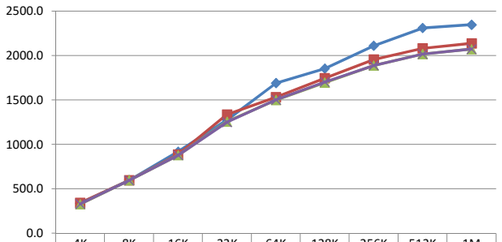
Life Testing Results of Intel Optane SSD 900P
(Random Read)

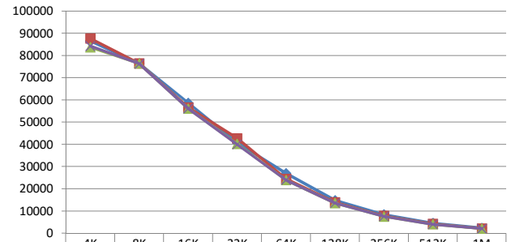
Testing Platform: Intel S2600CW / Intel Xeon CPU E5-2698 v3@2.30GHz x1 / Samsung 16GB DDR4-2133 RDIMM x4 (Total 64GB Memory) / Windows Server 2012 Standard / Intel NVMe driver
Testing Tool: Microsoft Diskspd v2.0.17
Testing Target: Intel Optane SSD 900P 280GB PCI-E HHHL
QxTy: Testing with y Threads where each thread has a queue depth of x.

Data Rate (MB/s) -- Q1T1



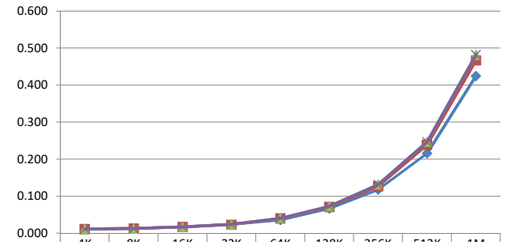
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	338.2	597.7	917.6	1275.3	1690.2	1853.4	2111.3	2310.7	2345.9
50% Worn	342.6	597.5	884.8	1336.5	1531.7	1745.6	1956.2	2082.5	2137.8
100% Worn	326.9	597.1	877.7	1256.1	1500.3	1694.8	1888.0	2016.7	2071.7
110% Worn	329.2	596.2	877.5	1249.9	1501.4	1702.0	1889.4	2015.6	2072.5

IOPS -- Q1T1



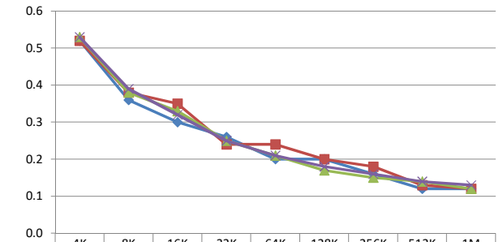
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	86573	76501	58725	40811	27044	14827	8445	4621	2346
50% Worn	87711	76481	56628	42769	24507	13965	7825	4165	2138
100% Worn	83695	76435	56173	40196	24004	13558	7552	4033	2072
110% Worn	84270	76314	56163	39997	24022	13616	7558	4031	2073

Avg. Latency (ms) -- Q1T1



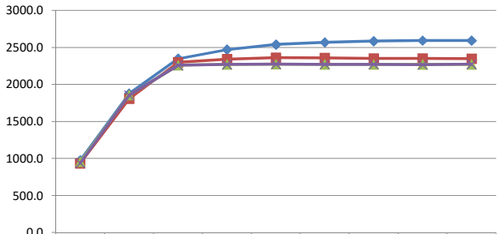
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.011	0.013	0.017	0.024	0.036	0.067	0.118	0.216	0.425
50% Worn	0.011	0.013	0.017	0.023	0.040	0.071	0.127	0.239	0.467
100% Worn	0.011	0.013	0.017	0.024	0.041	0.073	0.132	0.247	0.482
110% Worn	0.011	0.013	0.017	0.024	0.041	0.073	0.131	0.247	0.482

Avg. CPU Usage (%) -- Q1T1



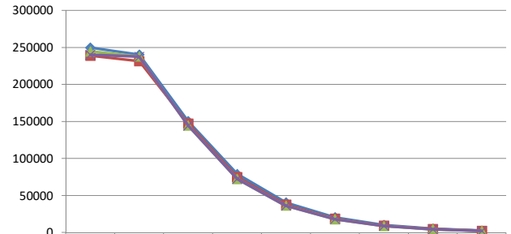
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1
50% Worn	0.5	0.4	0.4	0.2	0.2	0.2	0.2	0.1	0.1
100% Worn	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1
110% Worn	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1

Data Rate (MB/s) -- Q4T1



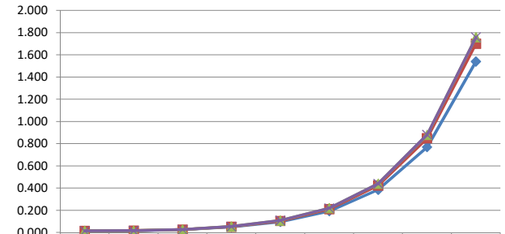
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	975.9	1878.4	2349.2	2472.3	2539.6	2570.1	2585.8	2593.0	2594.7
50% Worn	934.3	1809.0	2298.1	2342.8	2362.1	2359.8	2351.5	2352.2	2348.8
100% Worn	955.8	1857.5	2262.0	2270.6	2273.8	2271.8	2271.8	2272.3	2272.2
110% Worn	938.4	1856.4	2259.8	2269.3	2273.2	2272.6	2271.6	2265.8	2272.7

IOPS -- Q4T1



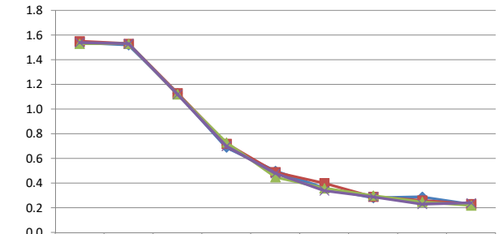
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	249822	240433	150351	79114	40634	20560	10343	5186	2595
50% Worn	239171	231547	147080	74968	37794	18878	9406	4704	2349
100% Worn	244693	237761	144770	72660	36381	18174	9087	4545	2272
110% Worn	240239	237613	144627	72618	36371	18181	9086	4532	2273

Avg. Latency (ms) -- Q4T1



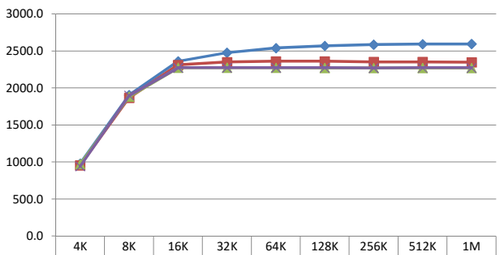
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.016	0.016	0.026	0.050	0.098	0.194	0.386	0.771	1.541
50% Worn	0.016	0.017	0.027	0.053	0.105	0.211	0.425	0.850	1.702
100% Worn	0.016	0.017	0.027	0.055	0.110	0.220	0.440	0.880	1.760
110% Worn	0.016	0.017	0.027	0.055	0.110	0.220	0.440	0.882	1.759

Avg. CPU Usage (%) -- Q4T1



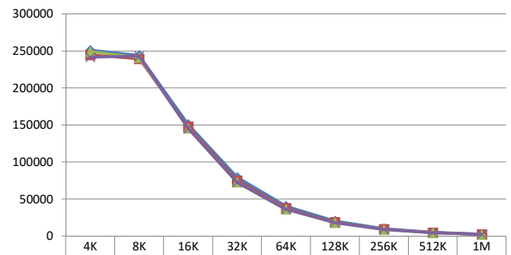
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	1.5	1.5	1.1	0.7	0.5	0.4	0.3	0.3	0.2
50% Worn	1.6	1.5	1.1	0.7	0.5	0.4	0.3	0.3	0.2
100% Worn	1.5	1.5	1.1	0.7	0.5	0.4	0.3	0.3	0.2
110% Worn	1.5	1.5	1.1	0.7	0.5	0.3	0.3	0.2	0.2

Data Rate (MB/s) -- Q16T1



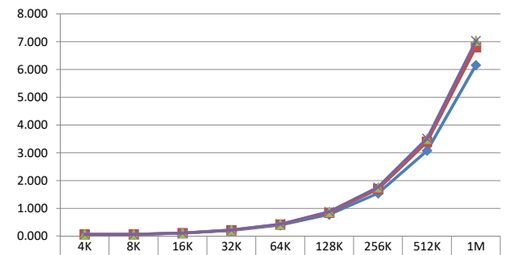
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	980.6	1906.6	2360.8	2477.5	2539.6	2570.2	2586.3	2592.6	2595.3
50% Worn	956.2	1869.6	2311.7	2350.2	2361.7	2360.4	2352.7	2352.0	2348.3
100% Worn	972.9	1885.3	2275.7	2275.3	2273.4	2271.9	2271.4	2271.5	2272.5
110% Worn	943.3	1899.0	2273.5	2273.5	2273.3	2273.3	2269.8	2272.7	2272.8

IOPS -- Q16T1



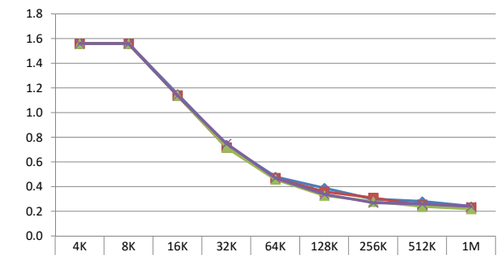
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	251030	244040	151091	79279	40634	20561	10345	5185	2595
50% Worn	244784	239310	147948	75207	37786	18883	9411	4704	2348
100% Worn	249060	241324	145645	72810	36374	18175	9086	4543	2273
110% Worn	241483	243069	145502	72753	36372	18187	9079	4545	2273

Avg. Latency (ms) -- Q16T1



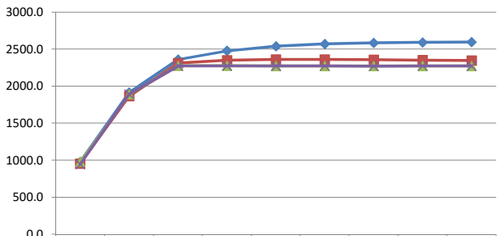
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.060	0.061	0.106	0.202	0.393	0.778	1.546	3.086	6.165
50% Worn	0.061	0.062	0.108	0.212	0.423	0.847	1.699	3.401	6.812
100% Worn	0.060	0.062	0.110	0.219	0.439	0.880	1.760	3.521	7.040
110% Worn	0.062	0.062	0.110	0.220	0.439	0.879	1.762	3.520	7.040

Avg. CPU Usage (%) -- Q16T1



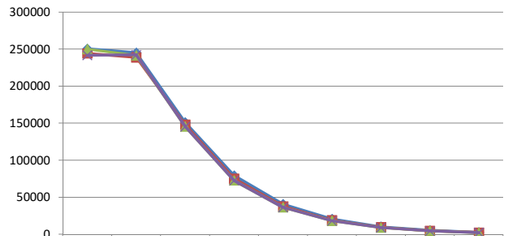
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	1.6	1.6	1.2	0.7	0.5	0.4	0.3	0.3	0.2
50% Worn	1.6	1.6	1.1	0.7	0.5	0.4	0.3	0.3	0.2
100% Worn	1.6	1.6	1.1	0.7	0.5	0.3	0.3	0.2	0.2
110% Worn	1.6	1.6	1.1	0.8	0.5	0.3	0.3	0.3	0.2

Data Rate (MB/s) -- Q32T1



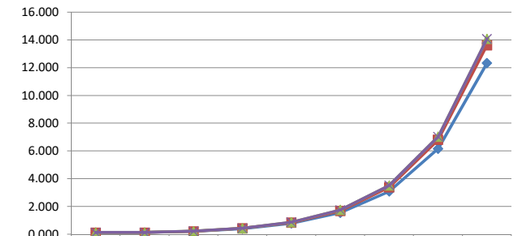
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	978.1	1915.8	2361.7	2477.5	2539.2	2570.0	2585.3	2592.6	2594.9
50% Worn	954.4	1867.0	2311.9	2349.2	2361.5	2360.3	2355.7	2351.6	2348.1
100% Worn	976.9	1889.3	2276.1	2275.4	2273.3	2272.0	2271.9	2272.0	2272.7
110% Worn	944.3	1893.4	2273.8	2273.7	2272.3	2273.2	2269.1	2273.0	2272.5

IOPS -- Q32T1



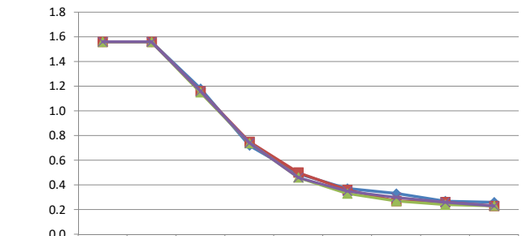
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	250393	245218	151150	79280	40627	20560	10341	5185	2595
50% Worn	244322	238982	147960	75176	37784	18883	9423	4703	2348
100% Worn	250080	241830	145672	72813	36373	18176	9087	4544	2273
110% Worn	241733	242350	145526	72757	36356	18186	9076	4546	2273

Avg. Latency (ms) -- Q32T1



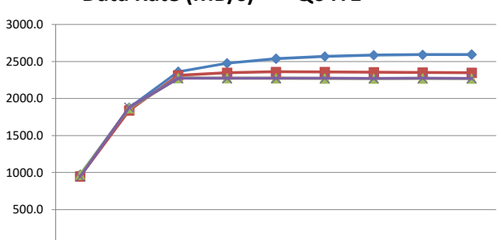
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.124	0.126	0.211	0.403	0.787	1.556	3.093	6.171	12.332
50% Worn	0.127	0.129	0.216	0.425	0.847	1.694	3.396	6.803	13.625
100% Worn	0.124	0.128	0.219	0.439	0.879	1.760	3.521	7.042	14.081
110% Worn	0.128	0.128	0.220	0.440	0.880	1.759	3.526	7.040	14.079

Avg. CPU Usage (%) -- Q32T1



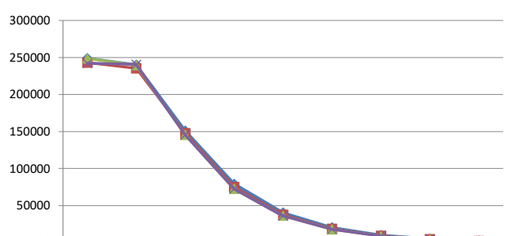
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	1.6	1.6	1.2	0.7	0.5	0.4	0.3	0.3	0.3
50% Worn	1.6	1.6	1.2	0.8	0.5	0.4	0.3	0.3	0.2
100% Worn	1.6	1.6	1.2	0.7	0.5	0.3	0.3	0.2	0.2
110% Worn	1.6	1.6	1.2	0.7	0.5	0.4	0.3	0.3	0.2

Data Rate (MB/s) -- Q64T1



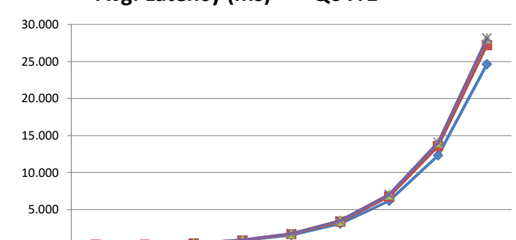
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	973.6	1878.5	2362.7	2477.4	2539.2	2569.9	2586.3	2592.3	2595.4
50% Worn	950.1	1838.9	2312.9	2348.5	2361.1	2359.3	2355.2	2351.7	2349.2
100% Worn	971.9	1872.3	2277.5	2275.3	2273.2	2271.5	2271.6	2272.0	2272.5
110% Worn	946.3	1880.9	2274.8	2273.3	2273.5	2273.0	2272.1	2273.1	2272.6

IOPS -- Q64T1



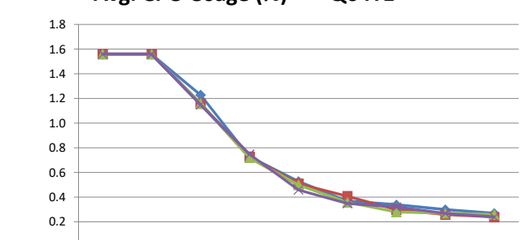
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	249234	240447	151215	79278	40628	20559	10345	5185	2595
50% Worn	243228	235377	148026	75154	37778	18875	9421	4703	2349
100% Worn	248797	239660	145761	72808	36372	18172	9086	4544	2272
110% Worn	242244	240756	145586	72746	36375	18184	9088	4546	2273

Avg. Latency (ms) -- Q64T1



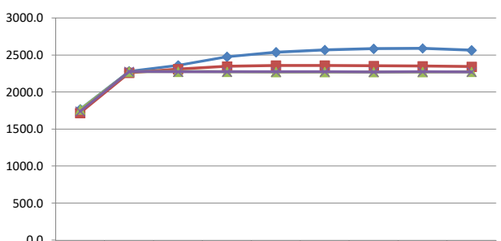
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.253	0.262	0.423	0.807	1.575	3.112	6.187	12.342	24.662
50% Worn	0.259	0.267	0.432	0.851	1.694	3.390	6.792	13.607	27.242
100% Worn	0.253	0.263	0.439	0.879	1.759	3.521	7.043	14.082	28.161
110% Worn	0.260	0.261	0.439	0.879	1.759	3.519	7.041	14.079	28.161

Avg. CPU Usage (%) -- Q64T1



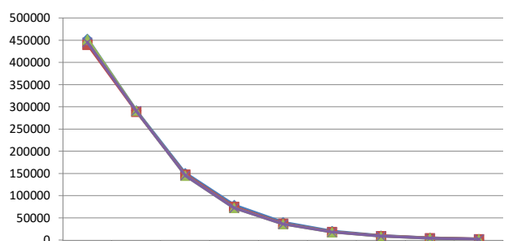
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	1.6	1.6	1.2	0.7	0.5	0.4	0.3	0.3	0.3
50% Worn	1.6	1.6	1.2	0.7	0.5	0.4	0.3	0.3	0.2
100% Worn	1.6	1.6	1.2	0.7	0.5	0.4	0.3	0.3	0.3
110% Worn	1.6	1.6	1.2	0.8	0.5	0.4	0.3	0.3	0.2

Data Rate (MB/s) -- Q1T8



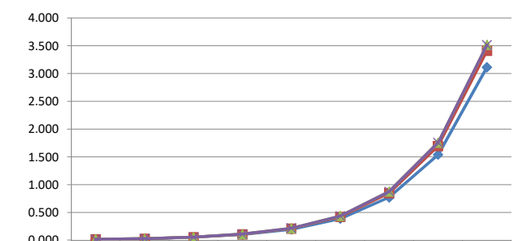
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	1770.1	2281.6	2361.9	2477.5	2538.8	2569.8	2585.7	2591.8	2566.2
50% Worn	1720.4	2261.8	2311.1	2347.5	2358.4	2357.8	2354.3	2351.2	2343.7
100% Worn	1765.4	2275.4	2276.6	2274.5	2272.5	2271.8	2272.5	2270.9	2273.1
110% Worn	1741.6	2278.0	2274.7	2274.0	2272.9	2273.0	2271.2	2273.1	2272.6

IOPS -- Q1T8



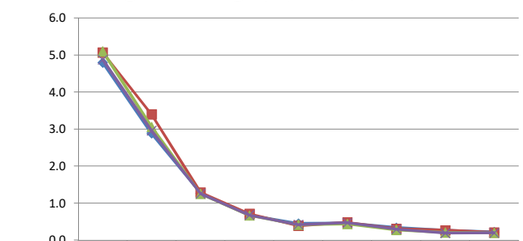
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	453141	292048	151162	79279	40621	20558	10343	5184	2566
50% Worn	440429	289504	147907	75120	37735	18863	9417	4702	2344
100% Worn	451939	291247	145703	72784	36360	18175	9090	4542	2273
110% Worn	445843	291588	145579	72769	36366	18184	9085	4546	2273

Avg. Latency (ms) -- Q1T8



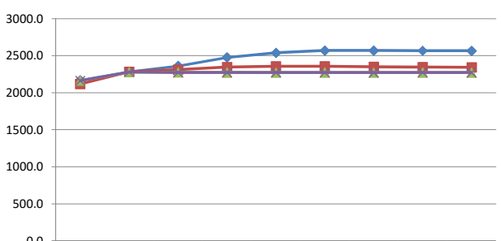
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.017	0.027	0.052	0.100	0.196	0.388	0.772	1.541	3.116
50% Worn	0.017	0.027	0.053	0.106	0.211	0.422	0.847	1.699	3.411
100% Worn	0.017	0.027	0.054	0.109	0.219	0.439	0.879	1.760	3.518
110% Worn	0.017	0.027	0.054	0.109	0.219	0.438	0.879	1.759	3.518

Avg. CPU Usage (%) -- Q1T8



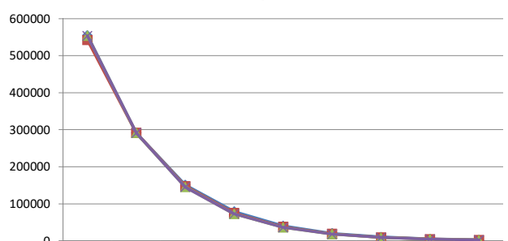
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	4.8	2.9	1.3	0.7	0.5	0.5	0.3	0.3	0.2
50% Worn	5.1	3.4	1.3	0.7	0.4	0.5	0.3	0.3	0.2
100% Worn	5.1	3.1	1.3	0.7	0.4	0.4	0.3	0.2	0.2
110% Worn	4.9	3.0	1.3	0.7	0.4	0.5	0.3	0.2	0.2

Data Rate (MB/s) -- Q4T8



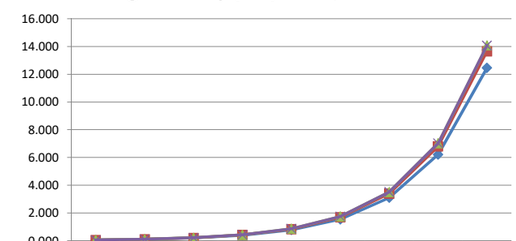
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2169.2	2282.8	2362.4	2477.4	2538.9	2569.7	2569.6	2568.0	2566.2
50% Worn	2120.3	2282.0	2311.7	2347.4	2358.5	2356.3	2350.8	2346.7	2343.0
100% Worn	2165.5	2277.3	2277.0	2275.0	2272.6	2271.9	2272.2	2272.0	2272.6
110% Worn	2163.2	2280.5	2274.8	2274.4	2273.2	2273.1	2272.3	2273.4	2272.6

IOPS -- Q4T8



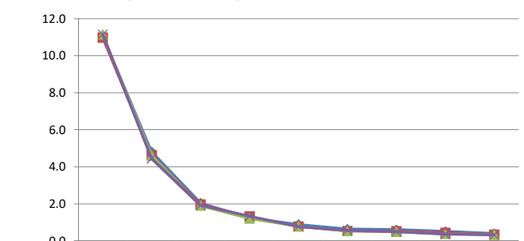
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	555317	292200	151193	79276	40622	20557	10278	5136	2566
50% Worn	542786	292092	147948	75117	37736	18850	9403	4693	2343
100% Worn	554378	291493	145728	72799	36362	18175	9089	4544	2273
110% Worn	553778	291901	145584	72781	36371	18185	9089	4547	2273

Avg. Latency (ms) -- Q4T8



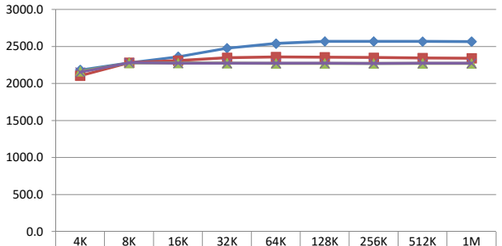
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.055	0.109	0.211	0.403	0.787	1.556	3.113	6.230	12.469
50% Worn	0.053	0.109	0.216	0.425	0.847	1.697	3.402	6.817	13.655
100% Worn	0.055	0.109	0.219	0.439	0.879	1.760	3.520	7.042	14.078
110% Worn	0.056	0.109	0.219	0.439	0.879	1.759	3.520	7.038	14.079

Avg. CPU Usage (%) -- Q4T8



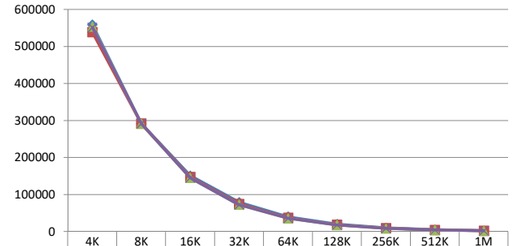
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	11.1	4.8	2.0	1.3	0.9	0.6	0.6	0.5	0.4
50% Worn	11.0	4.6	2.0	1.3	0.8	0.5	0.5	0.4	0.3
100% Worn	11.2	4.6	1.9	1.2	0.8	0.5	0.5	0.4	0.3
110% Worn	11.2	4.5	1.9	1.3	0.8	0.6	0.5	0.4	0.3

Data Rate (MB/s) -- Q16T8



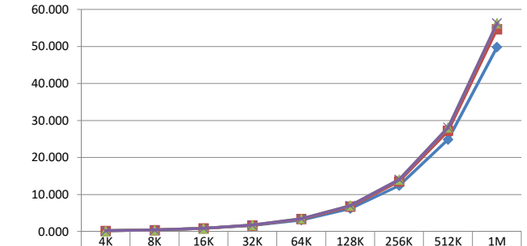
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2184.0	2282.6	2362.2	2477.6	2539.5	2569.6	2569.6	2567.5	2566.7
50% Worn	2106.9	2282.0	2311.1	2347.5	2358.3	2356.3	2350.2	2346.2	2340.5
100% Worn	2164.5	2279.1	2276.6	2274.4	2272.5	2271.4	2271.6	2271.6	2272.7
110% Worn	2154.3	2279.9	2275.1	2273.6	2273.2	2273.3	2272.6	2273.2	2272.9

IOPS -- Q16T8



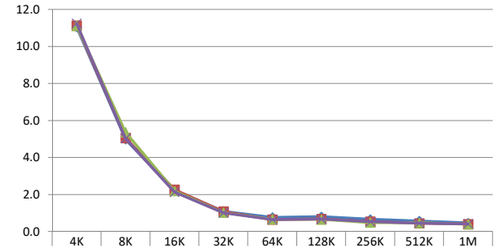
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	559099	292175	151181	79284	40633	20557	10279	5135	2567
50% Worn	539368	292096	147913	75119	37732	18850	9401	4692	2341
100% Worn	554115	291726	145700	72780	36359	18171	9086	4543	2273
110% Worn	551510	291825	145606	72756	36370	18187	9090	4546	2273

Avg. Latency (ms) -- Q16T8



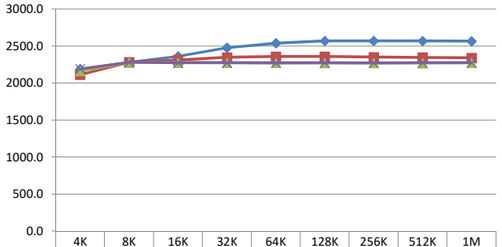
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.214	0.438	0.846	1.614	3.150	6.225	12.454	24.924	49.871
50% Worn	0.222	0.438	0.865	1.704	3.392	6.790	13.614	27.275	54.679
100% Worn	0.216	0.438	0.878	1.758	3.520	7.043	14.084	28.172	56.312
110% Worn	0.217	0.438	0.879	1.759	3.518	7.038	14.080	28.155	56.315

Avg. CPU Usage (%) -- Q16T8



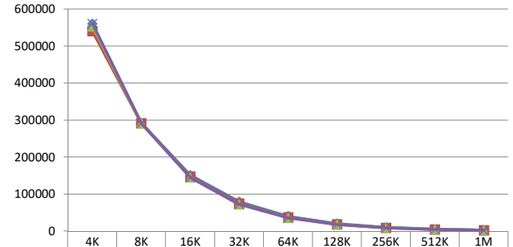
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	11.1	5.0	2.2	1.1	0.8	0.8	0.7	0.6	0.5
50% Worn	11.1	5.1	2.3	1.1	0.7	0.7	0.5	0.5	0.4
100% Worn	11.1	5.4	2.2	1.0	0.7	0.7	0.5	0.5	0.4
110% Worn	11.3	5.0	2.1	1.0	0.7	0.7	0.5	0.5	0.4

Data Rate (MB/s) -- Q32T8



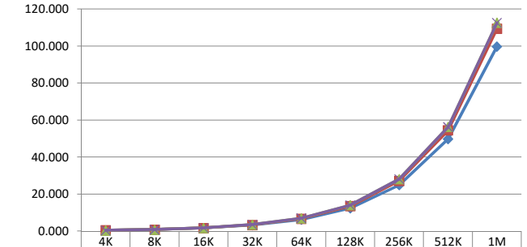
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2189.4	2282.4	2362.3	2477.4	2539.2	2569.6	2568.8	2568.1	2565.8
50% Worn	2112.7	2282.0	2310.6	2347.2	2357.5	2357.0	2350.5	2346.2	2340.2
100% Worn	2162.6	2279.2	2276.5	2274.5	2273.0	2271.9	2272.2	2270.7	2273.1
110% Worn	2191.4	2280.1	2274.4	2273.7	2272.3	2273.3	2270.9	2273.3	2273.0

IOPS -- Q32T8



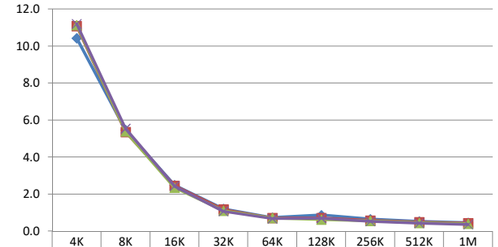
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	560482	292146	151187	79276	40628	20557	10275	5136	2566
50% Worn	540843	292100	147876	75109	37720	18856	9402	4692	2340
100% Worn	553621	291741	145694	72783	36369	18176	9089	4541	2273
110% Worn	561000	291851	145559	72758	36357	18187	9084	4547	2273

Avg. Latency (ms) -- Q32T8



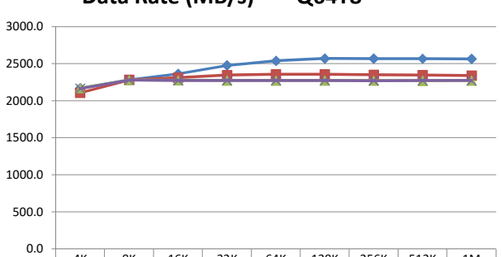
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.442	0.876	1.693	3.229	6.301	12.450	24.910	49.847	99.761
50% Worn	0.458	0.876	1.731	3.408	6.786	13.576	27.229	54.558	109.380
100% Worn	0.448	0.877	1.756	3.517	7.039	14.085	28.167	56.370	112.636
110% Worn	0.442	0.877	1.758	3.518	7.040	14.076	28.177	56.313	112.632

Avg. CPU Usage (%) -- Q32T8



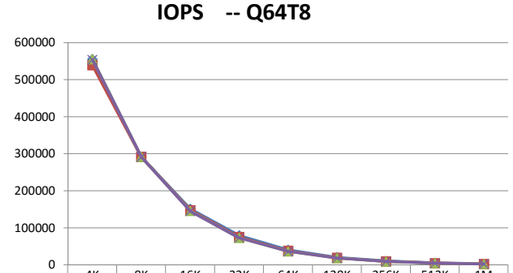
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	10.4	5.5	2.5	1.2	0.7	0.9	0.7	0.5	0.5
50% Worn	11.1	5.4	2.5	1.2	0.7	0.7	0.6	0.5	0.4
100% Worn	11.1	5.4	2.4	1.1	0.7	0.6	0.6	0.5	0.4
110% Worn	11.2	5.6	2.4	1.1	0.7	0.7	0.5	0.4	0.4

Data Rate (MB/s) -- Q64T8



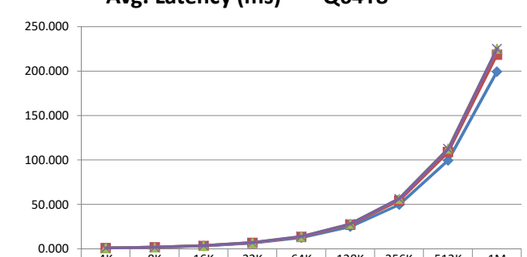
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2170.5	2282.6	2362.8	2477.6	2539.5	2570.5	2569.0	2568.0	2565.5
50% Worn	2107.1	2281.9	2310.0	2346.7	2357.6	2356.7	2350.0	2346.2	2340.9
100% Worn	2171.5	2279.0	2276.6	2274.2	2272.3	2271.5	2271.7	2270.5	2273.3
110% Worn	2164.4	2279.5	2274.7	2274.4	2273.4	2273.4	2271.1	2272.8	2272.8

IOPS -- Q64T8



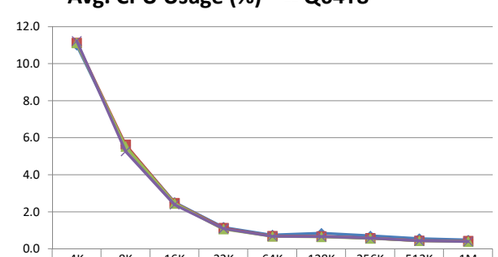
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	555653	292178	151216	79284	40632	20564	10276	5136	2566
50% Worn	539425	292081	147842	75096	37722	18854	9400	4692	2341
100% Worn	555893	291716	145702	72774	36357	18172	9087	4541	2273
110% Worn	554089	291772	145583	72781	36375	18187	9084	4546	2273

Avg. Latency (ms) -- Q64T8



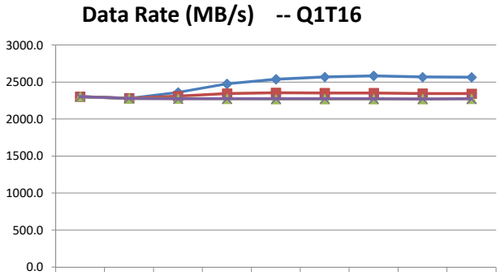
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.907	1.752	3.386	6.458	12.601	24.901	49.817	99.702	199.545
50% Worn	0.934	1.753	3.462	6.818	13.574	27.158	54.460	109.128	218.698
100% Worn	0.906	1.755	3.513	7.035	14.082	28.170	56.336	112.757	225.256
110% Worn	0.909	1.754	3.516	7.036	14.076	28.154	56.353	112.646	225.247

Avg. CPU Usage (%) -- Q64T8



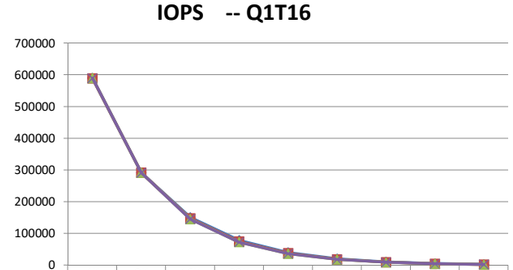
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	11.0	5.6	2.5	1.2	0.8	0.8	0.7	0.6	0.5
50% Worn	11.1	5.6	2.5	1.1	0.7	0.7	0.6	0.4	0.4
100% Worn	11.1	5.5	2.5	1.1	0.7	0.7	0.6	0.4	0.4
110% Worn	11.2	5.3	2.4	1.1	0.7	0.7	0.6	0.4	0.4

Data Rate (MB/s) -- Q1T16



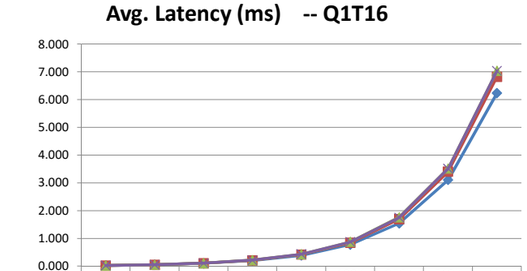
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2304.3	2282.5	2361.6	2476.8	2538.4	2569.2	2584.4	2567.9	2564.8
50% Worn	2301.2	2281.8	2309.9	2345.1	2355.2	2352.9	2353.2	2345.7	2343.4
100% Worn	2303.8	2278.3	2276.7	2274.0	2270.1	2272.2	2271.5	2272.1	2273.5
110% Worn	2303.2	2279.5	2274.4	2273.9	2273.1	2273.4	2273.1	2272.5	2272.8

IOPS -- Q1T16



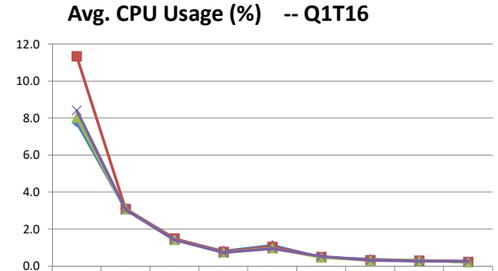
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	589894	292155	151145	79258	40615	20554	10338	5136	2565
50% Worn	589116	292073	147833	75044	37683	18823	9413	4691	2343
100% Worn	589765	291616	145706	72767	36322	18177	9086	4544	2274
110% Worn	589628	291771	145564	72766	36370	18187	9092	4545	2273

Avg. Latency (ms) -- Q1T16



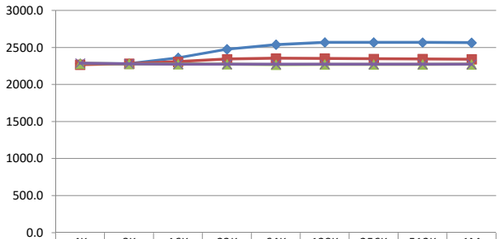
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.026	0.054	0.105	0.201	0.392	0.776	1.545	3.114	6.236
50% Worn	0.026	0.054	0.107	0.212	0.423	0.848	1.698	3.409	6.826
100% Worn	0.026	0.054	0.109	0.219	0.439	0.879	1.759	3.518	7.037
110% Worn	0.026	0.054	0.109	0.219	0.438	0.878	1.758	3.518	7.037

Avg. CPU Usage (%) -- Q1T16



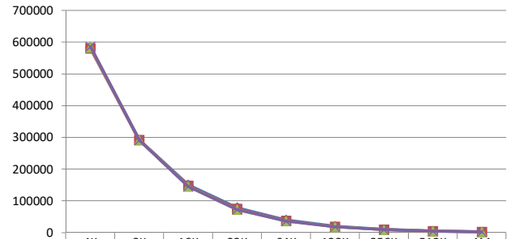
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	7.8	3.1	1.5	0.8	1.1	0.5	0.4	0.3	0.3
50% Worn	11.3	3.1	1.5	0.8	1.0	0.5	0.3	0.3	0.2
100% Worn	8.0	3.1	1.4	0.8	1.0	0.5	0.3	0.3	0.2
110% Worn	8.4	3.1	1.4	0.7	1.0	0.5	0.3	0.3	0.3

Data Rate (MB/s) -- Q4T16



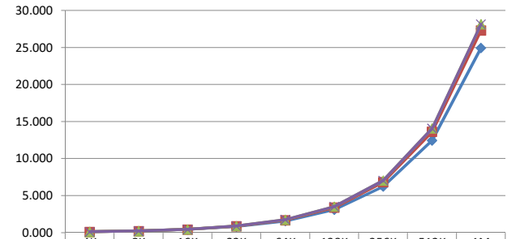
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2283.0	2282.6	2362.5	2477.5	2538.8	2569.7	2569.5	2567.7	2565.4
50% Worn	2268.0	2281.6	2309.5	2344.4	2354.8	2352.8	2348.7	2345.4	2343.0
100% Worn	2283.4	2277.4	2276.4	2274.2	2266.8	2272.0	2272.0	2272.0	2272.9
110% Worn	2289.8	2279.6	2275.1	2274.4	2273.2	2273.5	2273.3	2273.2	2273.1

IOPS -- Q4T16



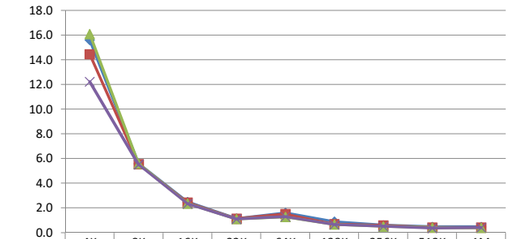
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	584452	292177	151198	79280	40621	20557	10278	5135	2565
50% Worn	580613	292050	147805	75021	37677	18823	9395	4691	2343
100% Worn	584562	291504	145688	72773	36269	18176	9088	4544	2273
110% Worn	586177	291787	145606	72782	36371	18188	9093	4546	2273

Avg. Latency (ms) -- Q4T16



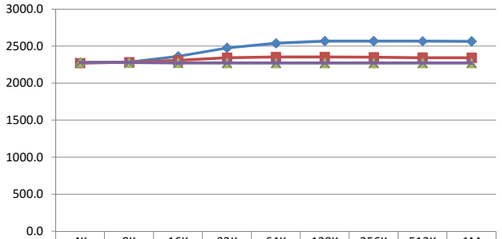
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.109	0.219	0.423	0.807	1.575	3.112	6.227	12.462	24.949
50% Worn	0.110	0.219	0.433	0.853	1.698	3.399	6.811	13.643	27.311
100% Worn	0.109	0.219	0.439	0.879	1.764	3.520	7.041	14.084	28.156
110% Worn	0.109	0.219	0.439	0.879	1.759	3.519	7.037	14.078	28.155

Avg. CPU Usage (%) -- Q4T16



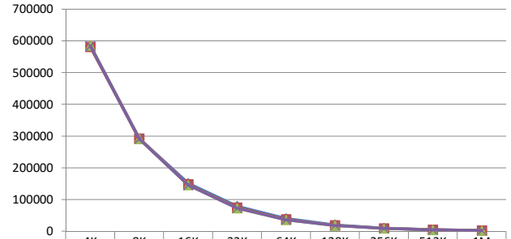
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	15.6	5.6	2.5	1.2	1.6	0.9	0.6	0.5	0.5
50% Worn	14.5	5.6	2.4	1.1	1.5	0.7	0.6	0.4	0.4
100% Worn	16.1	5.6	2.4	1.1	1.3	0.7	0.5	0.4	0.4
110% Worn	12.2	5.5	2.4	1.1	1.3	0.7	0.5	0.4	0.4

Data Rate (MB/s) -- Q16T16



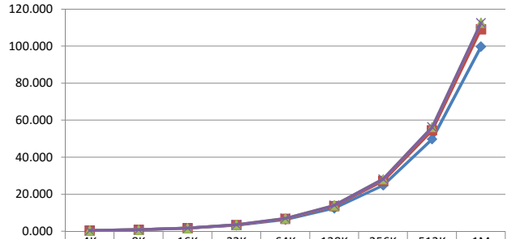
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2280.3	2282.2	2363.0	2477.8	2538.4	2569.4	2569.2	2567.4	2565.2
50% Worn	2270.9	2282.1	2309.2	2344.3	2354.9	2355.0	2349.2	2345.0	2343.4
100% Worn	2285.5	2276.2	2276.1	2274.2	2272.6	2271.7	2272.4	2272.7	2272.9
110% Worn	2280.0	2279.0	2274.7	2274.5	2273.2	2272.8	2273.2	2272.8	2273.1

IOPS -- Q16T16



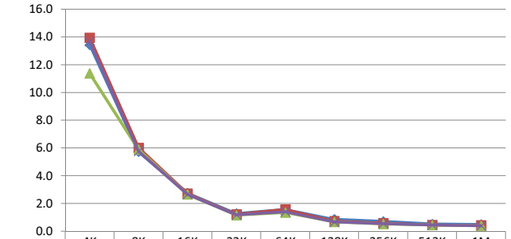
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	583755	292124	151232	79289	40615	20555	10277	5135	2565
50% Worn	581355	292114	147789	75019	37678	18840	9397	4690	2343
100% Worn	585084	291359	145668	72773	36362	18173	9090	4545	2273
110% Worn	583687	291714	145579	72783	36371	18183	9093	4546	2273

Avg. Latency (ms) -- Q16T16



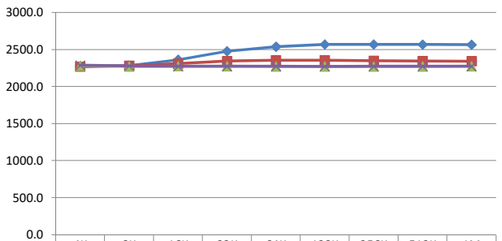
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.411	0.876	1.692	3.229	6.301	12.451	24.910	49.855	99.800
50% Worn	0.413	0.876	1.732	3.412	6.794	13.588	27.247	54.582	109.259
100% Worn	0.432	0.878	1.757	3.517	7.039	14.085	28.166	56.313	112.624
110% Worn	0.424	0.877	1.758	3.517	7.038	14.077	28.154	56.311	112.623

Avg. CPU Usage (%) -- Q16T16



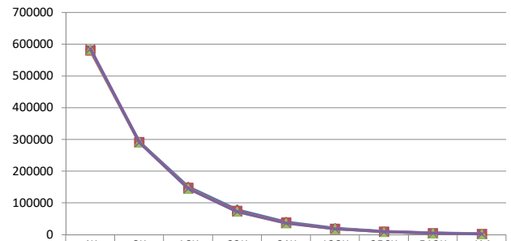
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	13.4	5.7	2.8	1.3	1.6	0.9	0.7	0.5	0.5
50% Worn	14.0	6.0	2.7	1.2	1.6	0.7	0.6	0.5	0.4
100% Worn	11.4	5.9	2.7	1.2	1.4	0.7	0.5	0.5	0.4
110% Worn	13.7	5.8	2.7	1.2	1.4	0.7	0.6	0.5	0.4

Data Rate (MB/s) -- Q32T16



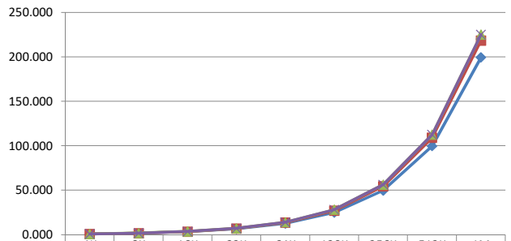
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2275.8	2282.8	2362.8	2477.5	2538.8	2570.1	2569.2	2567.6	2564.8
50% Worn	2269.1	2281.9	2309.8	2344.0	2354.2	2355.0	2348.8	2344.8	2342.7
100% Worn	2281.6	2272.6	2276.3	2274.3	2272.0	2272.1	2272.3	2272.8	2273.1
110% Worn	2287.5	2278.8	2274.9	2274.2	2273.7	2272.8	2273.4	2273.3	2272.9

IOPS -- Q32T16



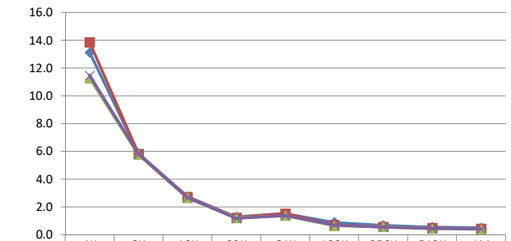
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	582601	292198	151217	79279	40620	20560	10277	5135	2565
50% Worn	580879	292078	147828	75009	37668	18840	9395	4690	2343
100% Worn	584080	290896	145686	72776	36352	18177	9089	4546	2273
110% Worn	585601	291686	145594	72774	36379	18182	9093	4547	2273

Avg. Latency (ms) -- Q32T16



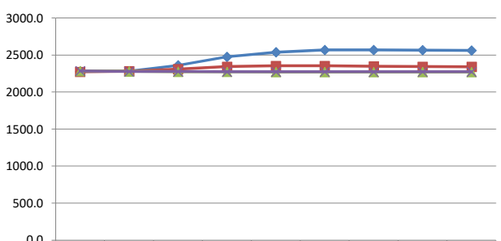
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.851	1.752	3.385	6.458	12.603	24.903	49.823	99.717	199.597
50% Worn	0.854	1.753	3.463	6.825	13.591	27.178	54.499	109.163	218.517
100% Worn	0.849	1.760	3.513	7.036	14.081	28.170	56.336	112.640	225.249
110% Worn	0.850	1.755	3.516	7.034	14.075	28.154	56.305	112.624	225.263

Avg. CPU Usage (%) -- Q32T16



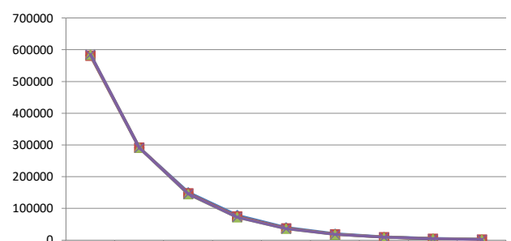
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	13.1	5.8	2.7	1.3	1.5	0.9	0.7	0.5	0.5
50% Worn	13.9	5.8	2.7	1.2	1.5	0.7	0.6	0.5	0.4
100% Worn	11.3	5.8	2.7	1.2	1.4	0.6	0.6	0.4	0.4
110% Worn	11.5	5.8	2.7	1.2	1.4	0.7	0.5	0.4	0.4

Data Rate (MB/s) -- Q64T16



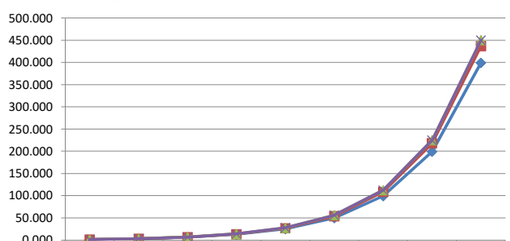
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2279.3	2282.1	2362.5	2477.3	2539.1	2569.7	2568.8	2567.3	2563.8
50% Worn	2273.0	2281.8	2309.9	2344.3	2354.0	2354.4	2348.7	2344.6	2342.9
100% Worn	2285.7	2279.9	2276.1	2274.1	2272.5	2271.7	2271.9	2272.6	2272.7
110% Worn	2286.4	2279.2	2279.1	2274.7	2273.6	2272.9	2272.9	2273.1	2273.2

IOPS -- Q64T16



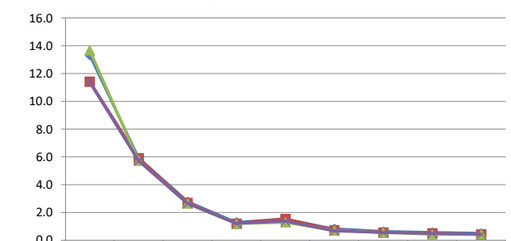
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	583509	292109	151197	79274	40625	20557	10275	5135	2564
50% Worn	581894	292067	147836	75016	37664	18835	9395	4689	2343
100% Worn	585137	291826	145672	72772	36361	18174	9088	4545	2273
110% Worn	585311	291736	145865	72791	36378	18183	9092	4546	2273

Avg. Latency (ms) -- Q64T16



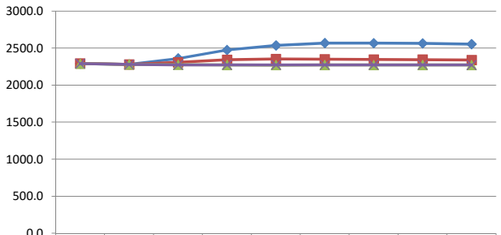
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	1.727	3.504	6.771	12.917	25.209	49.806	99.655	199.431	399.444
50% Worn	1.732	3.506	6.927	13.652	27.187	54.365	109.002	218.363	437.082
100% Worn	1.722	3.508	7.028	14.071	28.166	56.342	112.668	225.294	450.535
110% Worn	1.722	3.509	7.019	14.069	28.148	56.306	112.627	225.257	450.486

Avg. CPU Usage (%) -- Q64T16



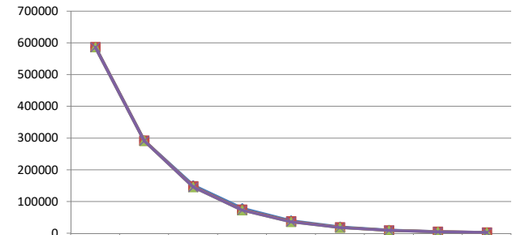
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	13.3	5.9	2.8	1.3	1.5	0.8	0.6	0.6	0.5
50% Worn	11.4	5.9	2.7	1.2	1.5	0.7	0.6	0.5	0.4
100% Worn	13.7	5.7	2.7	1.2	1.3	0.7	0.6	0.4	0.4
110% Worn	11.4	5.7	2.6	1.2	1.4	0.7	0.6	0.5	0.4

Data Rate (MB/s) -- Q1T32



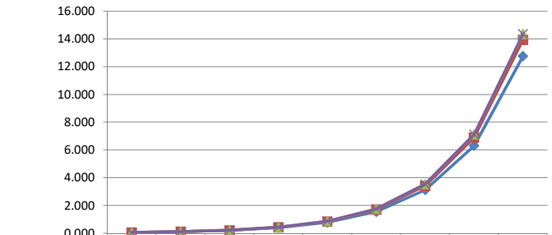
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2291.8	2281.5	2362.1	2476.4	2537.1	2569.4	2567.7	2566.0	2555.3
50% Worn	2293.2	2281.5	2309.6	2343.5	2353.4	2349.8	2348.3	2345.1	2341.1
100% Worn	2290.8	2279.6	2276.8	2273.8	2271.4	2271.8	2272.0	2272.6	2272.7
110% Worn	2290.8	2279.2	2274.2	2274.4	2272.9	2272.9	2273.3	2272.9	2272.5

IOPS -- Q1T32



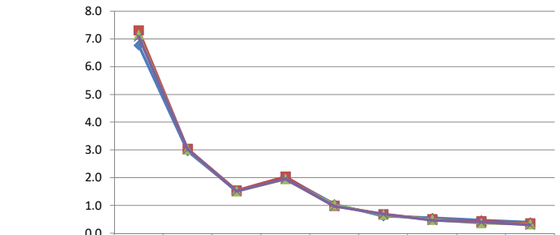
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	586700	292035	151174	79244	40594	20555	10271	5132	2555
50% Worn	587050	292032	147817	74993	37654	18799	9393	4690	2341
100% Worn	586432	291789	145712	72761	36342	18174	9088	4545	2273
110% Worn	586453	291739	145552	72782	36367	18184	9093	4546	2273

Avg. Latency (ms) -- Q1T32



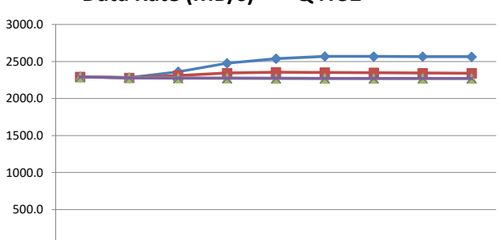
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.054	0.109	0.211	0.402	0.786	1.555	3.129	6.315	12.768
50% Worn	0.054	0.109	0.216	0.424	0.848	1.701	3.422	6.911	13.940
100% Worn	0.054	0.109	0.219	0.438	0.879	1.759	3.536	7.131	14.355
110% Worn	0.054	0.109	0.219	0.438	0.878	1.758	3.535	7.130	14.357

Avg. CPU Usage (%) -- Q1T32



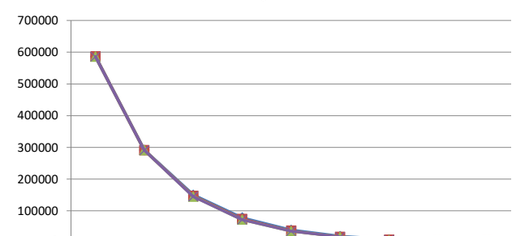
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	6.8	3.0	1.5	2.0	1.1	0.6	0.6	0.5	0.4
50% Worn	7.3	3.0	1.5	2.0	1.0	0.7	0.5	0.4	0.4
100% Worn	7.1	3.0	1.5	2.0	1.0	0.7	0.5	0.4	0.3
110% Worn	7.1	3.0	1.5	2.0	1.0	0.7	0.5	0.4	0.3

Data Rate (MB/s) -- Q4T32



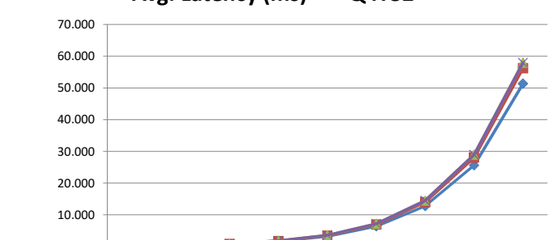
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2292.8	2282.9	2362.3	2477.8	2538.6	2568.9	2568.1	2566.7	2564.1
50% Worn	2293.4	2280.8	2309.7	2343.2	2353.8	2352.6	2348.0	2344.5	2340.4
100% Worn	2290.7	2280.1	2276.7	2274.0	2269.6	2271.6	2271.9	2272.0	2272.8
110% Worn	2291.0	2279.6	2275.4	2274.2	2273.1	2272.9	2272.6	2272.7	2272.6

IOPS -- Q4T32



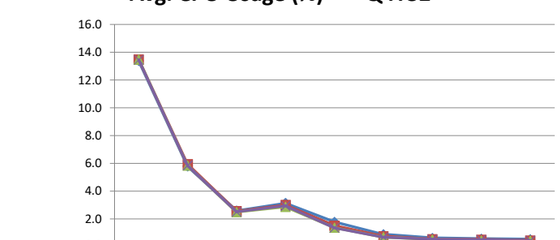
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	586962	292210	151189	79291	40618	20551	10272	5133	2564
50% Worn	587121	291945	147821	74983	37660	18821	9392	4689	2340
100% Worn	586418	291857	145708	72767	36314	18173	9088	4544	2273
110% Worn	586488	291787	145625	72775	36370	18183	9090	4545	2273

Avg. Latency (ms) -- Q4T32



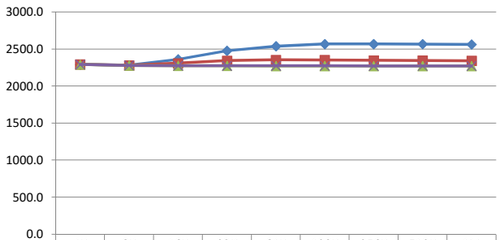
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.224	0.451	0.871	1.661	3.243	6.409	12.823	25.661	51.376
50% Worn	0.224	0.451	0.891	1.755	3.498	6.999	14.025	28.092	56.283
100% Worn	0.224	0.451	0.904	1.809	3.627	7.248	14.494	28.990	57.963
110% Worn	0.224	0.451	0.904	1.809	3.621	7.244	14.490	28.982	57.964

Avg. CPU Usage (%) -- Q4T32



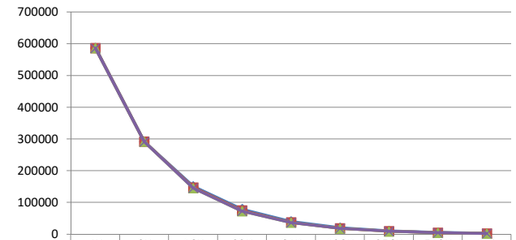
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	13.4	5.8	2.6	3.1	1.8	0.9	0.6	0.6	0.5
50% Worn	13.5	5.9	2.6	3.0	1.5	0.8	0.5	0.5	0.5
100% Worn	13.5	5.8	2.5	2.9	1.4	0.7	0.5	0.5	0.4
110% Worn	13.5	5.9	2.5	2.9	1.4	0.7	0.5	0.5	0.4

Data Rate (MB/s) -- Q16T32



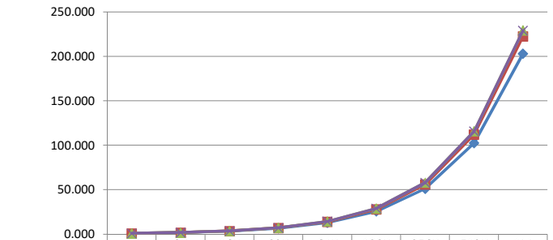
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2292.3	2282.7	2362.3	2477.8	2538.5	2567.6	2568.2	2566.9	2563.9
50% Worn	2293.3	2281.4	2308.7	2343.7	2353.9	2353.6	2347.9	2344.7	2341.4
100% Worn	2291.0	2279.1	2276.2	2274.1	2272.4	2271.4	2271.8	2271.6	2272.5
110% Worn	2291.0	2279.6	2275.6	2274.7	2273.3	2273.3	2272.7	2272.7	2272.6

IOPS -- Q16T32



	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	586823	292180	151189	79289	40615	20541	10273	5134	2564
50% Worn	587094	292019	147759	74998	37662	18829	9392	4689	2341
100% Worn	586496	291723	145679	72771	36358	18171	9087	4543	2273
110% Worn	586507	291792	145637	72790	36373	18186	9091	4545	2273

Avg. Latency (ms) -- Q16T32

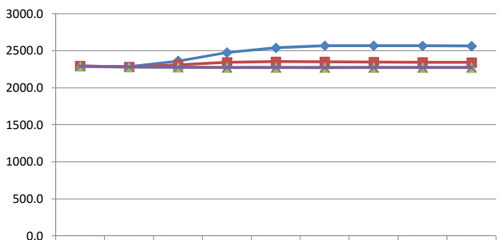


	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	0.898	1.803	3.485	6.646	12.974	25.654	51.294	102.647	203.271
50% Worn	0.897	1.804	3.566	7.026	13.993	27.986	56.108	112.364	222.696
100% Worn	0.898	1.806	3.617	7.241	14.492	28.998	57.984	115.980	229.378
110% Worn	0.898	1.806	3.618	7.240	14.488	28.974	57.964	115.925	229.235

Avg. CPU Usage (%) -- Q16T32

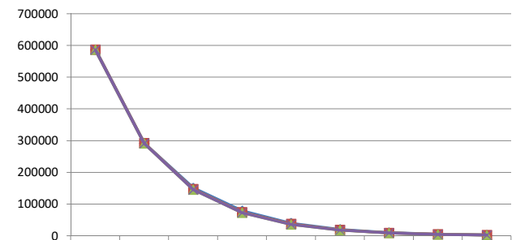
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	13.8	6.2	3.0	3.3	1.9	0.9	0.7	0.6	0.5
50% Worn	13.8	6.2	2.9	3.1	1.6	0.8	0.6	0.5	0.4
100% Worn	13.9	6.1	2.9	3.0	1.5	0.7	0.6	0.5	0.4
110% Worn	14.0	6.2	2.9	3.0	1.4	0.7	0.6	0.5	0.4

Data Rate (MB/s) -- Q32T32



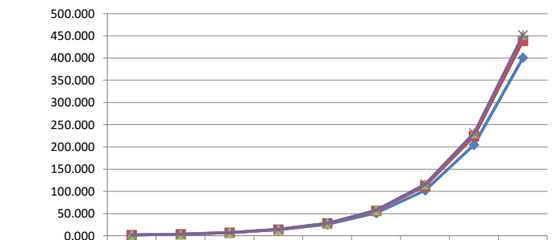
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2292.3	2282.8	2362.7	2477.0	2538.9	2568.0	2568.2	2566.4	2564.2
50% Worn	2293.4	2281.2	2308.7	2343.1	2353.3	2351.5	2347.7	2344.3	2342.1
100% Worn	2291.0	2277.7	2276.6	2274.5	2272.5	2271.6	2271.6	2272.3	2272.8
110% Worn	2290.8	2279.6	2275.5	2274.1	2273.4	2272.8	2272.7	2272.8	2273.1

IOPS -- Q32T32



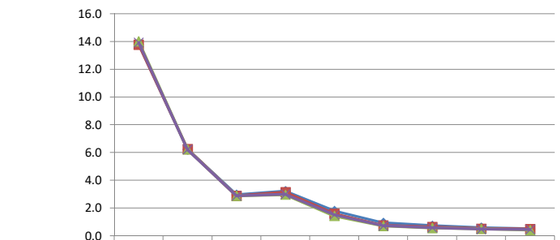
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	586833	292202	151214	79263	40622	20544	10273	5133	2564
50% Worn	587102	291996	147758	74978	37653	18812	9391	4689	2342
100% Worn	586486	291544	145705	72785	36360	18173	9087	4545	2273
110% Worn	586442	291793	145633	72772	36374	18183	9091	4546	2273

Avg. Latency (ms) -- Q32T32



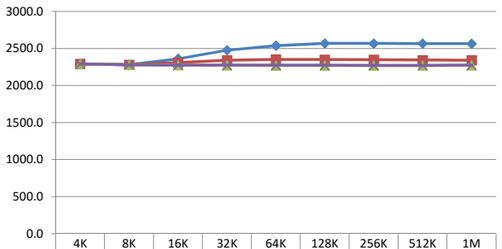
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	1.796	3.607	6.971	13.294	25.949	51.296	102.586	205.084	401.014
50% Worn	1.795	3.609	7.133	14.056	27.992	56.021	112.219	224.441	439.007
100% Worn	1.797	3.615	7.234	14.482	28.985	57.992	115.980	231.522	452.258
110% Worn	1.797	3.613	7.238	14.482	28.975	57.959	115.920	231.470	452.260

Avg. CPU Usage (%) -- Q32T32



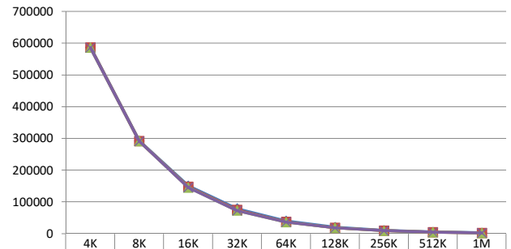
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	13.8	6.2	3.0	3.2	1.8	0.9	0.7	0.6	0.5
50% Worn	13.8	6.3	2.9	3.1	1.6	0.8	0.6	0.5	0.5
100% Worn	14.0	6.2	2.9	3.0	1.4	0.7	0.6	0.5	0.4
110% Worn	13.9	6.2	2.9	3.0	1.5	0.7	0.6	0.5	0.5

Data Rate (MB/s) -- Q64T32



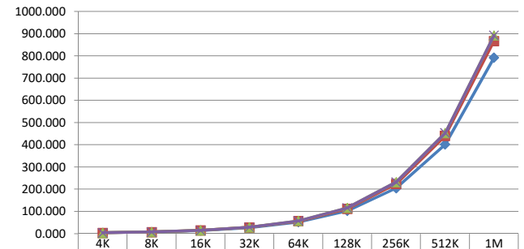
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	2292.4	2283.0	2362.4	2477.5	2538.5	2569.2	2567.9	2566.7	2564.4
50% Worn	2293.3	2281.4	2309.3	2342.8	2353.1	2351.1	2347.8	2344.1	2340.6
100% Worn	2291.0	2280.7	2276.9	2274.4	2272.5	2271.5	2271.7	2272.5	2273.2
110% Worn	2291.2	2279.8	2275.5	2274.7	2273.4	2272.9	2272.7	2272.8	2272.9

IOPS -- Q64T32



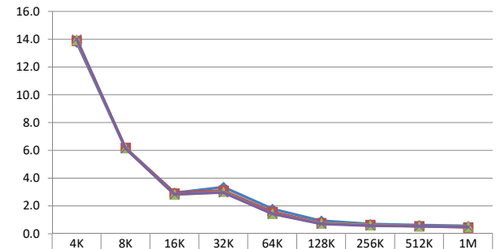
	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	586844	292221	151191	79280	40615	20553	10271	5133	2564
50% Worn	587083	292021	147797	74969	37649	18809	9391	4688	2341
100% Worn	586497	291924	145719	72782	36360	18172	9087	4545	2273
110% Worn	586539	291812	145631	72790	36374	18183	9091	4546	2273

Avg. Latency (ms) -- Q64T32



	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	3.591	7.214	13.944	26.589	51.901	102.547	205.037	401.811	792.708
50% Worn	3.590	7.219	14.264	28.117	55.993	112.059	224.211	439.752	867.450
100% Worn	3.593	7.221	14.467	28.966	57.982	115.988	231.703	453.639	892.455
110% Worn	3.593	7.224	14.472	28.964	57.947	115.917	231.616	453.626	893.126

Avg. CPU Usage (%) -- Q64T32



	4K	8K	16K	32K	64K	128K	256K	512K	1M
0% Worn	13.8	6.1	3.0	3.4	1.8	0.9	0.7	0.6	0.6
50% Worn	13.9	6.2	2.9	3.1	1.6	0.8	0.6	0.5	0.5
100% Worn	14.0	6.2	2.8	3.0	1.4	0.7	0.6	0.5	0.5
110% Worn	14.0	6.1	2.8	3.0	1.4	0.7	0.6	0.5	0.5