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Shadow Copies

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In this video, we will look at Shadow Copies. Shadow Copies in Windows is a service which provides the ability for Windows to back up open files and restore files to a certain degree.

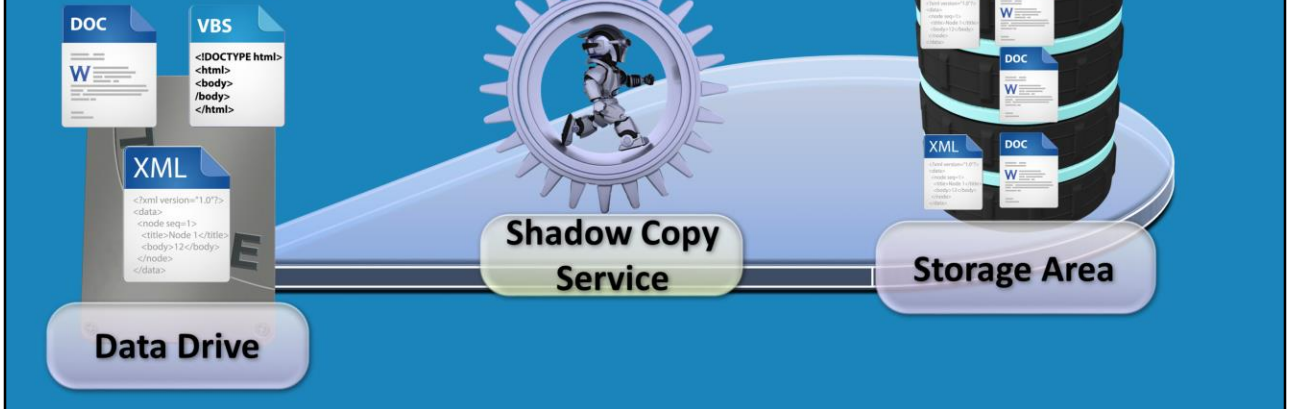
Shadow Copies

- First introduced in Windows XP
- Creates a snapshot of a drive
- Allows backing up of open files
- Not a replacement for regular backups
 - Snapshots record changes
 - Snapshots limited by space and number

Shadow Copies was first introduced in Windows XP. It works by creating a snapshot of the drive. The main aim was to allow backup software like NT Backup to be able to backup open files. The initial release of Shadow Copies only allowed for a temporary snapshot for the purpose of backing up the files. Later versions of Windows allow files to be restored from the snapshot. However, Shadow Copies should not be considered a replacement for regular backups. This is because snapshot records can and will change. If a file has not changed, the file is not included in the snapshot. If the user were to later delete a file that were not in the Shadow Copy storage, the only way to recover the file is to restore the file from the regular backup. Snapshots also operate under space restrictions imposed by the amount allocated to them and the number of snapshots that have already been created. When a storage area is full, the oldest backup is deleted. We're going to take a closer look now. Consider that you have a data drive. Once Shadow Copies is enabled, it will allocate a storage area. The administrator can exercise control over how large the storage area for Shadow Copies really is; there is however, a minimum size it must be and that is 300 megabytes.

Shadow Copies

- When shadow copy runs
 - Files that have changed are stored
- When full, oldest shadow copies removed
- 64 changes are stored



When a Shadow Copy runs, it will store recently changed files. Looking at files on the drive, let's consider that some have had changes made to them. When the Shadow Copy service runs next, these files will be copied to the Shadow Copy data store. Now consider that another file has changed *after* the first Shadow Copy has run. Nothing will change in the Shadow Copy storage area until *another* Shadow Copy is run. The Shadow Copy service will then copy the changed file to the storage area. The process keeps repeating; each time files are changed and the next time the Shadow Copy service runs, the changed files are copied to the storage area. The storage area is quite efficient at storing changes made to the files, rather than the whole complete file itself. So if you were to keep changing the same files, all the time, the storage area will be able to hold a lot of changes. At some point, the storage area will become full. When this occurs, the oldest Shadow Copy in the area is deleted when the next Shadow Copy service runs. Furthermore, Shadow Copies will only store up to 64 changes to the file, after this limit has been reached, the oldest version will be deleted to make room for the new one.

Shadow Copies vs Backups

- Not a replacement for regular backups



Shadow copies



Backups

The next point we'll discuss is that Shadow Copies are not replacements for regular backups. The administrator does not have control over which files are removed from the Shadow Copy storage. If the file you want is within the Shadow Copy storage area, that is excellent and you can restore the file, however if it has been removed, there is no way to restore it. If you want to make sure it is always available, you will need to store that file in some kind of backup solution. This concludes the video on Shadow Copies.