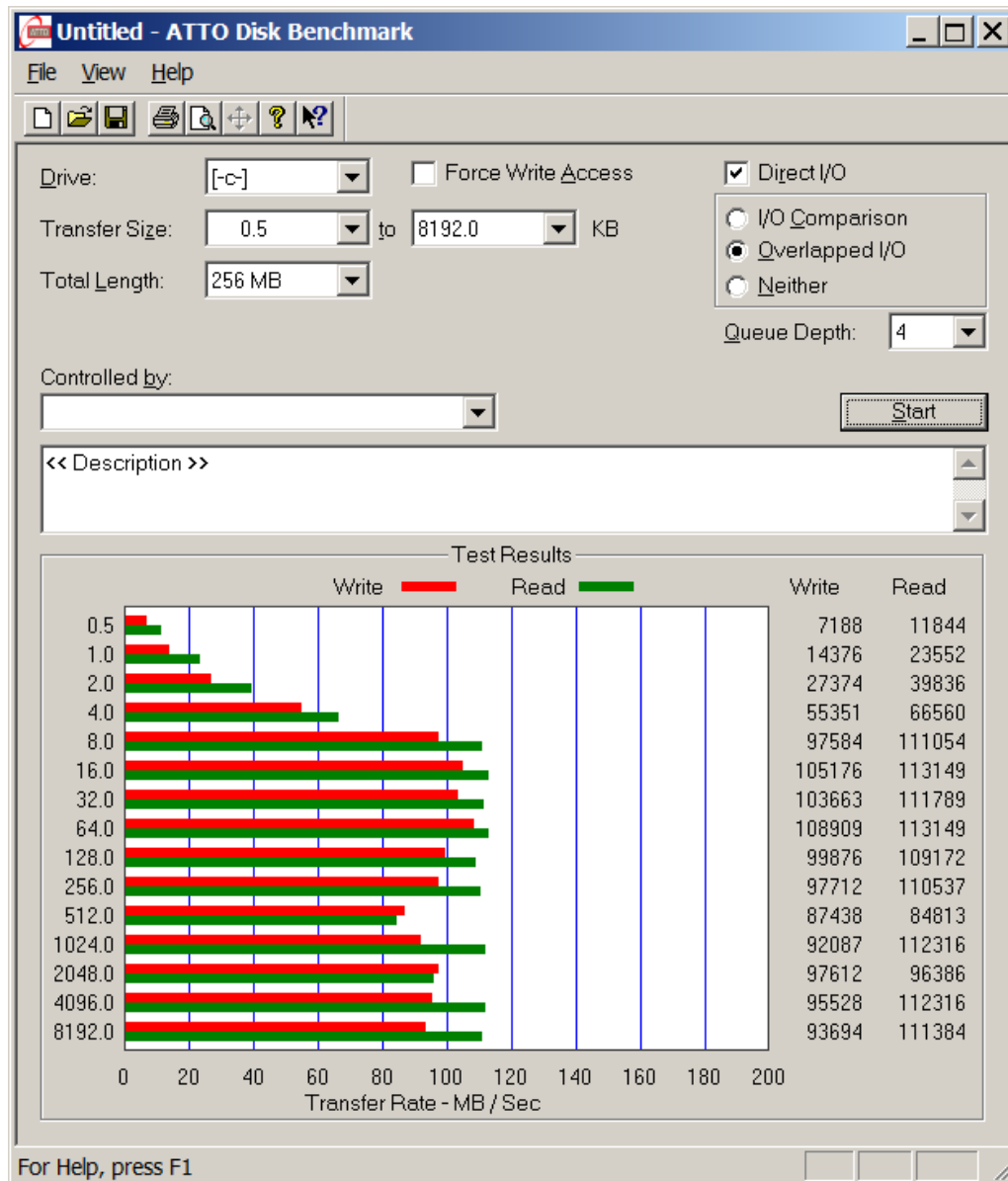# Best Windows tools to Test (Benchmark) Hard Drives, SSD Drives and RAID Storage Controllers

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Disk Benchmarking is very useful for *people involved in Graphic Design*, *3D modelling, system admins* and anyone **willing to squeeze maximum of his PC hardware**.

  If you want to do **some benchmarking on newly built Windows server targeting Hard Disk performance**, just **bought a new hard SSD (Solid State Drives)** and you want to test *how well Hard Drive I/O operations behave* or you want to see a **regular *HDD benchmarking of group of MS Windows PCs*** and *plan hardware optiomization*, check out ATTO Disk Benchmark.

So **why exactly ATTO Benchmark?** - Cause it is **one of the best Windows Free Benchmark tools on the internet**.

ATTO is a widely-accepted Disk Benchmark *freeware utility to help measure storage system performance*. *ATTO* though being freeware is **among top tools utilized in industry**. It is very useful in *comparing different Hard Disk vendors speed*, **measure Windows storage systems performance** with various *transfer sizes* and *test lengths for reads and writes*.

ATTO Disk Benchmark is used by *manufacturers of Hardware RAID controllers*, its *precious tool to test Windows storage controllers, host bus adapters (HBAs)*.
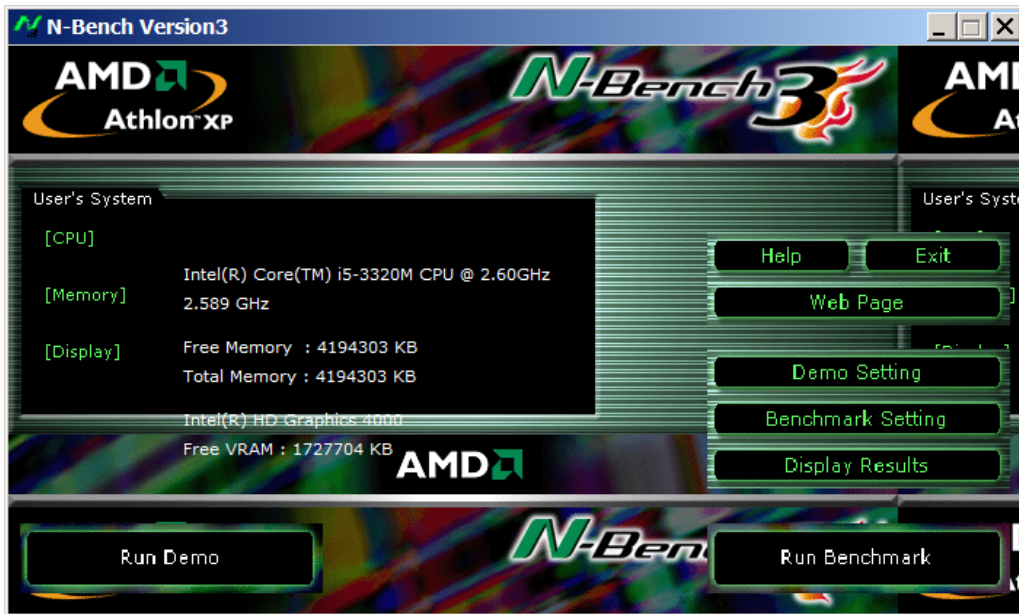
Here is **ATTO Benchmark tool specifications** (quote from their webstie)**:**

- Transfer sizes from 512KB to 8MB
- Transfer lengths from 64KB to 2GB
- Support for overlapped I/O
- Supports a variety of queue depths
- I/O comparisons with various test patterns
- Timed mode allows continuous testing
- Non-destructive performance measurement on formatted drives

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- - See more at: http://www.attotech.com/disk-benchmark/#sthash.rRlgSTOE.dpuf

Here is mirrored latest version of ATTO Disk for Download. Once you **get your HDD statistics** you will probably **want to compare to other people results**. On **TomsHardware**'s world famous Hardware geek site there are plenty of Hard Drives performance Charts

Of course there are other GUI *alternatives to ATTO Benchmark* one historically famous is *NBench*

NBench

Nbench is nice little benchmarking program for Windows NT. Nbench reports the following components of performance:

CPU speed: integer and floating operations/sec

L1 and L2 cache speeds: MB/sec

main memory speed: MB/sec

disk read and write speeds: MB/sec

SMP systems and multi-tasking OS efficiency can be tested using up to 20 separate threads of execution.

For *Console Geeks* or *Windows server admins* there are also some ports of *famous *NIX Hard Disk Benchmarking tools:*
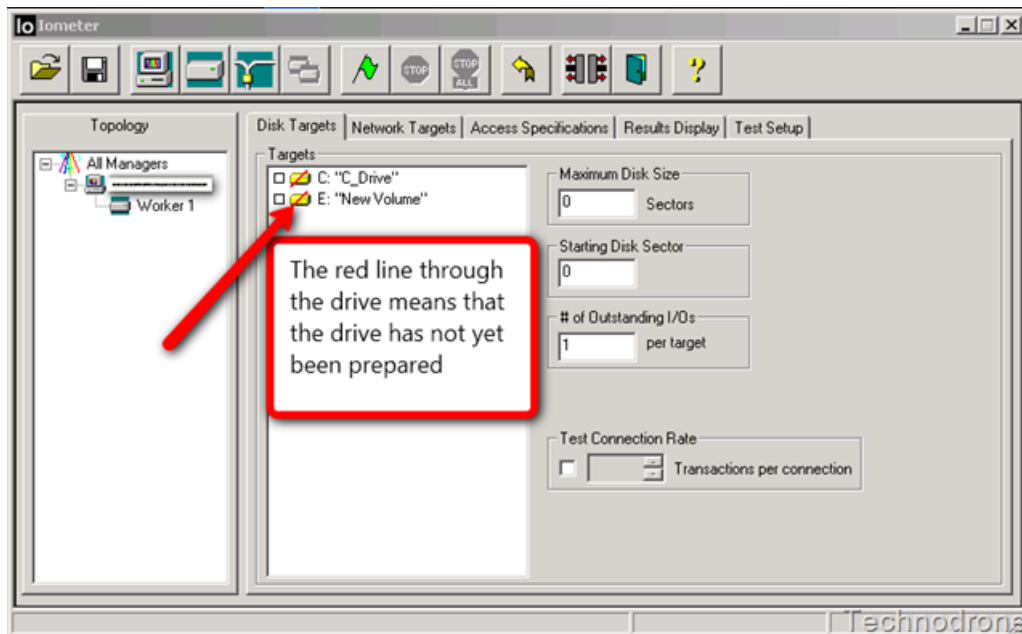
NTiogen

NTiogen benchmark was written by Symbios Logic, It's Windows NT port of their popular UNIX benchmark *IOGEN*. *NTIOGEN* is the parent processes that spawns the specified number of IOGEN processes that actually do the I/O.
The program will display as output the number of processes, the average response time, the number of I/O operations per second, and the number of KBytes per second. You can download mirror copy of Ntiogen here

There are plenty of other GUI and Console *HDD Benchmarking Win Tools*, i.e.:

IOMeter (ex-developed by Intel and now abandoned available as open source available on SourceForge)

Bench32 - Comprehensive benchmark that measures overall system performance under Windows NT or Windows 95, now obsolete not developed anymore abandoned by producer company.

ThreadMark32 - capable of bench (ex developed and supported by **ADAPTEC**) but also already unsupported

IOZone - filesystem benchmark tool. The benchmark generates and measures a variety of file operations. Iozone has been ported to many machines and runs under many operating systems.

N! B! Important note to make here is above suggested tools will provide you more realistic results than the proprietary vendor tools shipped by your hardware vendor. Using proprietary software produced by a single vendor makes it impossible to analyze and compare different hardwares, above *HDD benchmarking* tools are for "open systems", e.g. nomatter what the hardware producer is produced results can be checked against each other.
Another thing to consider is even though if you use any of above **tools to test and compare two storage devices** still results will be partially imaginary, its always best to conduct tests in *Real Working Application Environments*. If you're planning to launch a new services structure always test it first and don't rely on preliminary returned soft benchmarks.

if you know some other *useful benchmarking software* i'm missing please share.