



Configuring Shadow Copy Service with TimeTraveler™

Volume Shadow Copies allow access to files and folders as they were at some prior time. Shadow Copies are not complete copies of an object, only the changes needed to reconstruct it. They contain the differences between the current version and the version that existed at the prior time. Usually the changes are a small part of the total object size, and the shadow copies are truly just shadows of the object. I will use the terms shadows and shadow copies interchangeably to mean Volume Shadow Copy. Once in a great while, the changes to the object can become a large, sometimes a very large, percentage of the object's size. When this happens, the changes can occupy so much space that Vista will delete them in order to save enough space for current versions.

Shadow Management

Vista allows you to limit the total space used by shadow copies. You can do this with VSSADMIN, a command line tool. By default, Vista limits shadows to 15% of the total capacity of the volume, or 30% of the volume's free space, whichever is less. To minimize the storage required, it excludes certain system files from the shadow e.g. page.sys. Whether or not you can see them, unless you manually shut down the shadow copy service, shadows are there.

Configuring the Shadow Copy Service starts with setting the Maximum Storage allocated to Shadow Copies. You might want to increase or decrease this number depending on your system usage. You might also want to delete a shadow copy if your shadows use too much space or you might want to create a shadow when you are working on something you cannot afford to lose. **TimeTraveler™** can perform all of these tasks.

As you can see in the top pane of Figure 1, the **TimeTraveler™** configuration screen displays the currently allocated space. You can change the Maximum by just clicking on the small arrows by the number and then clicking on the apply button. The graph in the right-hand pane will change as you adjust the size. If you shrink the maximum size below the current allocation, some shadows are going to be deleted when you click on apply. A green check will appear when the setting has taken effect.

If you need to save shadows from a certain date, before you change the Maximum Shadow Space, delete some of your unneeded Shadows with the Delete button. Just select the shadow in the middle pane and click on Delete. Be sure and delete enough shadows so that you will have storage for the ones you wish to keep. Any time you wish, you can return to this screen and create a shadow by clicking create. It will then appear in the list at the bottom.

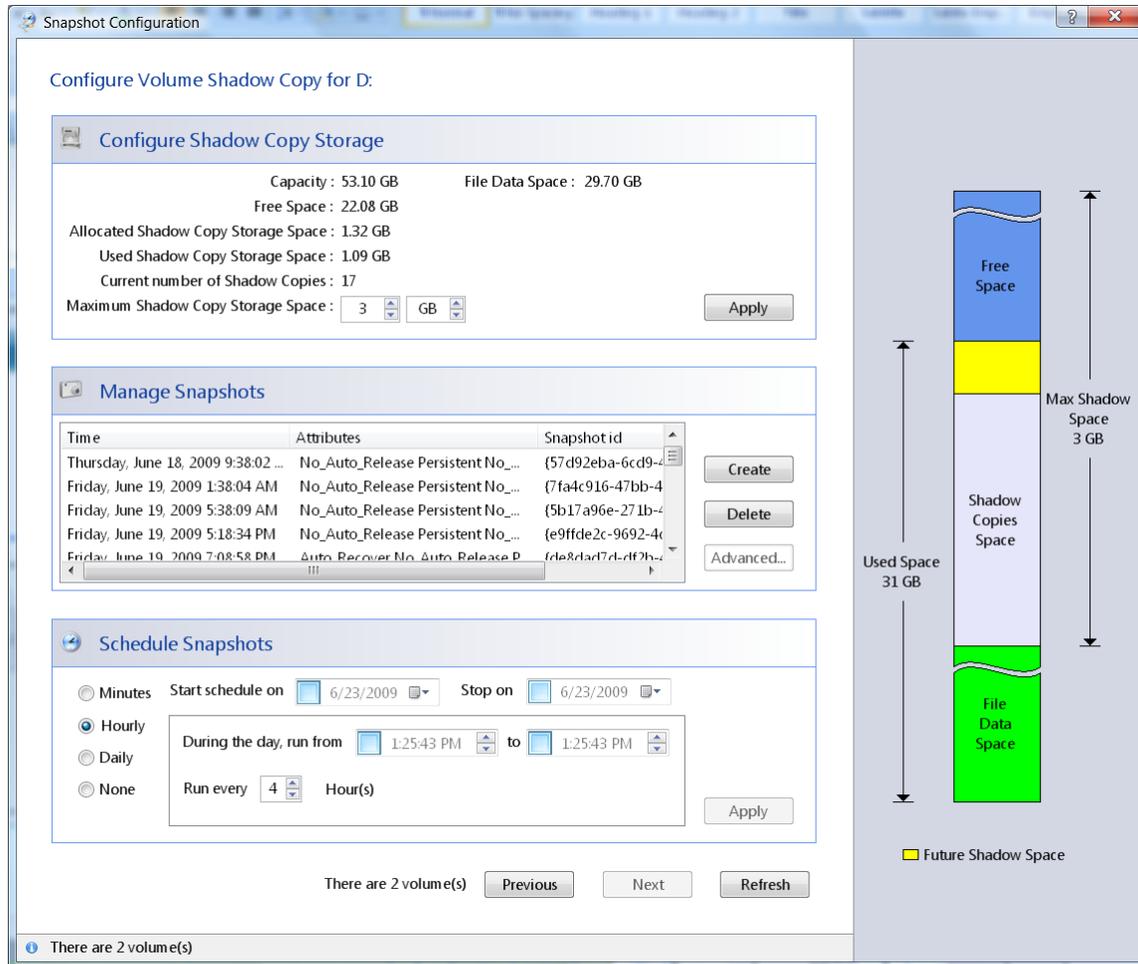


Figure 1 - Shadow Management

Scheduled Shadow Copies

As you gain familiarity with **TimeTraveler™**, you may find it convenient to schedule automatic shadow copies of your storage volumes. Remember that new shadows displace old shadows when the total space used reaches the maximum you have allowed. 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 or Vista



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

Explore File and Folder Sizes

It may happen that you decide to delete files from your storage volume instead of shadows. For example, this might happen because you have many old and unused files from a project that is no longer active. When you delete a file which has shadows you may not recover as much storage as you expect, because the shadow will contain **all** the data needed to reconstruct the file as it was at the time the shadow was taken, not just the changes.

Said another way, not only does Explorer's displayed size for a file not include its shadows, but when you delete the file, Vista copies all the deleted blocks it needs to recreate the file into the shadow. The net effect, you do not get **all** the file's storage back until its shadows are deleted, and shadows are deleted only when you reach the Shadow Storage Maximum. Unfortunately, because shadows are associated with storage volumes, not individual files, you cannot delete the shadow of a single file (or folder). You must delete the shadow for the entire volume including all its files and folders.

Bottom line: Do not trust the explorer view of a file or folder's size. Only the Volume Properties information reflects the combined file (or folder) and shadow copy sizes. Explorer gives an accurate view of an object's current size, but this does not include its shadows.

Conclusion

We strongly recommend **TimeTraveler™**, even if all you want to do is manage your shadow copies. It has a clean, easy to use interface that contains all the controls you need to manage your shadows, and it is a lot cheaper than upgrading to Vista Business or Vista Ultimate. Even if you have Business or Ultimate, the **TimeTraveler™** Timeline is super useful. It's a real winner.