

Fixed drive letters on Windows

For our off-site off-line scenario I was planning to reuse a bunch of 1TB 3.5 inch SATA hard disks that previously made up a RAID array in a recently retired server.

To conveniently swap backup disks I've set-up an eSATA dock to the computer that makes backups.

I want to copy all our VMs to a hard disk, and then have someone take that disk home at regular intervals.

I created a single primary partition on each hard disk and formatted it as NTFS.

The batch file I had scripted together seems to work fine. So far so good.

The script uses drive letter W:, and because that does not appear to be consistent for all the drives, the script would only work for one disk.

There is an easy way to have a partition always use the same letter, and that is by manually changing it with `diskmgmt.msc`.

But I needed *all* my partitions to show up as the same letter.

After some experiments I found that the assigned drive letter is tied to the *Volume id* or *Volume Serial Number* of an NTFS partition.

This is a 32 bit ID that you might have seen before, because it's listed in the output of the `dir` command:

```
C:\Users\visser>dir
Volume in drive C has no label.
Volume Serial Number is 16D0-F449

Directory of C:\Users\visser

2011-12-14  11:58    <DIR>          .
2011-12-14  11:58    <DIR>          ..
2011-11-21  11:37    <DIR>          .asdm
2011-05-14  19:12    <DIR>          .GalleryRemote
2011-05-14  19:12    <DIR>          .ssh
2011-10-31  12:54    <DIR>          .thinupload
2011-11-02   09:39    <DIR>          Contacts
2011-12-15  11:39    <DIR>          Desktop
etc etc
```

Those IDs are automatically generated when the filesystem is created, and the versions of Windows that we use (Windows 7, and Windows Server 2008R2) do not offer a way to change it.

The Sysinternals collection however contains the `volumeid.exe` tool that does the trick. It can be downloaded for free at <http://technet.microsoft.com/en-us/sysinternals/bb897436>.

I set the ID to the same value (CAFE-BABE) for all the NTFS partitions on my disks.

After that I used `diskmgmt.msc` to change the drive letter to W:.

At this moment my Windows system will always use W: for partitions with ID CAFE-BABE.

So it does not matter which of the hard disks I connect to the computer, it will always look like this:

```
W:\>dir
Volume in drive W is TERENA
Volume Serial Number is CAFE-BABE

Directory of W:\

2011-11-30  12:46    999,653,638,144  TERENA_VMs.tc
                1 File(s) 999,653,638,144 bytes
                0 Dir(s)   423,763,968 bytes free
```

Note that the VolumeID-driveletter mapping is fixed but limited to a specific Windows computer.

So all the CAFE-BABE partitions will likely show up as a different letter on another Windows computer.

But the good thing is that that letter will be the same again for all partitions.