old and you have done a lot of work in the last 5 days and you have just learned that most if not all of the accounting files need to be reloaded due to

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what appears to be an operator accident. The good news is you have run scheduled Double Image backup sessions every day.

SOLUTION-1 - Open the Double Image backup profile that is used to backup up your entire system. Click the Restore button, de-select the 2 backup drives because not all needs to be recovered, then only check the 'c:\user\Joes name\accounting\' folder, and click 'Restore'. Double Image does a restore based on [date | time | file size | name | file attributes]. When both the backup and the restore target files are the same a file copy is not necessary and the next file is compared; then when they are different the files are restored. This recovery is quite fast.

PROBLEM-2 - You recently removed an application using Windows Programs and Features (add remove programs) only to discover you actually need this program on your machine. To add some disappointment, the install disc cannot be found.

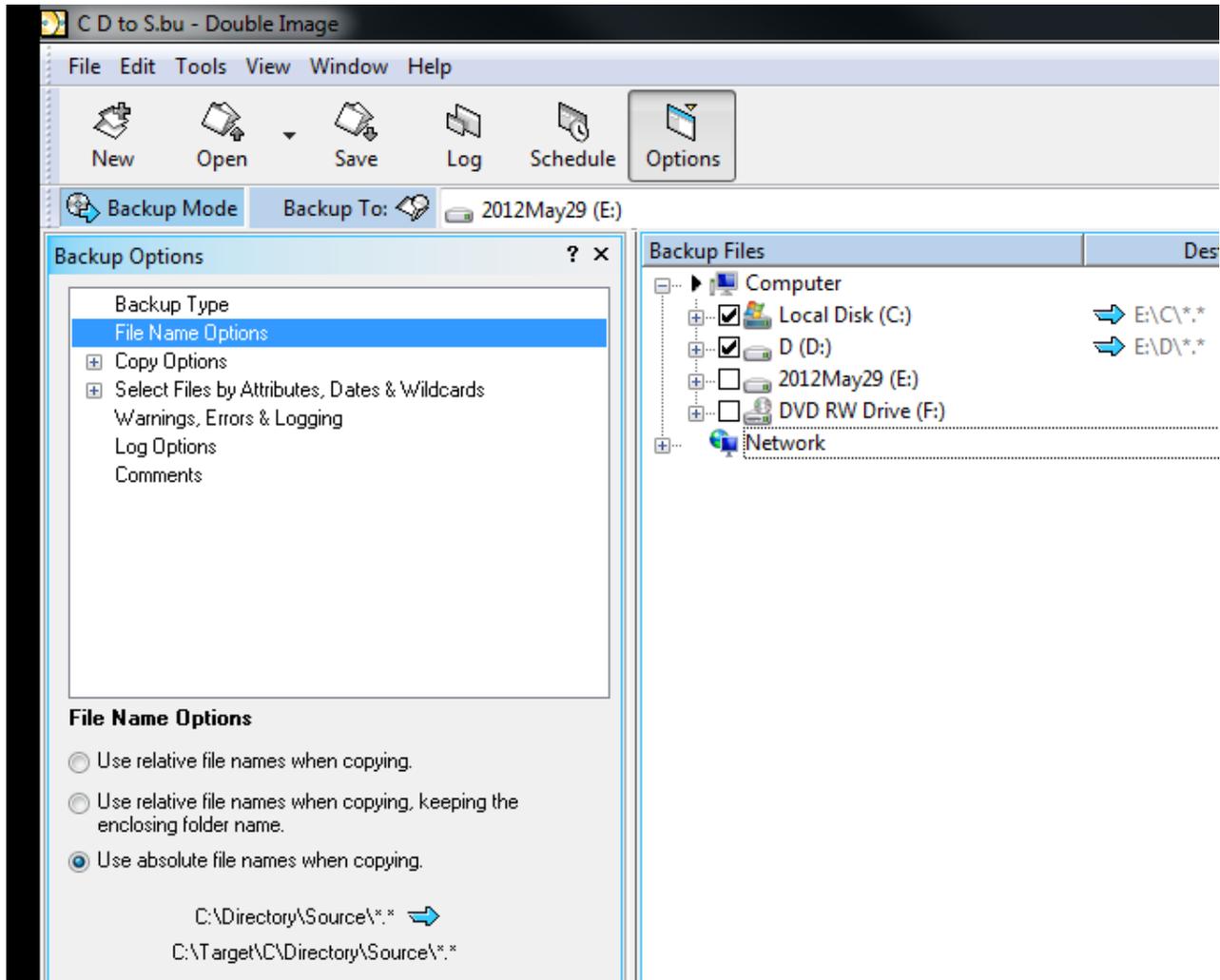
Let's think about the problem, again:

- Why not use 'Previous Versions' and restore only the program? Installed programs will usually reside in C:\Program Files (x86) or C:\Program Files together with some settings in the registry and possibly a system file or two in C:\Windows\System32. Good idea? ...probably not. Windows Restore points will not recover the registry while you have your machine live, unless you do a full system image restore.
- Also, we don't want to restore everything because only the program was removed and it takes a long time; furthermore, lots of work was done today to the accounting system and to the updated Outlook (.PST) file holding emails, appointments and contacts which has not been backed up since last night-- don't want to lose that activity.

BACKUP AND RESTORE

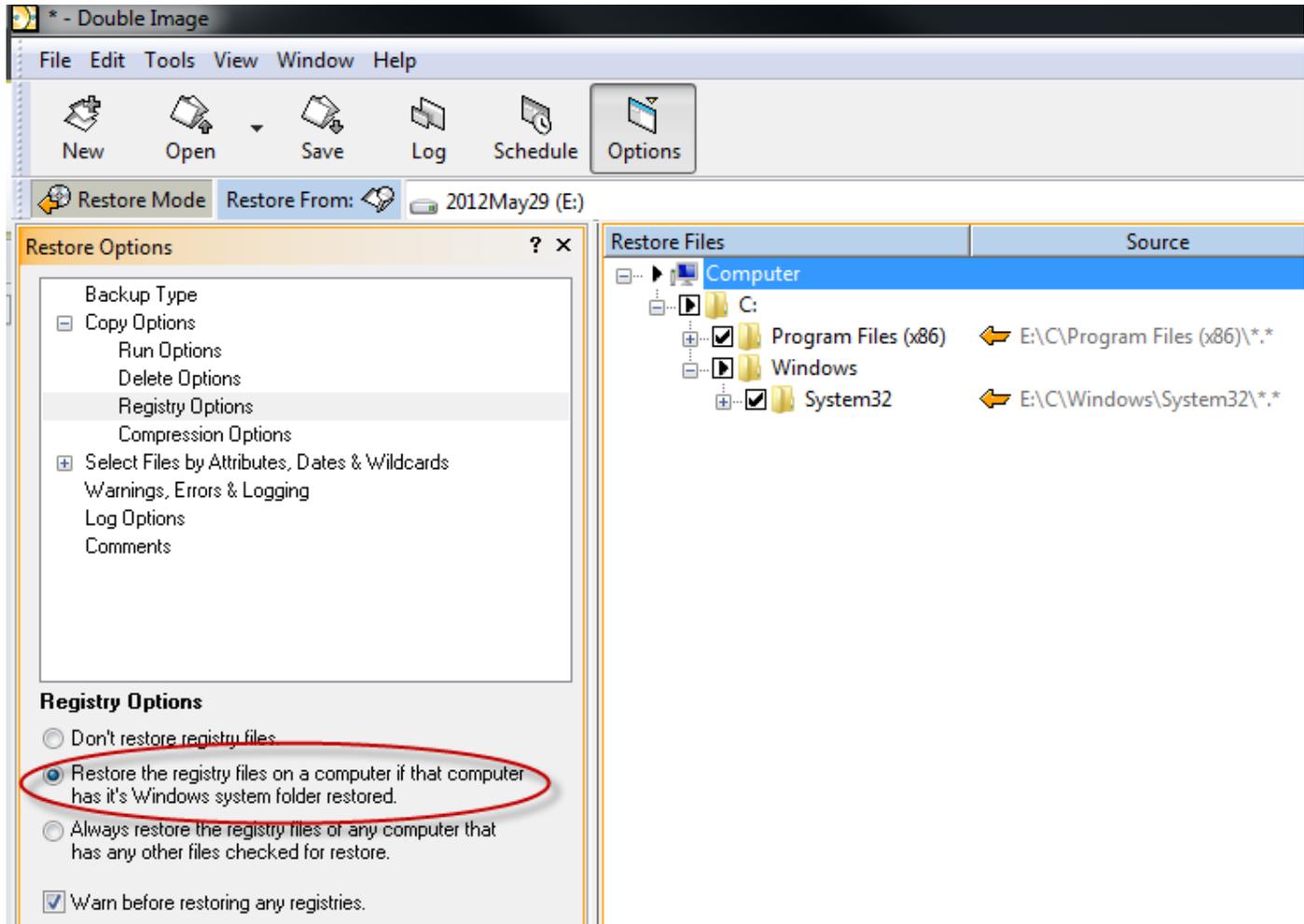
SOLUTION-2 - open the Double Image backup profile that is used to backup up your entire system.

How 'Backup Mode' looks (in the example shown below):



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How we want the Restore Mode to look (in the example shown below):



How we modified the Double Image restore settings

1. click the Restore button
2. un-checked the drives
3. checked C:\Program Files (x86)
4. checked C:\Windows\System32
5. in the options area, choose
6. under the Copy options choose **'Registry Options'** -> **'Restore the registry files on a computer if that computer has its Windows system folder restored'**
7. to view only what we want to restore: from the menu-> **View->Show Only Checked Items**
8. click restore.

BACKUP AND RESTORE

9. reboot, any time the registry is restored

PROBLEM-3 - Some files were written to my hard drive by accident and I don't know which files were written over and which files should not be there.

SOLUTION-3 - Find them, using Double Image. Open the Double Image backup profile that is used to backup up your entire system. From the menu, click **Tools->Report->Just show differences**. Double Image runs through the entire backup, comparing the source to the most recent backup files and when a difference is discovered the a log entry is created showing the date, time, source path, target path. Now that you have identified which files should not be on the drive you can remove them; while those that were written over by accident can be selectively restored. We will also consider selecting the option to '**Never over-write newer files with older files**'.

OTHER REFERENCES

Windows® 7 Inside Out by Ed Bott, Carl Siechert, and Craig Stinson ["Chapter 11: Backup and Restore"](#)

DRAFT