

Test Drive Performance

[Windows / Linux]

Test Sequential Read/Write with DD

Write

```
dd if=/dev/zero of=./largefile bs=1M count=12288
```

Read

```
dd if=./largefile of=/dev/null bs=4k
```

Test IOPS with FIO

```
vim test.fio
```

```
“ [random]
  rw=randread
  size=4g
  directory=./iops
  iodepth=403
  direct=1
  blocksize=4k
  numjobs=16
  nrfiles=1
```

```
group_reporting
ioengine=sync
loops=1
rwmixread=75
```

```
mkdir ./iops
fio ./test.fio
```

Test Windows Performance with DiskSpd

Download DiskSpd

<https://gallery.technet.microsoft.com/DiskSpd-A-Robust-Storage-6ef84e62>

Source code here: <https://github.com/microsoft/diskspd>

```
DiskSpd.exe -c150G -d300 -r -w40 -t8 -o32 -b64K -Sh -L D:\SpeedTest\testfile.dat
```

Parameters:

- -c150G – Create a file of the specified size. Size can be stated in bytes or **KiBs**, **MiBs**, **GiBs**. Here – 150GB.
- -d300 – Duration of measurement period in seconds, not including cool-down or warm-up time (default = 10 seconds). Here – 5 minutes.
- -r – Random I/O access (override -s).
- -s – Sequential I/O access.
- -w40 – Percentage of write requests to issue (default = 0, 100% read). Here 40% of IO operations are Writes, remaining 60% are Reads. This is a usual load for my SQL Server OLTP databases.
- -t8 – The number of threads per file. Here – 8. One thread per available core.
- -o32 – The number of outstanding I/O requests per target per thread. In other words, it is a queue depth. Here – 32.
- -b46K – Block size in bytes or **KiBs**, **MiBs**, or **GiBs**. Here – 64KB.
- -Sh – Disable both software caching and hardware write caching.
- -L – Measure latency statistics.

- D:\SpeedTest\testfile.dat - My target file used for testing (created with - c).

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