

## Performance:

The performance/benchmark was made by IOzone ver.3.315 (<http://www.iozone.org/>) compiled from sources using Apple Xcode (gcc version 4.0.1, build 5489) on the following PC configuration: Mac Mini 1.1, Intel Core Duo 1.66GHz FSB 667, 512MB RAM, HDD: Fujitsu MHV2060BHPL 60GB



### Performance comparison table. File size is 1 MB.

Test	Record Size	Native Apple HFS + Driver (KB/Sec)	Native Mac OS X NTFS Driver (KB/Sec)	NTFS-3g + FUSE (KB/Sec)	Paragon NTFS for Mac OS X 7 (KB/Sec)	Paragon vs HFS+	Paragon vs Native NTFS	Paragon vs NTFS/3g
Writer	512 B	34448	-	7642	30305	=	-	+++
	4 KB	34500	-	7748	27096	=	-	++
	16 KB	33119	-	7884	27528	=	-	+++
Re/Writer	512 B	34023	-	8567	29019	=	-	+++
	4 KB	34041	-	8567	27490	=	-	+++
	16 KB	33199	-	8749	26262	=	-	+++
Reader	512 B	36047	32737	16255	27256	=	=	+
	4 KB	35426	32716	16278	26074	=	=	+
	16 KB	35624	32771	15437	25069	=	=	+
Re/Reader	512 B	35584	32356	17354	27736	=	=	+
	4 KB	35587	32094	17298	26468	=	=	+
	16 KB	36060	32167	17087	25432	=	=	+
Random Read	512 B	23523	23847	13533	19103	=	=	+
	4 KB	34733	35178	16556	24822	=	=	+
	16	35745	35948	16968	25698	=	=	+
Random Read	512 B	41038	-	6341	26912	=	-	+++
	4 KB	32811	-	8709	24657	=	-	++
	16 KB	35816	-	8855	24530	=	-	+++

**Note:** The have tested the following versions of FUSE and NTFS-3G:

- MacFUSE 2.0.3,2 (Dec 19, 2008);
- NTFS-3G 2009.2.141 (Feb 12, 2009).

## Definitions of these tests

**File size:** Size of a file that was used to measure the performance.

**Record size:** buffer size for sending/receiving data to file system functions.

**Write:** This test measures the performance of writing a new file and its metadata.

**Re-write:** This test measures the performance of writing a file that already exists. When a file is written that already exists the work required is less as the meta data already exists.

**Read:** This test measures the performance of reading an existing file.

**Re-Read:** This test measures the performance of reading a file that was recently read. It is normal for the performance to be higher as the operating system generally maintains a cache of the data for files that were recently read. This cache can be used to satisfy reads and improves the performance.

**Random Read:** This test measures the performance of reading a file with accesses being made to random locations within the file. The performance of a system under this type of activity can be impacted by several factors such as: Size of operating system's cache, number of disks, seek latencies, and others.

**Random Write:** This test measures the performance of writing a file with accesses being made to random locations within the file. Again the performance of a system under this type of activity can be impacted by several factors such as: Size of operating system's cache, number of disks, seek latencies, and others.

**Results:** Paragon NTFS for Mac OS X beats NTFS-3g for all write operations and has the same and even better (in some cases) performance for read operations. As regards the native Apple HFS+ driver, Paragon NTFS for Mac OS X has almost the same performance, in some cases we are better in some we are not. The native (read only) NTFS driver has the same read performance as Paragon NTFS for Mac OS X. For detailed information see the performance comparison table, where:

**+** means Paragon NTFS for Mac OS X has better performance

**-** function is not available

**+++** has much better performance

**-** has worse performance

**=** has almost equal performance