

# Why are disk writes so slow?

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*Source:* <http://unix.derkeiler.com/Mailing-Lists/FreeBSD/performance/2006-09/msg00013.html>

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  - *Date:* Tue, 26 Sep 2006 11:46:44 -0400
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I am reading Richard Stevens' "Advanced Programming in the UNIX Environment," a most excellent book.

Out of curiosity, I tried his I/O efficiency program on my IBM A30 Thinkpad, running 6.0-RELEASE with default tuning parameters. The test program reads file on stdin and writes to stdout, and you modify bufsize to watch how time changes.

As in his example (with a bufsize of 8192),

```
time ./a.out < 1.5M-testfile > /dev/null
```

runs five times faster than (clock time)

```
time ./a.out < 1.5M-testfile > /a.out.out
```

Can someone explain to me why writing is five times as slow as reading? What's going on in the computer?

The file is not O\_SYNC, so it can't be validating the data on the disk.

Later in the same chapter, he shows the impact of O\_SYNC flag. I re-ran this experiment too, and while everything is two orders of magnitude faster than his times in the book, the relative speed of writing with O\_SYNC is three times slower.

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```
-----  
normal write 2.3s .023s  
O_SYNC 13.4s .364s  
slowdown factor 5.8 15.8
```

Is this all b/c disks are so much larger?

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<http://lists.freebsd.org/mailman/listinfo/freebsd-performance>

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