

# How to Check That TRIM is active



Making sure that TRIM is activated for optimal SSD performance in Windows 7..

# 1

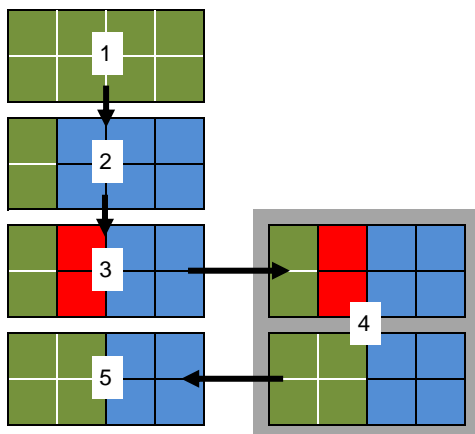
## TRIM Overview

### What is TRIM?

The TRIM command has been designed to maintain the performance of solid-state drives at an optimal level over the course of the lifetime of the drive.

### How Does TRIM Work?

TRIM actively deletes invalid data from the SSD's memory cells to ensure that write operations perform at full speed. Since a memory block must be erased before it can be re-programmed, TRIM improves performance by pro-actively erasing pages containing invalid data, allowing the SSD to write new data without first having to perform a time-consuming block erase command.



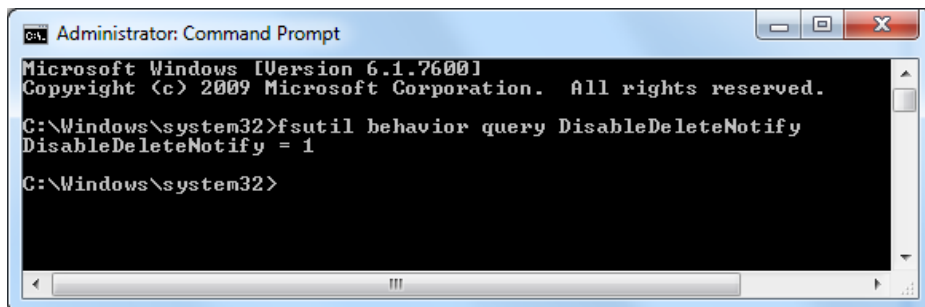
- 1.) SSD pages contain no data
- 2.) User writes data to SSD pages
- 3.) User deletes some data. Pages are marked as 'not in use' by the host OS, but data remains on SSD.
- 4.) TRIM command tells SSD controller that pages contain invalid data. Pages with invalid data are cleaned.
- 5.) Data is written back to SSD memory cells. The invalid data has been cleaned and data is able to be written to the pages at full speed.

## 3

## Ensure that the TRIM command is being passed-on by the OS

To check if the TRIM command is active on your PC, start a Command Prompt window (in Administrator mode, type "CMD" in the Search bar from the Windows Start Menu) and enter the following command:

***fsutil behavior query DisableDeleteNotify***



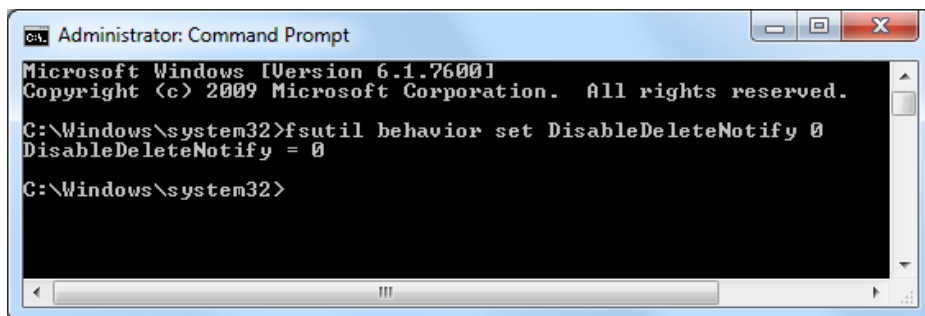
```
Administrator: Command Prompt
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Windows\system32>fsutil behavior query DisableDeleteNotify
DisableDeleteNotify = 1

C:\Windows\system32>
```

If the result is "0" then the TRIM command is enabled, and if the result is "1" then the TRIM command is disabled. Use the following command to enable TRIM:

***fsutil behavior set DisableDeleteNotify 0***



```
Administrator: Command Prompt
Microsoft Windows [Version 6.1.7600]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Windows\system32>fsutil behavior set DisableDeleteNotify 0
DisableDeleteNotify = 0

C:\Windows\system32>
```

# 3

## Checking TRIM is functioning

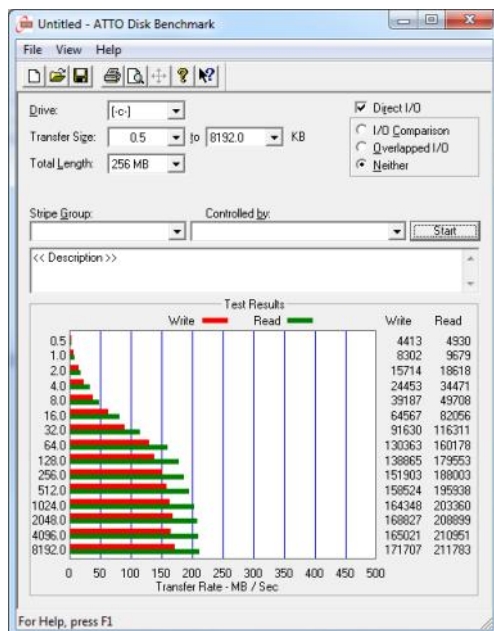
The DisableDeleteNotify command only indicates that the operating system is passing the TRIM command on to the storage drivers. It does not indicate whether or not the storage drivers are passing the command on to the storage controller IC in the SSD, or whether the storage controller IC supports TRIM. As such, a result of "0" is not a guarantee that TRIM is functioning correctly.

To determine whether TRIM is functioning correctly, you can periodically measure the performance of your SSD using tools such as ATTO and CrystalDiskMark. If the performance of your drive is generally at the level specified on the Corsair website for your specific drive then you can be confident that TRIM is functioning.

Please note that the performance levels of all SSDs will fluctuate from the maximum due to normal usage, so you should not expect the drive to produce completely consistent benchmark numbers, or attain the maximum theoretical performance.

### ATTO

[http://www.techpowerup.com/downloads/1137/ATTO\\_Disk\\_Benchmark\\_v2.41.html](http://www.techpowerup.com/downloads/1137/ATTO_Disk_Benchmark_v2.41.html)



# Resources

Additional information about Corsair SSD drives can be found here:

[http://www.corsair.com/products/ssd\\_home.aspx](http://www.corsair.com/products/ssd_home.aspx)

The latest information and further discussion about Corsair solid-state drives can be found in the Corsair Solid-State Drive forum, which is available here: <http://forum.corsair.com/v3/forumdisplay.php?f=188>

