



Practical Time Travel

A “Time Machine” for Windows 7

Why would we want to Time Travel? Because we don’t have perfect memory.

Data File Evolution

Often projects evolve. We change the document, or the code, or the project file, because our first attempt was not quite good enough. Then we notice that the change doesn’t quite work and often wonder, “what did things look like before I made that change?” When this happens, it’s important to return to a prior point in time and look at the project as it was then. Returning to previous time means seeing what we saw then. Since working in Windows most often involves using an application like Word to create and change document files, we want to restart Word and have it show us what it did before.

Running a Program Again

Rerunning a program like Word and having it produce the same result requires returning the files it uses to the same condition they were in when you used it before. TimeTraveler uses the Windows Volume Shadow Copy technology to achieve this reversion easily. TimeTraveler does not simply copy your “.doc” file from the past. Because many applications have suites of files they use together this method often does not work. A database almost always requires at least the data file and the index file. These two files need to be of the same time, if they are going to work together. Some databases can recreate the index file from the data file when the index is corrupt. Not many can recreate the data file when it is corrupt. TimeTraveler “recreates” the entire volume of files that existed at a prior time. This may not be the only change needed to rerun a program, but it is a necessary change. (For example, if the program you want to rerun uses a USB device which is no longer attached to your computer, you will have a problem.) Fortunately, it works almost all the time.

Applications and their Data

Occasionally, you may find you have updated an application and the updated version will not work with the files from a prior point in time -- even the current point in time. Most vendors try to insure that their application updates are upward compatible. Occasionally, they make changes that require changes to data files. If this happens, you can restore your system and applications to the prior point in time and then rerun the application¹. Fortunately, TimeTraveler can restore your system and applications without disturbing your data files. In the worst case, TimeTraveler can restore your system and applications to a prior point in time, rerun your application on the files at that (or some other) time, and then restore your system and applications to the present time. (Phew! It takes a lot longer to say it than to do it!)

¹ If you do this, you might think you need to create a restore point for the current time before you restore the prior point, just to insure you can return to the current application (and system) configuration after you are finished. Luckily, this will happen automatically when you restore the previous system and applications.



Big Projects

If you work with others in a collaborative setting, your project may contain many related files. Perhaps a few Word files, some related Excel spreadsheets and a few Microsoft Project files. The files themselves may have embedded links to each other and updating one affects the others. To move back to a prior point in time and see what you saw you must move all these files to the same point and then restart the application(s). Fortunately, this is what TimeTraveler does. And it does it without disturbing your current files or changing any of their bits.

Practical Time Travel

To make Time Travel practical, TimeTraveler has to be able to do three things quickly and easily, and without confusion.

1. Find the right prior point in time.
2. Recreate the file system and potentially the application(s) as they were at that point in time.
3. Seamlessly restore the data files and system to their current condition.

Sometimes, finding the right point in time is easy. You may already know that you started work on a significant change to your project yesterday morning. In this case, since you probably didn't update your application late last night, you can just point at the files at that time using TimeTraveler and start over.

Sometimes you will need to look back at the changes you have made in your project to find the right prior time. In that case TimeTraveler will find the best comparison tool on your system and compare points in time for you until you find the right one.

If none of these approaches works, you can travel back to some time you are sure was before the change and start over again, or just start from the point you are at now. In some particularly nasty cases you might want to cut pieces out of the files at some different prior times and paste them into the current file.

What's in Sync and What's Not

If your working with a partner and both of you edit your files at the same time, you can still use all the TimeTraveler features as long as your files are in the same file system. Sharing files, either by publishing them on your own computer or using files on the same server are beyond the scope of this article, but TimeTraveler will not interfere with the sharing of files in any way. It simply gives a window into the past for a single volume. All the files and folders on that volume are synchronized in the prior time views, but remote users cannot see them. Other volumes are not synchronized – each one can have a local synchronization but there is no global synchronization. For most purposes this will suffice. Occasionally, you may need to find prior points in time that work together on more than one volume. TimeTraveler is by far the easiest way to do this.

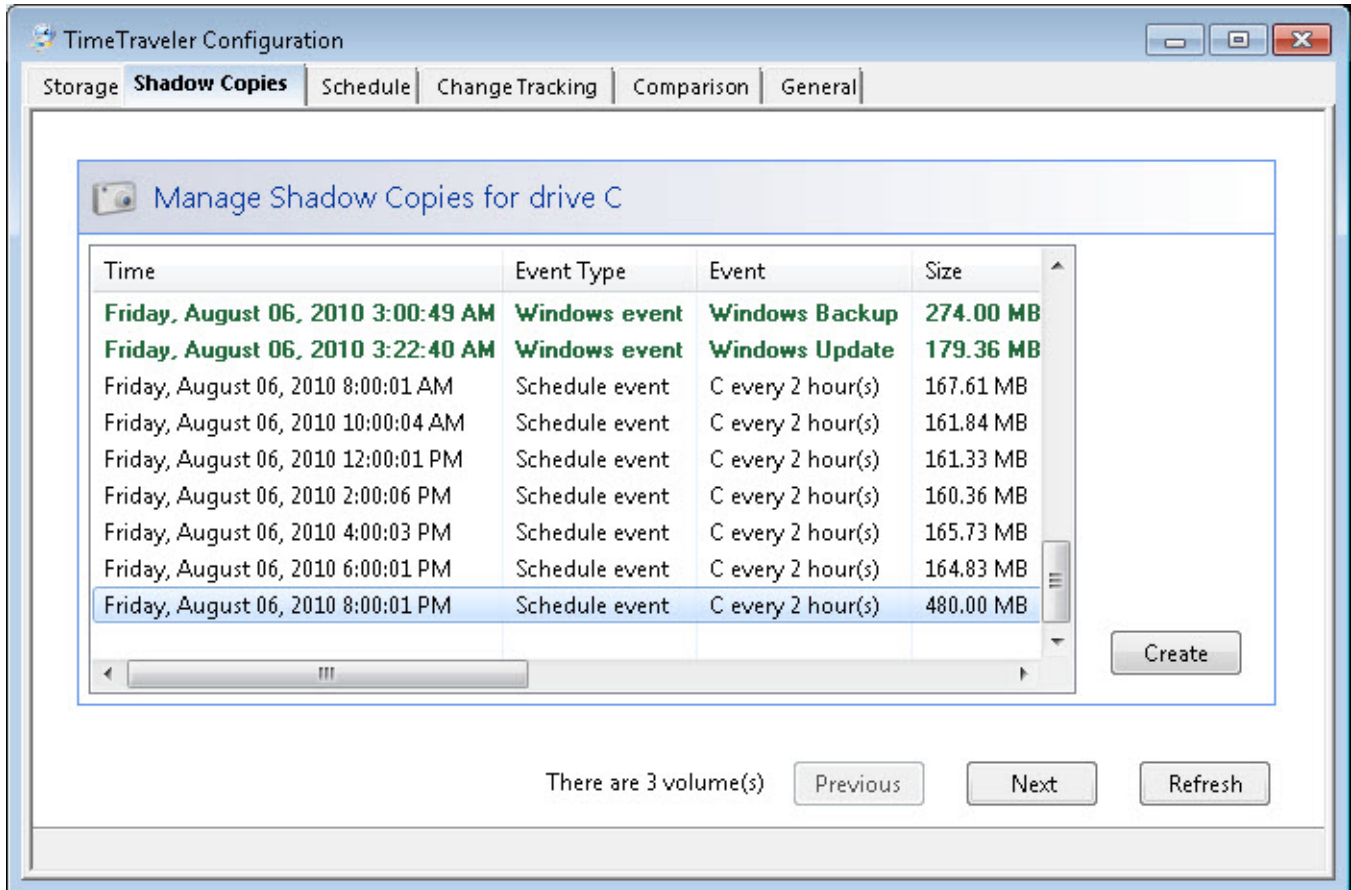


Figure 1 - Shadow Management

Scheduled Shadow Copies

As you gain familiarity with **TimeTraveler™**, you may find it convenient to schedule automatic shadow copies of your storage volumes. Especially if you have projects with files on more than one volume, a scheduled shadow copy for both volumes will simplify returning to that time. Even if you schedule the shadow copies for the same time the volumes will not be exactly synchronized, but they will probably be close enough.

Remember that new shadow copies displace old shadow copies and when the total space used reaches the maximum you have allowed, Windows will delete them starting with the oldest and working forward until it has recovered enough space to take the next snapshot. In addition, if you have only a small amount of space left on your volume, you may run out of storage space altogether if you have a large allocation for shadows.

To schedule shadow creation, just pick a frequency and a time. **TimeTraveler™** will create them for you. When you need them later, you will have these scheduled shadow copies and some unscheduled shadows called Restore Points. Vista creates these Restore Points whenever you install a new application or update your system software. When you wish to access previous versions of your data, if you have Vista Business, Vista



Ultimate or Windows 7, all these shadows will appear in the Previous Version tab of the Properties Window for the volume.. In any version of Vista or Windows 7 they will appear on the **TimeTraveler™** timeline.

Change Driven Shadow Copies Make Exceptionally Useful Points in Time

More often than not I am working on a document or a source file that I have been editing for a long period of time - sometimes as much as a month or more. These files get changed in sessions. I come to work, break for lunch, and go home later. It would be nice if someone would make shadow copies at each of the times I take a break, just in case I want to return and take a different approach. TimeTraveler will do this. And the points in time it keeps have all the files and folders as they were at that time so I can just start again any time I want!

Conclusion

We strongly recommend **TimeTraveler™**, even if all you want to do is manage you shadow copies. It has a clean, easy to use interface that contains all the controls you need to manage your shadows. Regardless of which Windows (Vista or 7) you have, the **TimeTraveler™** Timeline is super useful. It manages both the use and creation of points in time through the native Windows Explorer interface. It's a real winner.