

By Matt Pound

Using a script to shrink a virtual disk.

It's always bugged me that you can't script or schedule VMware's shrink functionality inside VMware Tools. This has meant that in some instances our virtual disk backups have been larger than they needed to be, especially after large amounts of data have been deleted.

So when I saw David Wang's entry on performing maintenance on MS Virtual Server virtual disks using the precompact program I thought it might work with our VMware ESX formatted virtual disks.

See David Wang's blog at :
http://blogs.gotdotnet.com/david.wang/archive/2006/04/17/HOWTO_Perform_VHD_Maintenance_Automatically.aspx

The main advantage of precompact.exe is that it can be included in a script and be scheduled to run before the virtual disk backups take place.

Precompact.exe has the following command line arguments:

-Help - Displays help for the precompact.

-Silent - Runs the precompact in unattended mode.

-SetDisks - Specifies the disks to be precompact. If this parameter isn't specified, then all virtual hard disks for this virtual machine are compacted. For example, the following command will precompact your C, D, and E drives in unattended mode:

Precompact -Silent -SetDisks:CDE

Below are the results of a test I carried out to whether precompact offered the same functionality as the shrink functionality found in VMware tools:

The tests are based around an 8GB virtual disk with Windows 2003 loaded inside. The operating system took up 4.8 GB and the rest was filled with 3.2 GB of small files. Various operations were carried out on the virtual disk and the virtual disk was exported using vmkfstools (VMware ESX 2.5.3).

Operation	Time to export	Exported file size
Export full 8GB virtual disk.	4m44s	7.3
Delete data folder (3.2GB)	4m43s	7.3
Shrink disk using VMware Tools.	3m44s	3.4
Compact disk using MS Precompact.	3m42s	3.4

Carrying this one step further before I compact / shrink the disk I can also use Windows 2003's built-in disk cleanup (Cleanmgr) to make further savings in disk space of exported virtual disks.

Disk Cleanup supports the following command-line options:

- /d driveletter: - This option specifies the drive that you want Disk Cleanup to clean.

Note: The /d option is not utilized with /sagerun: n.

- /sageset: n - This option displays the Disk Cleanup Settings dialog box and also creates a registry key to store the settings that you select. The n value, which is stored in the registry, allows you to specify tasks for Disk Cleanup to run. The n value can be any integer value from 0 to 65535. To have all of the options available when you use the /sageset option, you might need to specify the drive where Windows is installed.
- /sagerun: n - This option runs the specified tasks that are assigned to the n value if you use the \sageset option. All drives on the computer are enumerated and the selected profile runs against each drive.

For example, in Scheduled Tasks, you could run the following command after you run the cleanmgr /sageset:11 command:

```
cleanmgr /sagerun:11
```

This command runs Disk Cleanup and includes the options that you specified with the cleanmgr /sageset:11 command

The cleanmgr policy can be found at the following location in the registry:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Explorer\VolumeCaches

This can be exported as a regfile and then re-imported before cleanmgr is run.

For more information on cleanmgr please see the following links:

<http://support.microsoft.com/?kbid=315246>

<http://www.ss64.com/nt/cleanmgr.html>

You can download and extract precompact.iso (containing precompact.exe) from Microsoft Virtual Server 2005.

Download Microsoft Virtual Server 2005 R2

<http://www.microsoft.com/windowsserversystem/virtualserver/software/default.mspx>