

2 Performance Monitoring, Measurement & OS Caching

2.1.1

1M: 333 MB/s
10M: 333 MB/s
100M: 311 MB/s
1G: 57 MB/s
10G: 49 MB/s

For 1M, 10M, 100M we measure memory -> buffer cache performance, for 1G, 10G we asymptotically measure the pure disk performance. These values are very machine dependent (RAM, harddisk etc.)

2.1.2

1M: 3.6s 275 kb/s
10M: 27.6s 350 kb/s

We just get very poor performance.

The rate drops dramatically if the blocksize is only 1 byte! The limiting factor is the number of write calls needed (e.g. 1 Mio write calls for 1M)

2.1.3

The 2nd execution run's mainly from the buffer cache. You can verify this vmstat.

2.1.4

Strategy as non-root:

- a) flush the buffer cache writing a file with 1-2 x <memsize>
- b) do 4k reads using cat measuring the execution time with time
- c) calculate filesize/<exectime> and verify with vmstat that blocks are really read from disk

Disk-Read: ~60 MB/s

Cache-Read: 1.8 GB/s

2.1.5

The latency of the disk is ~12ms.

