



# NVMe SSD Performance and QoS Comparison Netlist N1951 versus Intel P4610



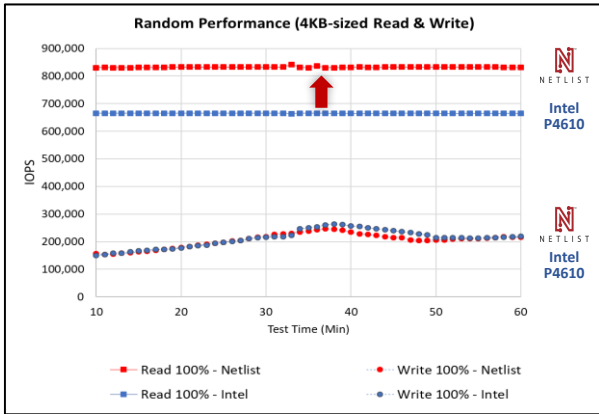
## Netlist N1951 NVMe SSD Superior Read Performance compare to Intel P4610 Drive

### Tested in AMD EPYC™ Processor Platform using high performance AMD EPYC™ 7251 CPU

This test compares two 3.2TB NVMe SSD drives, the Netlist N1951 and Intel's P4610. Both were tested on an AMD EPYC™ Processor platform to measure the performance of Random Read/Write and Sequential Read/Write in accordance with SNIA SSD performance test conditions. FIO v3.1 tool was used as a benchmark tool.

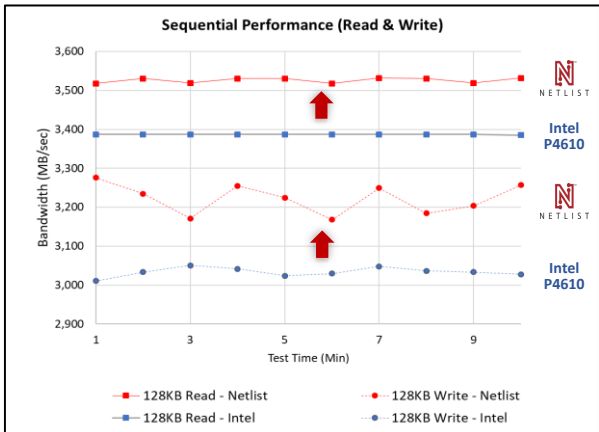
### Random Read and Write IOPs

Performance was measured with 4KB-sized requests. And the performance tests continued until a drive under test reached at sustained state.



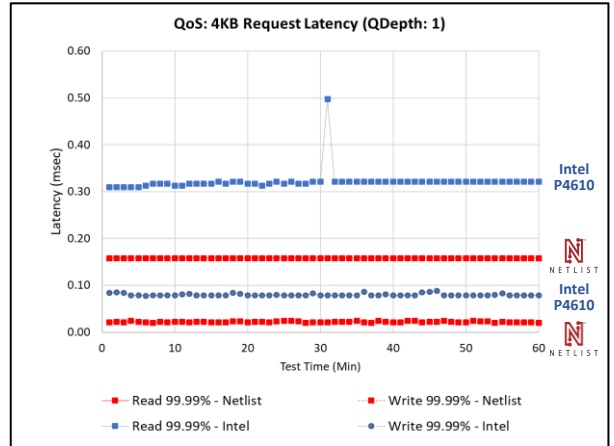
### Sequential Read and Write Performance

The sequential read and write performance was measured with 128KB sized requests. The graphs below compare the two drives.



### Latency (QoS 99.99%)

As a final comparison, the below result shows the lower Write latency and more stable Read latency of the Netlist drive over Intel.



### Test conditions

The below conditions were used for the performance measurements

- Random 4KB R/W : # Job =8, QDepth=64
- Sequential 128KB R/W : # Job =1, QDepth=512

### Test system configuration

The below system configuration was used for this performance measurements

Test System Configuration	
CPU	2x AMD EPYC 7251 @ 2.1GHz (Total 2 x8 Cores) • NUMA Node #: 8
Memory	256GB (16x 16GB, for NUMA set) • Applied CPU affinity for fio test.
OS	Linux (Kernel version: 4.19.5-1)
FIO	Ver. 3.1
DUT	NVMe SSD (PCIe Gen3, x4 lane) • Netlist : N1951 3.2TB U.2 • Intel : P4610 3.2TB U.2

Note) 1GB = 1,000,000,000 Bytes,